

**ENERGY RESOURCES: BOON OR CURSE
FOR THE CANADIAN ECONOMY?**

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INTRODUCTION

Canada's oil reserves – which are predominantly located in Alberta's oil sands – are now officially ranked as second only to Saudi Arabia's.⁽¹⁾ While these reserves may be considered a blessing, most economies with such abundant natural resources have actually experienced economic difficulties. This phenomenon, commonly referred to as the “Dutch Disease,” occurs when large exports of natural resources lead to a strong currency which, in turn, hurts local manufacturers.

The traditional Canadian manufacturing sector is facing challenges because of such factors as international competition, high input costs and a relatively strong Canadian dollar. That sector's economic difficulties, coupled with large exports of natural resources, have led commentators to speculate that Canada may be experiencing its own version of the Dutch Disease. This paper will explore this possibility by analyzing the current Canadian context in light of the experiences of the Netherlands and Norway. The latter discovered vast oil reserves and experienced a booming economy for two decades, making it one of the few examples where significant oil revenues did not result in economic problems in the long run. Some believe that Norway's positive experience is no coincidence: strategic macroeconomic policies have made it one of the richest countries in the world in terms of Gross Domestic Product (GDP) per capita. Norway's decision makers recognized early on the potential side effects of large revenues from natural resources, and acted upon that knowledge. Canada can learn from the Dutch and Norwegian experiences, and can manage the current situation in a manner that ensures positive economic and social consequences for the country as a whole.

(1) Central Intelligence Agency, *The World Factbook 2005*,
<http://www.cia.gov/cia/publications/factbook/>.

The first part of this paper will briefly describe how the Dutch Disease progresses, and analyze whether the same economic pattern applies to the current Canadian context. The paper will then propose ways in which Canada might minimize the probability of the Dutch Disease occurring here. The last part will put the relative decline in the manufacturing sector into perspective, as it is a trend common to most industrialized countries.

DUTCH DISEASE: AN INTRODUCTION

The term “Dutch Disease,” coined in the 1970s, refers to the Netherlands’ period of rising unemployment following the discovery of significant gas reserves in the North Sea. The Netherlands, like a number of other nations, has learned that natural resources can be a double-edged sword. Some studies have shown a negative relationship between economic growth and natural resources, a phenomenon referred to more broadly as the “resource curse.”⁽²⁾ Natural resources have been at the centre of many civil wars, and the proceeds of those resources have sometimes been directed to a selected few. These effects are more common in countries lacking strong democratic values and respect for the rule of law.

The term “Dutch Disease” refers more generally to an economic pattern where large resource exports lead to a rapid contraction in the rest of the economy. According to Erling Larsen,⁽³⁾ three main factors explain why significant amounts of natural resources may hurt the rest of an economy:

1. The factor movement effect: When oil – for example – is discovered, vast amounts of resources are required in order to extract it from the ground. In an economy close to its full productive capacity, some production factors – such as capital and labour – will not be available for other sectors of the economy as they are directed towards oil extraction. The resource sector thus crowds out the rest of the economy.

(2) For a review of the literature on the subject, see Paul Stevens, *Resource Impact – Curse or Blessing? A Literature Survey*, Centre for Energy, Petroleum and Mineral Law and Policy, University of Dundee (Scotland), 2003.

(3) Erling R. Larsen, *Escaping the Resource Curse and the Dutch Disease? When and Why Norway Caught Up and Forged Ahead of Its Neighbours*, Discussion Paper No. 377, Statistics Norway, Research Department, May 2004.

