

Lies, Damned Lies, and Trade Statistics:

The Import Content of Canadian Exports

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Introduction

The pervasive notion that Canada is extraordinarily dependent on trade influences debates about foreign policy, domestic policy, and even the future of Confederation. Many commentators argue that securing access to foreign markets should trump other interests and values in formulating Canadian policy. Influential Canadians have proposed a “grand bargain” with the US in which Canada would conform to American security, energy, military, and trade policies in order to ensure an open border.¹ The Security and Prosperity Partnership of North America – agreed to by Canada, the US, and Mexico in March 2005 – constitutes at least a small step toward such a bargain.²

On the domestic front, the case for lower taxes, less regulation, and smaller government is largely based on the perceived need to compete in global markets.³ Proposals to redistribute wealth, or to advance other social values, are often rejected not because they are seen to be undesirable, but because they are deemed to be infeasible in the new globalized economy. Some observers even contend that trade flows are altering the very foundations of Confederation.

Policy arguments about Canada’s dependence on trade are almost always supported with reference to exports, rather than imports. For example, former free-trade negotiator Gordon Ritchie describes exports as “the central pillar of our national interest.”⁴ By contrast, leading economist Paul Krugman argues that “imports, not exports, are the purpose of trade. That is, what a country gains from trade is the ability to import things it wants.”⁵ In fact, many of the things that Canada imports are used as inputs to produce exports.⁶ By taking both exports and imports into account, this paper paints a different picture of Canada’s international trade and its implications for public policy.

As Canadian nationalist Mel Hurtig observes, “Canadians have been constantly bombarded with statements to the effect that our exports now [2002] account for between 40 and 50 percent of our GDP.”⁷ However, gross exports declined from 45 percent of GDP in 2000 to 38 percent of GDP

in 2003, and remained at this level in 2004 and 2005. Gross imports were equal to 38 percent of GDP in 2000 and declined to 34 percent in 2003, remaining at this level in 2004 and 2005.⁸ Trade numbers should be interpreted carefully: simply using more recent data and measuring trade in terms of imports rather than exports reduces its magnitude from nearly half to one-third of the economy.

Conventional trade statistics compare gross exports, including a substantial amount of imported content, to value-added GDP, consisting only of Canadian content. Export statistics measure the gross value of goods and services moved across Canada's borders, but GDP measures the value of goods and services created in Canada. Grant Cameron and Philip Cross of Statistics Canada explain that the use of imported inputs to produce Canadian exports has the effect of "inflating trade flows relative to their actual contribution to the economy."⁹ While Canada's gross-export tally amounted to 41 percent of GDP in 2002, the import content in these exports was worth 14 percent of GDP. Therefore, exports contributed only 26 percent of Canada's GDP that year.¹⁰

Despite Statistics Canada's excellent technical work on the import content of exports since 1999,¹¹ almost all policy literature continues to present exports as accounting for around 40 percent of GDP.¹² For example, the Government of Canada's recent *International Policy Statement* indicates that "exports account for almost 40% of our economy."¹³ Misleading gross figures are not used solely for the sake of simplicity. The Government of Canada published *NAFTA @ Ten: A Preliminary Report* in 2003. Since the section on Canada-US trade and investment includes some forty-three graphs, twenty-five statistical tables, and fourteen map and pie-chart displays, its omission of the import content of exports cannot be attributed to the somewhat greater complexity of value-added figures than gross figures.¹⁴

Instead, inflated trade statistics seem to have been retained because they provide a

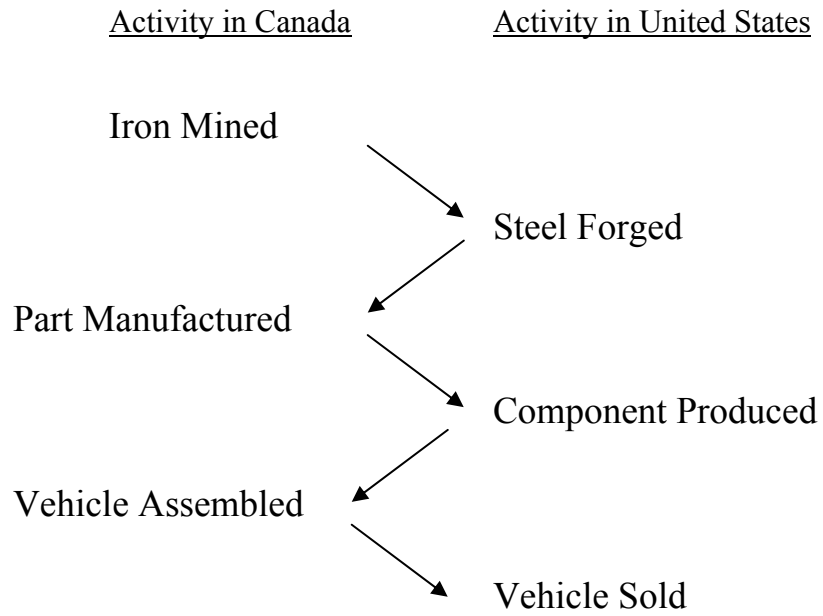
convincing rhetorical basis for policies that promote ‘competitiveness’. Some policy proposals, especially a Canada-US customs union and a North American Monetary Union (NAMU), are founded on these misleadingly large numbers. More accurate trade statistics deflate powerful rhetoric and, in certain important cases, substantively change policy analysis.