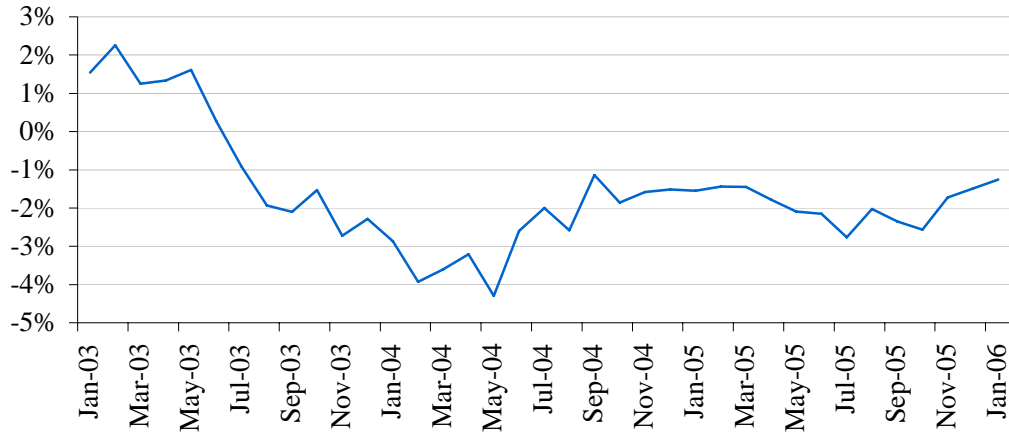
2. The spending effect: The discovery of an important quantity of a natural resource is often associated with large foreign direct investments and, especially in a small open economy such as Canada's, with large export revenues. This inflow of money from abroad puts upward pressure on the domestic currency, which appreciates and thus makes other exporters less competitive by increasing the relative prices of their goods and services abroad. The inflow of resource money may also create excess demand in the domestic economy. The prices of production factors, such as labour, also rise, leaving some sectors of the economy unable to cope with the increased production costs.
3. The spillover-loss effect: Some sectors of the economy, such as manufacturing, are associated with "positive externalities." These externalities include the development of "know-how," new technological innovations and/or the development of new innovative practices. Such new developments can benefit other sectors, which is why the phenomenon is referred to as a "spillover." For example, outsourcing from large companies may result in technological transfers to smaller companies. Also, export-oriented manufacturers, because they face international competition, need to become more competitive. The resulting increase in productivity affects the entire economy as new methods of production are adopted by other domestic companies in order to remain competitive. Resource sectors, on the other hand, are often associated with fewer positive externalities for the rest of the economy.

These three factors become especially apparent when resources are exhausted or their prices fall to a point where it is no longer profitable to extract them. If other sectors of the economy have been neglected for many years, the country may face significant challenges in restoring their competitiveness. Since natural resources are non-renewable and their prices are relatively volatile, these problems may appear sooner rather than later.

THE DIAGNOSIS FOR CANADA

By most measures, the Canadian economy is performing well: GDP is growing close to its potential, inflation is low and the federal government is generating budgetary surpluses. Furthermore, the percentage of unemployed (6.4% in February 2006) is at an historical low. Nevertheless, the Canadian economy has been losing manufacturing jobs since the middle of 2003 (see Figure 1).

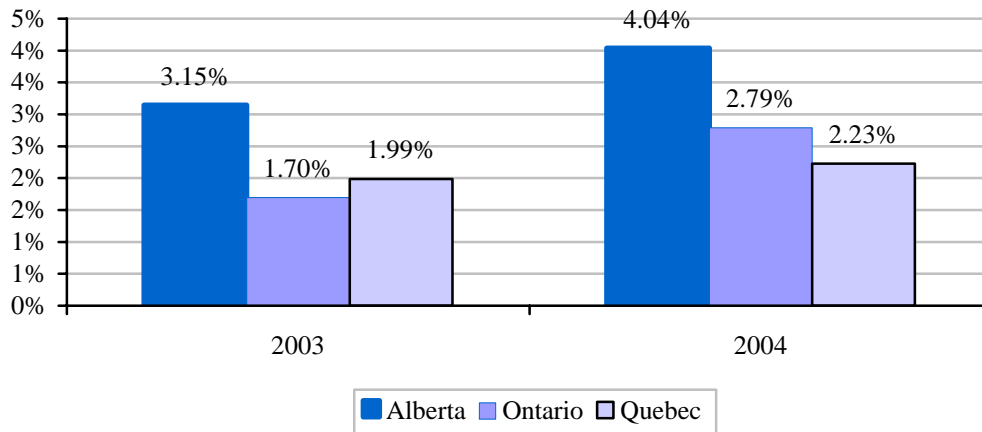
Figure 1
Manufacturing Employment Growth, Canada,
January 2003 to January 2006



Source: Statistics Canada, Table 281-0023.

Moreover, oil-producing provinces are showing above-average economic growth, while provinces with a high degree of manufacturing activity are experiencing lower growth. This situation is apparent when the economic growth of oil-producing Alberta is compared to the two main manufacturing provinces of Ontario and Quebec (see Figure 2).

Figure 2
Real Gross Domestic Product (GDP) Growth
for Selected Provinces, 2003 and 2004

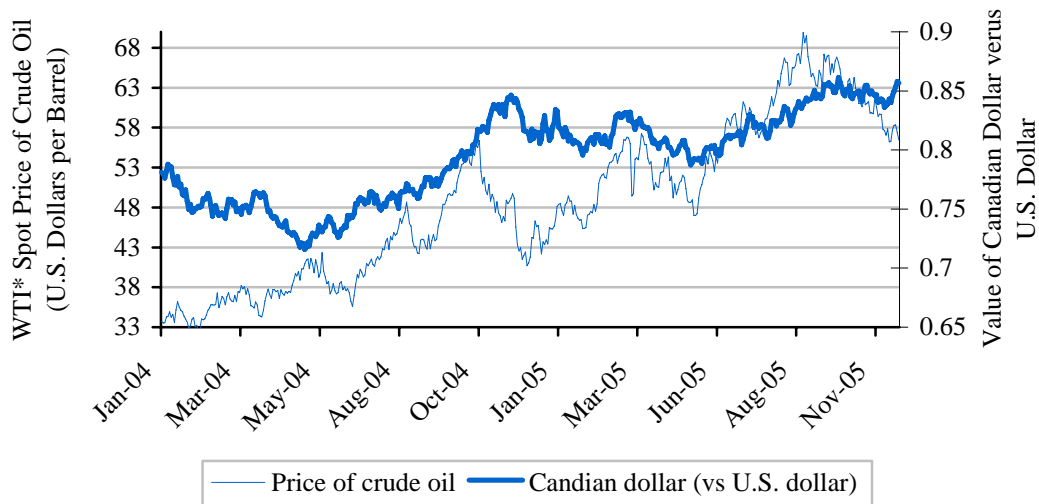


Source: Statistics Canada, GDP at basic prices chained 1997 dollars.

In addition, Canadian exports are increasingly natural-resource-based. While Canada's main exports in recent years have alternated between the automotive sector and the machinery and equipment sector, energy was Canada's single largest export sector as of October 2005. Moreover, Canada's real trade deficit in non-resource goods has been widening in recent years.

The rise in the relative value of the Canadian dollar since 2002 is a complex phenomenon but many analysts have attributed it, at least in part, to the rising price of oil. A recent working paper by the International Monetary Fund⁽⁴⁾ found a positive correlation between Canadian oil exports and the value of the Canadian dollar. Furthermore, a recent article in *The Economist* asserts that "foreign exchange dealers now treat the Canadian dollar as a petrocurrency,"⁽⁵⁾ meaning that its value is strongly correlated to the price of oil. As Figure 3 shows, the value of the Canadian dollar and the price of crude oil seem to be somewhat correlated.

Figure 3
Daily Price of Oil and the Canadian Dollar,
January 2004 to December 2005



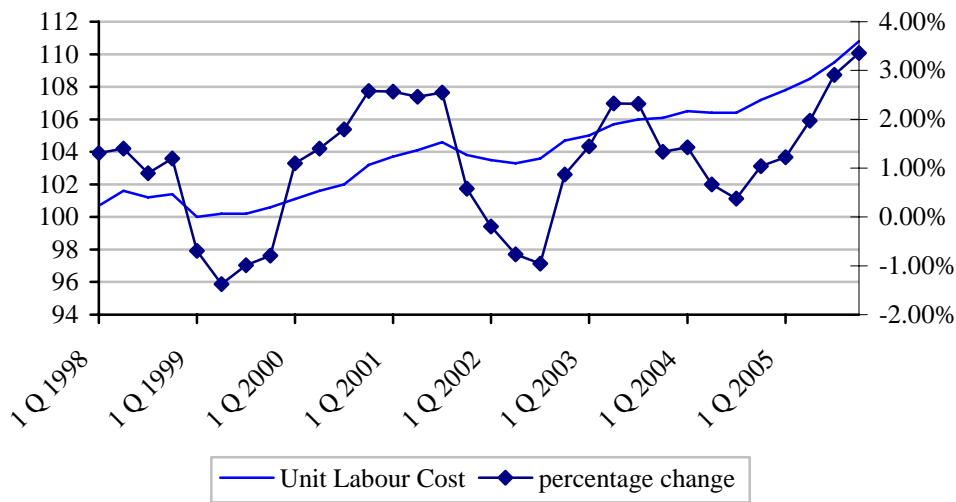
* West Texas Intermediate

Source: Bank of Canada and the Energy Information Administration.

(4) T. Bayoumi and M. Mühleisen, *Energy, the Exchange Rate, and the Economy: Macroeconomic Benefits of Canada's Oil Sands Production*, IMF Working Paper WP/06/70, March 2006.
(5) "Of Forest and Mine," *The Economist*, Vol. 376, Issue 8445, 22 September 2005, p. 48.