Further implications arise from the fact that imported content is unevenly distributed between the countries to which Canada exports, the industries that produce exports, and the provinces from which exports emanate. Policy-makers should pay particular attention to the import content in exports to the United States, manufactured exports, and exports from Ontario.

Overall Exports

When a plant uses an imported input to manufacture a product for export, the full value of the product is counted in export figures. However, the value of the product minus the value of the imported input is counted in GDP. North American integration creates massive discrepancies between Canadian export and GDP statistics. Suppose that iron from Canada is used to make steel in the US. The steel is used to manufacture a part in Canada, which is used to produce a component in the US. The component is installed in a vehicle in Canada, which is sold in the US. Canadian export figures would include the value of the vehicle, plus the part, plus the iron. Canadian GDP would include the vehicle, minus the component, plus the part, minus the steel, plus the iron. The vehicle adds much more to export figures than to GDP because it contains imported content (i.e. the steel and component).

Conceptual Diagram of the Import Content of Exports



Contribution to Canada's Exports = Vehicle + Part + Iron

Contribution to Canada's GDP = Vehicle – Component + Part – Steel + Iron

Ignoring imported content implies that about 40 percent of Canada's national income comes from foreign markets. In fact, content imported from other countries makes up more than a third of Canada's gross exports. In 2002, the most recent year for which value-added figures are available, Canada obtained 26 percent of its income from foreign markets.¹⁵ As Ziad Ghanem and Philip Cross of Statistics Canada note, "Canada is less dependent on exports for its value-added GDP than is commonly believed."¹⁶

The gap between gross exports and value-added exports was equal to 15.2 percent of GDP in 2002. A small part of this gap consists of finished products imported to Canada and re-exported to other countries (equal to 2.7 percent of GDP). The lion's share is imports embedded in exports (equal to 11.1 percent of GDP). Embedded imports are so significant because some components, such as auto parts, move across the border - and hence count as exports - several times during the production process. The remainder of the gap (equal to 1.4 percent of GDP) reflects withdrawals from inventories and export taxes on tobacco products, both of which increase gross exports but add nothing to GDP.¹⁷

The movement of products back and forth across the border during the production process implies substantial export content in Canadian imports. Unfortunately, statistics on this phenomenon are not available. However, gross-import figures overstate the economic significance of trade in the same way as gross-export figures.

Table 1: Canada's Gross and Value-Added Exports as Shares of GDP, 1988 - 2002

	<u>Gross Exports</u>	<u>Import Content</u>	<u>Other</u>	<u>Value-Added Exports</u>
1988	26.7%	6.8%	1.1%	18.9%
1989	25.7%	6.5%	1.1%	18.1%
1990	25.8%	7.0%	1.4%	17.4%
1991	25.1%	7.0%	1.5%	16.7%
1992	27.1%	8.0%	1.6%	17.5%
1993	30.2%	9.6%	1.5%	19.1%
1994	34.0%	11.3%	1.6%	21.1%
1995	37.3%	12.6%	1.1%	23.6%
1996	38.4%	12.7%	1.4%	24.3%
1997	39.5%	13.3%	1.5%	24.6%
1998	41.4%	14.6%	1.3%	25.5%
1999	43.2%	15.3%	1.0%	26.9%
2000	45.6%	16.1%	0.7%	28.8%
2001	43.5%	14.5%	1.5%	27.5%
2002	41.4%	13.8%	1.4%	26.2%

Note: "Other" mainly reflects inventory withdrawals, but also includes export taxes on lumber through 1997 and on tobacco products since 1996. These figures were derived from Statistics Canada, "Impact of Exports on the Canadian Economy, 1986-2002: National Open Input-Output Model," data, 2006, and Statistics Canada, "Table 381-0010: Final Demand Categories, by Commodity, L-level Aggregation," data, 2006. Figures may not sum exactly due to rounding.