The Canadian economy is exhibiting many symptoms of the Dutch Disease: a rising resource-led export sector coupled with a struggling manufacturing sector and a rising currency. Contrary to the Netherlands' experience in the 1970s, however, labour costs have not yet increased significantly. Rising labour costs were one of the main factors limiting the competitiveness of the Netherlands' non-oil exports. Unit labour costs, which increase when labour compensation increases more rapidly than labour productivity, have been relatively stable in Canada although there is clearly an upward trend since the beginning of 2005 (see Figure 4). A rising unit labour cost is usually a harbinger of inflation and a good indicator that there is excess labour demand in the economy.

Figure 4
Unit Labour Cost Growth, Canada
First Quarter 1998 to Fourth Quarter 2005



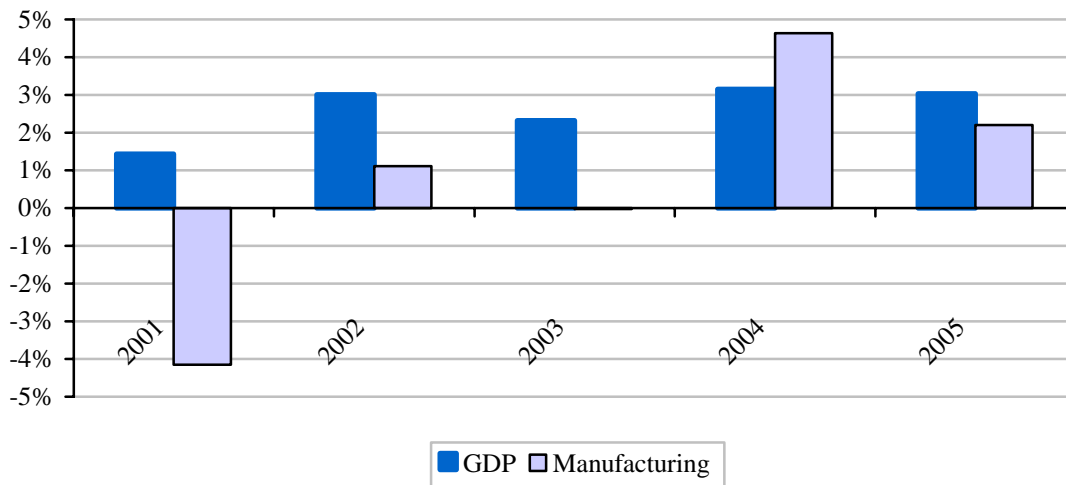
Source: Statistics Canada, Table 383-0008.

Furthermore, while the number of manufacturing jobs is decreasing, manufacturing output has been stronger than many would have predicted, with the manufacturing sector performing better than the economy as a whole in 2004 (see Figure 5).

Nevertheless, many economists have pointed out that the impacts of currency appreciation are not fully felt until approximately two years have passed. Many export-oriented companies are using currency derivative products, such as currency options, which shield them from any negative impacts of currency volatility; these contracts rarely exceed two years.

Furthermore, plant closures and restructuring plans are usually long-term decisions. As the Dutch experience indicates, energy revenues can have long-term impacts on the economy. The extent of the problem in the Netherlands became fully apparent only towards the beginning of the 1980s when the revenues from gas resources started declining. The other parts of the economy, which had been neglected, were unable to replace the sudden loss of gas revenues, and a period of slow growth and high unemployment followed.

Figure 5
Real Gross Domestic Product Growth, All Industries
and Manufacturing Sectors, Canada, 2001-2005



Source: Statistics Canada, GDP at basic prices chained 1997 dollars.

In sum, although the Canadian economy displays some symptoms of the Dutch Disease, it may be too early to diagnose accurately whether the Dutch experience will be repeated here.

WHAT CANADA CAN DO TO IMMUNIZE ITS ECONOMY

Norway is often cited as a role model in avoiding the Dutch Disease. Before Norway began pumping oil in the North Sea during the early 1970s, it trailed other Scandinavian economies. Twenty years later, the Norwegian economy had surpassed its neighbours, and Norway is now the third-richest Organisation for Economic Co-operation and Development

(OECD) country in terms of GDP per capita, after Luxembourg and the United States.⁽⁶⁾ The situation has prompted many economists to analyze how Norway avoided the resource curse, and how it used oil revenues to strengthen its overall economy. This section will explore Norway's experiences with the discovery of oil, and make links, where appropriate, to the current Canadian context.

A. Limit Wage Increases

As noted earlier, rising labour costs exacerbated the loss of competitiveness of Dutch manufacturing companies. In Norway, salary increases were limited to the rate of growth in productivity of the manufacturing sector, partly owing to Norway's highly centralized wage negotiation system. This structure allowed employers and unions to consider the broader picture rather than yield to the demands of particular interests. Norway was thus able to avoid a situation where significant wage increases in the growing resource sector led to upward pressure on wages in the rest of the economy. A centralized wage negotiation system would almost certainly not be feasible in Canada because of very different traditions regarding labour negotiations. Nevertheless, governments can ensure that salaries within their sphere of influence are linked to growth in productivity in order to limit upward pressure on wages and prices.

B. Avoid Excessive Government Spending

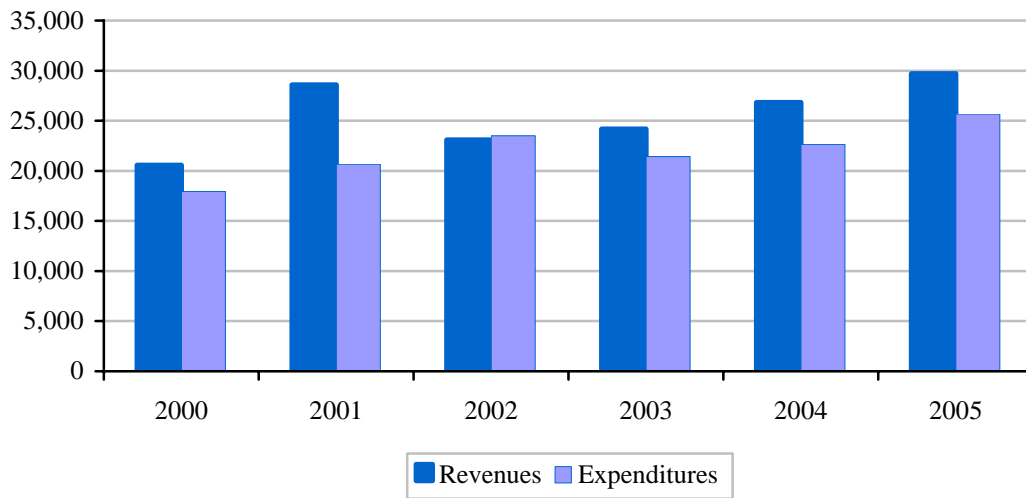
In order to reduce the pressure on the domestic economy and the domestic currency, the Norwegian government adopted fiscal policies that involved fiscal discipline, debt reduction and the establishment of a petroleum fund.⁽⁷⁾ Before looking at these policies in greater detail, it is important to note that the structure of the Canadian political system would make replicating these policies relatively difficult. Since royalties on resource revenues are within provincial jurisdiction, it might not be feasible to obtain a coordinated response from all levels of government.

(6) As measured by GDP per capita adjusted for Purchasing Power Parity; see OECD 2005 figures, http://www.oecd.org/document/34/0,2340,en_2649_201185_2345918_1_1_1_1,00.html.

(7) Larsen (2004), p. 16.

While governments may be tempted to use resource royalties for large increases in public spending, such spending may result in inflationary pressures. In the Netherlands, public expenditures as a percentage of GDP rose by more than 10% in a decade. By 1977, Dutch government spending represented a larger share of GDP than was the case in any other West European country.⁽⁸⁾ Norway, on the other hand, was more disciplined in its fiscal policies. Within Canada, the Alberta government has shown similar discipline, and has eliminated its net debt; it now has net assets exceeding \$15 billion. It has also used some of the revenues from natural resources to lower the general level of taxation. Expenditures in the province have increased in recent years, but at a slower pace than revenues (see Figure 6).

Figure 6
Revenues and Expenditures, Province of Alberta,
1999-2000 to 2004-2005 (millions of dollars)



Source: Statistics Canada, Table 385-0002.

Moreover, setting up a fund for resource revenues may be one tool to protect an economy from the Dutch Disease. Because of the volatile nature of resource revenues, a fund can be used to “even out” government revenues between good and bad times. A resource fund also reduces aggregate demand and the inflationary pressures associated with it. A fund denominated in a foreign currency, as in the case of Norway, can also help in curbing a bullish domestic currency and the associated negative impacts on non-resource sectors.

(8) “The Dutch Disease,” *The Economist*, 26 November 1977.