**Table 2: The Import Content of Canadian Exports, 2000 - 2002
(in billions of dollars)**

	<u>2000</u>	<u>2001</u>	<u>2002</u>
Gross Exports	490.7	482.5	478.1
Import Content	173.1	161.1	159.1
Re-Exports	27.5	28.9	31.1
Imports Embedded in Exports	145.5	132.2	128.0
Other	7.4	17.1	16.5
Inventory Withdrawals	7.3	17.0	16.4
Tobacco Export Taxes	0.1	0.1	0.1
Value-Added Exports	310.2	304.3	302.5

Note: See the note for Table 1 (above).

Exaggerating Canada's trade dependence implies that the Canadian state has little capacity to manage the economy. If imports amount to nearly 40 percent of GDP, then consumer demand stimulated by macroeconomic policies could leak out of the country through increased purchases of imports, rather than boosting Canada's economy through increased purchases of Canadian products. This logic assumes that demand for imports is driven by consumer spending, but nearly 40 percent of imports to Canada are used to produce exports.¹⁸ As Cross notes, "In the past decade, we have seen imports rise despite a recession in domestic demand [during the early 1990s] and then fall without a recession [in recent years], both of which were without precedent. . . . fluctuations in imports appear to be increasingly driven by changes in export rather than domestic demand."¹⁹

Since Canada's consumer demand no longer drives its import demand, it may be possible to stimulate the former without a corresponding increase in the latter. In any case, some of the demand that leaks out through imports would be returned to Canada through the export content of these imports. Canadian governments therefore possess greater capacity to manage the Canadian economy than is usually acknowledged.

A value-added approach to trade statistics also sheds new light on the Canada-US Free Trade Agreement (CUFTA), the North American Free Trade Agreement (NAFTA), and other free-trade agreements signed by Canada. Thomas Courchene, a leading Canadian economist, states that an "historical review of [CUFTA and NAFTA] would surely assign high marks for increasing trade."²⁰ Between 1988 (the year before CUFTA came into effect) and 2000, Canada's gross exports increased from 26.7 to 45.6 percent of GDP. According to many commentators, "the results exceeded all expectations."²¹

A decade after CUFTA, bank economist John McCallum wrote, "Why the overall increase in

Canada-US trade was so much larger than predicted remains something of a mystery. The [Agreement] presumably accelerated a trend toward the rationalization of North American production facilities, implying an increase in intra-industry and intra-firm trade in intermediate goods.”²²

Statistics Canada research confirms that the import content in Canadian exports more than doubled from 6.8 to 16.1 percent of GDP between 1988 and 2000, while the Canadian value-added in exports rose less dramatically from 18.9 to 28.8 percent.²³ According to Cross and Ghanem, “much of the growth of gross exports in the last decade reflected the increasing use of imported components, not higher value-added exports. Value-added exports, which include only inputs purchased in Canada, are the key determinant of domestic output and jobs.”²⁴

In particular, exports have created fewer jobs than is often assumed. An Industry Canada study determines that, despite the massive increase in gross exports, “the growth in the share of employment attributable to exports has been much less pronounced. The major reason is . . . that exports now have a much higher import content in intermediate inputs than in the past.” In fact, increased imports have displaced more jobs than increased exports have generated.²⁵ Fortunately, other macroeconomic factors have raised overall Canadian employment during this period. Since CUFTA came into effect, the import content of exports has greatly expanded, value-added exports have grown appreciably, and increased trade has produced a net loss of jobs.

In one sense, these are hardly earth-shattering revelations. Economists already know that the function of trade is not to increase exports or create jobs, but to improve productivity by exploiting comparative advantage.²⁶ Despite significant controversies about how productivity is measured, scholars from across the political spectrum observe that free trade “was supposed to close the

productivity gap with the U.S. in manufacturing, but in fact the gap has widened.”²⁷ Although the contraction of low-productivity industry generated a “measured increase” in average Canadian productivity,²⁸ “the productivity gains have been much smaller than forecast.”²⁹

Industry Canada research shows that greater exports slightly increase overall Canadian labour productivity because export sectors “have always been *above the average* for total business output in labour productivity,” even though the “labour productivity of exports has shown almost *no tendency to increase*” under free trade.³⁰ According to Statistics Canada, export industries enjoy higher labour productivity because they are more capital-intensive: “after factoring in their capital use, their total multifactor productivity may not be as high.”³¹ In other words, labour productivity is somewhat higher today because Canada has somewhat more capital, but not necessarily because it engages in more international trade.

During the free-trade era, business investment in Canada has been very low relative to GDP by historical and international standards.³² Since CUFTA and NAFTA appear not to have raised the rate at which Canada accumulates productive capital, it is difficult to argue that they contributed much toward increased labour productivity.

Viewed through the paradigm of traditional comparative advantage - vertically-integrated production locating and concentrating where relatively most efficient - “bigger-than-expected trade flows should have brought bigger-than -expected productivity gains, but they didn’t.”³³ However, as economist John Helliwell argues, Canada-US trade barriers had been so low that these gains were exploited well before CUFTA.³⁴ The import content of exports implies a new paradigm of “vertical specialization,” in which the various stages of production are broken up between countries.³⁵ By reducing tariff levels that were already very low, CUFTA and NAFTA did not unleash some vast

new comparative advantage between Canada and the US. Rather, these Agreements facilitated the smaller efficiencies of rationalizing production across the border.

The incremental efficiencies of vertical specialization may not last. Shuffling components between geographic regions throughout the production process is economical only if transportation is relatively cheap. To the extent that rising energy prices increase transport costs, vertical specialization between regions may become less viable and vertical integration within regions may regain some of its appeal.

A value-added approach to trade statistics reveals the benefits of free trade to be much less than is often claimed. However, the costs of free-trade agreements remain undiminished. By withholding certain policy options from the democratic process and giving corporations sweeping powers to sue governments, such agreements have limited Canadian sovereignty. Canada made far greater concessions on energy than either the US or Mexico in signing CUFTA and NAFTA. By guaranteeing that firms outside of Canada can sell to the Canadian market, free trade increases the mobility of capital. More intense competition between countries for capital investment amplifies downward pressure on wages, redistributive taxes, and regulations. It is doubtful that Canada gained more than it lost from CUFTA and NAFTA.³⁶

These revelations are problematic for advocates of greater North American integration. Typically, they contend that free trade succeeded in expanding Canada's exports, but observe that Canadian productivity has declined relative to American productivity. These advocates propose that greater integration is needed to close gap. However, CUFTA and NAFTA must be judged in terms of their effect on Canadian productivity, rather than on gross-export numbers. To contend that more North American integration will close the gap between Canadian and American productivity, even

though free trade allowed it to widen, is “paradoxical reasoning.”³⁷ In James Laxer’s words, “If the patient seems to be suffering from the medicine being taken, the solution is to increase the dose.”³⁸

Data on import content beyond 2002 does not yet exist. However, as Cross and Ghanem observed in 2005, Canada’s “trade surplus has hit record highs, despite the slowdown in overall export growth after 2000.”³⁹ This trend reflected a more significant slowdown in the purchase of imported products by Canadian consumers and/or in the purchase of imported inputs by Canadian producers. Rising commodity prices have shifted Canada’s exports away from manufactured goods, with substantial import content, toward natural resources, with little import content. Conversely, rising commodity prices drive up the Canadian dollar, which “may encourage firms [in Canada] to buy more imported inputs.”⁴⁰ Recently, imports have increased more rapidly than exports.⁴¹ Although current figures on value-added exports are not available, it remains clear that gross figures greatly overstate the magnitude of Canadian exports and probable that value-added exports still account for no more than 26 percent of Canada’s GDP.

Since vertical specialization is not unique to Canada, one might view the rising import content of exports as an omnipresent feature of globalization, rather than a trend of particular significance to Canada. But figures from the Organization for Economic Co-operation and Development (OECD) show that, whereas import content rose from 28.1 to 36.5 percent of Canada’s goods exports between 1980 and 1997, it declined slightly from 21.2 to 19.9 percent, on average, among the other G-7 countries.⁴²

In these six countries, the import content of exports largely consists of raw-material inputs - especially oil - imported for industrial production.⁴³ The decline of real energy prices - combined with improvements in energy efficiency - between 1980 and 1997 may have limited imported inputs

relative to GDP in these countries. Because Canada is a leading producer of oil and other resources, its import content does not mainly consist of raw materials. Whereas import content reflects the economically essential process of obtaining resources not available domestically for other G-7 nations, it largely reflects “the shuffling back and forth of components across the border” for Canada.⁴⁴

The particular magnitude and character of Canadian imported content modifies Canada’s image as “a trading nation.”⁴⁵ The persistent theme that “Canada is much more dependent on foreign trade than the other G-7 countries” implies that Canadian policy-makers should be especially focused on global markets and competitiveness.⁴⁶ Naturally, trade is proportionally more important to the Canadian economy than to the much larger American and Japanese economies. According to OECD figures, gross exports were relatively greater in Canada (40.7 percent of GDP in 1997) than in the four largest western European nations (between 26.6 and 28.7 percent). But import content inflated Canada’s gross exports more than those of other G-7 countries. Value-added exports contribute about a quarter of GDP in Canada (25.8 percent in 1997) versus about a fifth in the four European nations (20.5 to 21.1 percent).⁴⁷ Since Canada has a smaller internal market than these countries, its slightly greater reliance on exports is not surprising.