Alberta did create a resource fund – the Alberta Sustainability Fund – which was explicitly designed to “protect spending from volatile revenue and the cost of emergencies and disasters.”⁽⁹⁾ The \$3.5-billion Sustainability Fund – as of 31 March 2005 – is a potential contributor to spending stability, albeit small relative to the \$222 billion in the Norwegian Petroleum Fund.⁽¹⁰⁾ Alberta also has a Heritage Saving Trust Fund with a value of \$12.6 billion – as of 30 September 2005 – in which resource revenues are invested and which yields proceeds that are used for program spending.

According to a working paper from the International Monetary Fund,⁽¹¹⁾ governments of oil-producing countries should follow the following three broad guidelines for their fiscal policy:

- Oil revenues should be separated from other revenues and clearly highlighted in budgets and public accounts. The Alberta government reports on non-renewable revenues and on their use. The federal government does not explicitly report on non-renewable revenues, partly because it does not receive direct revenues from natural resources but only through general tax revenues. It is, therefore, more difficult for the federal government to identify the percentage of its revenues that is subject to the volatility of energy prices.
- Government expenditures should be adjusted gradually, since “[l]arge swings in fiscal policy ... are destabilizing to aggregate demand, exacerbate uncertainty and induce macroeconomic volatility,”⁽¹²⁾ and such fiscal volatility reduces the quality and efficiency of expenditures.
- Governments should accumulate substantial financial assets with the inflow of resource revenues, a goal that can be met by setting up a resource fund.

C. Limit Spillover Loss

It was argued earlier that non-resource sectors are often associated with positive externalities, and that a decline in these sectors results in spillover loss. In Norway, this loss may have been reduced because of the level of technology required for oil extraction. Unlike

(9) Government of Alberta, *2004-2005 Annual Report*, p.14.

(10) The Norwegian Petroleum Fund had a value of (Norwegian Kroner) NOK1,281.1 billion as of 30 September 2005.

(11) Steven Barnett and Rolando Ossowski, *Operational Aspects of Fiscal Policy in Oil-Producing Countries*, IMF Working Paper WP/02/177, 2002.

(12) *Ibid.*, p. 3.

countries with more conventional energy reserves, Norway's offshore oil extraction requires much capital and technological expertise. Norway's oil sector is, therefore, associated with innovation and know-how. Furthermore, the capital-intensive nature of the sector has mitigated concerns about upward pressure on wages.

A similar argument can be made about Canada's oil sands reserves, which require a high degree of technological innovation and capital for their extraction. Because of this fact, oil extraction in Canada has, arguably, at least as many positive externalities as most other industries. Therefore, the spillover-loss argument may have limited application in the case of Canada. Nevertheless, governments could try to minimize the negative impacts of the Canadian dollar on other non-resource industries associated with positive externalities.

THE SHIFT TOWARDS A MORE SERVICE-ORIENTED ECONOMY

The decline in manufacturing employment is a phenomenon common to almost all industrialized countries and, consequently, may be part of a normal structural adjustment towards a more service-oriented economy. Therefore, manufacturing job losses should not necessarily be a cause for concern as long as they are happening gradually. Large energy exports may negatively affect the Canadian economy only if their impact greatly accelerates the rate at which the manufacturing sector is losing its relative importance.

It has been suggested that governments might want to accept the trend towards a service economy and not oppose it through the use of subsidies and trade barriers. The remaining two large economies that still have high levels of manufacturing output and employment – Germany and Italy – have actually experienced economic stagnation. The United States, on the other hand, has experienced solid economic growth for more than a decade, even though less than 10% of its workforce is now employed in the manufacturing sector.⁽¹³⁾ For countries with strong GDP growth, the decline in manufacturing employment is largely the result of higher productivity growth in manufacturing than in other sectors of the economy. As industrialized countries increasingly can produce more manufactured goods with fewer inputs, governments may wish to consider policies to help workers, through education and workforce reintegration programs, make the transition from the manufacturing sector to the service sector.

(13) "Industrial Metamorphosis," *The Economist*, 29 September 2005.

CONCLUSION

Canada does appear to have some symptoms of the Dutch Disease, as can be seen in the relatively high value of the Canadian dollar and manufacturing job losses. Norway's experience demonstrates that policies such as the establishment of a petroleum fund can help alleviate the effects of the Dutch Disease. Moreover, the decline in manufacturing employment should be put in perspective, as it is a trend common to most industrialized countries and is partly due to productivity gains. Some industries and provinces will, inevitably, grow at a slower rate than the energy industry and oil-producing provinces. Nevertheless, the expansion of oil sands production should, on average, be beneficial for the Canadian economy.