Table 3: The Import Content of Goods Exports from G-7 Countries, 1980 and 1997

	<u>1980</u>	<u>1997</u>
Canada	28.1%	36.5%
United Kingdom	27.9%	28.6%
Italy	27.3%	22.7%
Germany	18.9%	22.3%
France	26.5%	22.3%
United States	9.4%	12.4%
Japan	17.0%	11.2%
Canada	28.1%	36.5%
Other Six Average	21.2%	19.9%

Note: These figures are from the Organization for Economic Co-operation and Development, *OECD Science, Technology and Industry Scoreboard 2003* (Paris: OECD, 2003) [<http://www1.oecd.org/publications/e-book/92-2003-04-1-7294/C.2.4.htm>]. They are an updated version of those published by David Hummels, Jun Ishii, and Kei-Mu Yi, “The Nature and Growth of Vertical Specialization in World Trade,” *Journal of International Economics*, Vol. 54 (2001). Figures for the United Kingdom, Germany, and France are for 1995, rather than 1997. Figures for Italy are for 1985 and 1992, rather than for 1980 and 1997. “Other Six Average” is an unweighted mean of the other six countries’ percentages.

Table 4: Gross and Value-Added Exports as Shares of GDP for G-7 Countries, 1997

	<u>Gross Exports</u>	<u>Value-Added Exports</u>
Canada	40.7%	25.8%
United Kingdom	28.7%	20.5%
Italy	27.3%	21.1%
Germany	26.8%	20.8%
France	26.6%	20.7%
United States	12.1%	10.6%
Japan	11.1%	9.9%

Note: Gross exports as shares of GDP were calculated from the Organization for Economic Co-operation and Development, *OECD Historical Statistics, 1960-1997* (Paris: OECD, 1999), 10 (Table A). Value-added exports as shares of GDP were calculated by subtracting the 1997 proportion of imported content in Table 3 (above) from these gross-export figures. This table slightly understates value-added exports by implicitly assuming that each country’s service exports contain the same proportion of imported content as its goods exports. This assumption was necessary because international data on the import content of service exports is not available.

Arguing for NAMU, Courchene uses gross-export figures to show that “Canada is more integrated trade-wise with the US than is any European country to its Euro partners.”⁴⁸ However, Canada does not depend much more on value-added trade than the largest European countries do. Without knowing the precise distribution of import content among exports to different countries, one cannot conclude that Canada depends more on value-added exports to the US than European countries do on value-added exports to each other. While Courchene chooses to support his statement using Canadian exports to the US,⁴⁹ Canadian imports from the US are relatively less significant (as discussed below).

The most powerful argument for free-trade agreements, tax cuts, and constricted government is Margaret Thatcher’s TINA: There Is No Alternative. In Canada, this argument has largely been sustained by claims that nearly half the country’s income comes from global markets. The revelation that this fraction is closer to a quarter makes alternative policies seem more plausible and suggests that governments may have more “room to manoeuvre” than is commonly thought.⁵⁰

Canada-US Trade

Harry Arthurs, a law professor, outlines a second TINA that is particular to Canada: Trapped In North America.⁵¹ Pierre Martin, Director of American Political and Economic Studies at the University of Montreal, notes that “It has become commonplace to begin any discussion of Canadian-American relations with the inescapable fact that exports to the United States account for more than 85 percent of Canadian exports, which amounts to about 35 to 40 percent of Canada’s GDP.”⁵² Indeed, Allan Gotlieb, a former Canadian Ambassador to Washington, argues that, “as a society depending on the U. S. for some 40 per cent of its national annual economic income, Canada

needs the White House and administration on its side.”⁵³ Jeffrey Simpson, a leading political commentator, writes in *The Economist* that “40% of Canada’s GNP [Gross National Product] depends on the American market.”⁵⁴

Even critics of continental integration perpetuate these notions. According to activist Naomi Klein, “With almost half of our economy now directly dependent on an open border, it’s difficult to see how Canada can stand up to U. S. pressure.”⁵⁵ In assessing the political repercussions of North American integration, academic John McDougall notes that “the US market now accounts for over 80 percent of Canada’s exports, and hence for roughly 30 percent of the country’s total GDP.”⁵⁶

The notion that exports to the US account for between 30 and 40 percent of Canada’s GDP is the product of multiplying the fraction of GDP derived from exports by the fraction of exports flowing to the US. The preceding section of this paper explained how the first fraction is exaggerated. This section examines how the second fraction is inflated.

The Canadian Centre for Policy Alternatives (CCPA) notes that “the U. S. share of total Canadian exports grew from 74% in 1990 to 87% since 1999.”⁵⁷ The figure of 87 percent, which the C. D. Howe Institute rounds upward to 90 percent,⁵⁸ is the proportion of Canadian merchandise exports that flowed to the US during a peak period from 1999 through 2002. But since Canada’s service exports are more widely dispersed between countries, the annual share of “total Canadian exports” sold to the US has never exceeded 81 percent. Given that standard balance-of-payment figures show the percentage of Canada’s total (goods plus services) exports going to the US,⁵⁹ one wonders why the percentage of merchandise exports bound for the US is so widely used as an inflated proxy.

Although data on the distribution of import content between Canada's exports to different countries is not currently available, this content must be disproportionately concentrated in exports to the US. Cross lists several factors leading to this conclusion: "our close geographical proximity (only the most valuable parts could justify the transportation costs in bringing them from overseas); the sharp increase in the import intensity of exports just after [CUFTA] was signed . . . ; and the close linkages of our companies with the US."⁶⁰

He suggests an upper-bound estimate that the entire import content of Canadian exports goes to the US and a lower-bound estimate that 90 percent does.⁶¹ Assuming that there is some import content in Canada's overseas exports, this paper employs an upper-bound of 97.5 percent and a lower-bound of 90 percent.⁶² Under either assumption, factoring out imported content reduces the value of exports to the US proportionally more than it reduces the value of overseas exports. If the lower-bound assumption holds, 76 percent of Canada's value-added exports went to the US between 2000 and 2002. If this paper's upper-bound assumption holds, only 72 percent did.⁶³ As Cross notes, "our dependence on the US for exports is not as great as is widely assumed."⁶⁴

These revised figures still slightly overstate the US market's share of Canadian exports due to "transshipments." A small fraction of Canadian exports counted as going to the US are re-exported by land to Mexico or by sea through American ports.⁶⁵ In the event of border obstructions, some of these exports would be shipped to their final destinations through Canadian ports.

Table 5: The Share of Canada's Exports Flowing to the US, 2000 - 2004

<u>Measure</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>
Merchandise Shipments	86.9%	87.0%	87.1%	85.8%	84.6%
Gross Goods and Services	80.9%	80.6%	80.7%	79.6%	78.7%
Value-Added Goods and Services (Assumption 1)	75.8%	75.7%	75.6%	?	?
Value-Added Goods and Services (Assumption 2)	71.6%	71.8%	71.6%	?	?

Source: The top two rows are from Department of Foreign Affairs and International Trade, *Sixth Annual Report on Canada's State of Trade* (Ottawa: Government of Canada, 2005), Annex Tables 1A and 1C. The bottom two rows were calculated from data in Table 2 (above) and Table 6 (below).

Table 6: Exports to the US as Shares of Canada's GDP, 2000 - 2002

<u>Measure of Exports</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>
Gross Goods and Services	36.9%	35.1%	33.4%
Value-Added Goods and Services (Assumption 1)	21.8%	20.8%	19.8%
Value-Added Goods and Services (Assumption 2)	20.6%	19.7%	18.8%

Note: The top row is a product of multiplying "Gross Exports" from Table 1 (above) by "Gross Goods and Services" from Table 5 (above). The bottom two rows are the result of subtracting from the top row: 90.0% or 97.5% of "Import Content" from Table 1 as well as "Other" from Table 1 multiplied by "Gross Goods and Services" from Table 5. Also, see the Appendix (below).

Historian Jack Granatstein's claim that "close to 90 percent of Canadian trade [is] heading south"⁶⁶ is about 15 percentage points too high with respect to exports. It is even farther off the mark with respect to imports. Even in gross terms, only 61 percent of Canada's imports come from the US. As Statistics Canada's Cindy Bloskie points out, the "heavy trade in parts (conceivably the same part could cross the border two or three times) exaggerates the role of the US in our imports."⁶⁷ Also, some Canadian imports - or components of them - counted as coming from the US originate in other countries but enter North America through American ports. Accounting for these factors would reveal that well below 61 percent of the value-added that Canada imports originates in the US. If Canada's total value-added trade (exports and imports) could be measured, it seems likely that below two-thirds of it would be with the US.

A customs union and/or NAMU might facilitate Canada-US trade by reducing the transaction costs associated with it, but could undermine Canada's trade relations with other countries.⁶⁸ Therefore, advocates of these proposals imply that almost all of Canada's trade is with the US. For example, Wendy Dobson, a customs-union supporter, and Courchene, a leading NAMU proponent, both measure the share of Canada's trade with the US in terms of gross merchandise exports.⁶⁹ Undermining 10 percent of Canadian trade to facilitate the other 90 percent may seem sensible. Jeopardizing one-third to safeguard the remaining two-thirds is a more dubious proposition. Although the US is by far Canada's largest trading partner, Canada-US trade does not have the overwhelming predominance needed to justify a customs union or NAMU.

The premise that nearly 90 percent of exports, and hence more than a third of GDP, depend on trade with the US leads to the belief that Canada's economy is extremely vulnerable to American recessions.⁷⁰ But, if value-added exports account for about 26 percent of GDP, and no more than 76

percent of them are sold to the US, then American demand accounts for no more than 20 percent of Canadian GDP. Put another way, factoring out imported content occupying between 37 and 42 percent of Canada's exports to the US in 2002 reduces these exports from 33 percent of GDP in gross terms to 19 or 20 percent in value-added terms.⁷¹

Gross exports to the US fell to 30 percent of Canada's GDP by 2003. Since imports from the US also declined,⁷² the import content of Canadian exports to the US is almost certainly lower, relative to GDP, today than in 2002. Even if this decline was quite large, value-added exports to the US probably accounted for below 20 percent of Canada's GDP in recent years.

This revelation helps explain why the Canadian economy has performed well in recent years, despite the American economy's slowdown. In nominal terms, gross exports from Canada to the US fell from \$396 billion in 2000 to \$366 billion in 2003. During the same period, Canada's GDP rose from \$1,077 billion to \$1,216 billion.⁷³ The concurrence of an eight-percent fall in exports to the US with a thirteen-percent rise in GDP is inconsistent with the notion that Canada's economy is driven by American demand.

Canadians were insulated from the American slowdown because about 40 percent of what Canada exported to the US was imported content. Reductions in American demand have been concentrated in sectors with substantial import content, like machinery and equipment, rather than in sectors with little import content, like oil and gas. The burden of reduced American demand has been borne as much by limiting Canadian demand for imported inputs as by limiting Canadian incomes. This lowering of demand for inputs exported from the US worsens the American slump,⁷⁴ further separating Canadian and American business cycles.

Underlying the case for NAMU is the belief that Canada and the US have such integrated economies, and follow such similar business cycles, that the same monetary policy would be appropriate for both countries. The large amount of import content in Canada's exports to the US certainly reflects substantial economic integration, but also explains the divergence between Canadian and American business cycles. This divergence means that Canada would not be well served by the same monetary or fiscal regimes as the US. The import content of exports is evidence that Canada can and should pursue independent macroeconomic policy.

Although data on the distribution of import content between Canada's exports to different countries is not currently available, overall Canadian exports reflect the dynamic outlined above. A decline in the import content of exports relative to GDP accompanied the drop in gross exports between 2000 and 2002, mitigating the decline in value-added exports.⁷⁵

Assuming an open border, the import content of exports reduces Canada's vulnerability to US recessions. But many commentators fear that American officials might obstruct the movement of goods across the border. Granatstein argues that "with close to 90 percent of Canadian trade heading south - compared with a mere 25 percent of US trade that comes to Canada - Washington's capacity to inflict pain and enforce compliance on Canada is boundless. Canadian policy must be devoted to keeping the elephant fed and happy."⁷⁶ To keep the border open, Dobson argues that "Canadian initiatives would be required in areas of interest to the United States, specifically border security, immigration, [energy] and defense."⁷⁷

Some opponents of these proposals accept their basic premises. For example, according to the CCPA's Bruce Campbell, "deeper economic integration has heightened our vulnerability"

because the US “will not hesitate to link our compliance with its security demands to access to its markets.”⁷⁸

Imported inputs require an open border to enter Canada as much as the exports they are used to produce require an open border to enter the US. Therefore, one could argue that gross-export figures, including import content, accurately reflect Canada’s reliance on the border. However, it is difficult to imagine American officials obstructing the flow of goods from the US to Canada. As a policy issue, border openness relates to flows from Canada to the US. The fact that such flows account for less than a fifth - as opposed to more than a third - of Canada’s GDP reduces the amount of economic damage that American policy could do to Canada.

Whereas many Canadian natural resources could easily be sold outside of North America, manufacturing industries characterized by the flow of components between Canada and the US rely on an open border. Particular sectors characterized by high import content depend on the smooth flow of goods in both directions. The automobile industry, for example, could be decimated if the Canada-US border were tightened. But, for Canada to be vulnerable to American policy, the dependence must be “asymmetrical.”⁷⁹ In other words, the US must be able to inflict economic damage on Canada at little cost to itself.

However, the import content of exports implies symmetrical dependence. Closing the American market to Canadian exporters would automatically reduce their demand for inputs imported from the US. As Campbell argues, “*both* countries would be highly motivated to minimize disruptions and normalize cross-border traffic quickly should another terrorist attack occur.”⁸⁰ American officials could hurt Canada’s economy only about as much as they would be prepared to hurt the US economy.

For example, Michigan and Ontario automobile manufacturers jointly depend on the free flow of goods through Windsor-Detroit. Canada need not cater to American security, energy, and military demands to keep the border open for Ontario's auto industry. Michigan's powerful automakers, dependant on access to plants in Ontario, will strongly oppose American attempts to obstruct the border, whatever policies the Canadian government adopts.⁸¹

A major puzzle in recent Canadian economics has been the independence of Canadian prices from the Canada-US exchange rate. For years, economists warned that, given massive economic integration between Canada and the US, a falling exchange rate would erode Canadian living standards by increasing consumer prices in Canadian-dollar terms. But the dramatic fall and rise of the Canadian dollar against the US dollar did not noticeably inflate or deflate prices in Canada. The finding that "there is no evidence of cross-border price arbitrage for city pairs of any distance"⁸² supports the explanation that businesses price their products to the markets in which they wish to sell, rather than in rigid accord with the exchange rate.

The import content of exports provides a further explanation. Gross imports from the US were equal to 23 percent of Canada's GDP in 1994 and 2004, peaking at 29 percent between 1998 and 2000.⁸³ Because gross American exports to Canada undoubtedly include much content imported to the US from Canada and other countries, imports of American value-added occupied smaller percentages of Canadian GDP. Since the price of only this value-added is influenced by the Canada-US exchange rate, swings in the exchange rate have little effect on the overall price level faced by Canadian consumers.

The fact that import content accounts for about 40 percent of Canada's exports to the US softens the exchange rate's effect on Canadian producers. If the Canadian dollar falls, Canada's

exporters gain higher Canadian-dollar revenues on their cross-border sales, but automatically face higher Canadian-dollar costs on their imported inputs. If the Canadian dollar rises, Canada's exporters receive less revenue from sales, but pay less for their imported inputs. Assessing the impact of a higher Canadian dollar on the export-oriented automotive industry, Statistics Canada's Francine Roy notes that "the cost of imported auto products fell more than exports, easing the pressure on profit margins."⁸⁴

NAMU is put forward to solve the problems created by an artificially low Canadian dollar inflating prices for Canada's consumers and cushioning inefficiency among its export industries, or by an artificially high dollar deflating prices in Canada and imposing undue hardship on its exporters. By making these "misalignment"⁸⁵ problems less significant, the import content of exports weakens the case for NAMU.

Exports by Industry

A common theme in Canadian trade literature is that, whereas Canadians were once 'hewers of wood, and drawers of water,' exports are now "much more diversified in terms of products."⁸⁶ Michael Hart deflects calls to diversify Canadian trade between countries by arguing that free trade with the US has already diversified the range of products exported from Canada.⁸⁷ However, this apparent diversification was driven by growing import content. Because the movement of component parts back and forth across the border is heavily concentrated in the manufacturing sector, import content inflates exports of manufactured products relative to exports of services and natural resources.⁸⁸

Analysts often categorize exports of goods either as natural resources from the “Energy,” “Industrial Goods,” “Forestry,” and “Agriculture” sectors or as manufactured products from the “Machinery and equipment,” “Auto,” and “Consumer goods” sectors. Gross figures show that, on this basis, Canada exported slightly more natural resources than manufactured products in 2004. By assuming that sectors continued using import content as intensively as in 2001, Cross and Ghanem estimate that resource exports far exceeded manufactured exports in value-added terms in 2004. However, these results partly reflect the high commodity prices of 2004 and the classification of all “Industrial Goods” as natural resources.⁸⁹

This paper uses unpublished Statistics Canada data to define natural resources more narrowly and to examine service exports, as well as goods exports. In 2001 and 2002, manufactured products accounted for bare majorities of gross exports, but not of value-added exports. Even with a narrower definition of resources and lower commodity prices, resource exports still equalled manufactured exports in value-added terms.⁹⁰

Since services have less imported content than goods, they constitute a larger share of value-added exports than of gross exports.⁹¹ One can only speculate on the extent to which more liberalized trade in services, and the phenomenon of “outsourcing,”⁹² may increase the import content of service exports.

Table 7: Canada's Gross and Value-Added Exports by Industry, 2001 and 2002
(unbracketed figures are in billions of dollars; bracketed figures are shares of total exports)

2001 Figures:

<u>Type of Exports</u>	<u>Gross Exports</u> <u>Net of Re-Exports</u>	<u>Value-Added</u> <u>Exports</u>
Agriculture and Fishing	30.7	22.3
Energy	58.1	48.2
Forestry	47.9	37.4
Mining	31.9	21.3
Resource Exports	168.6 (37.1%)	129.2 (42.5%)
Automotive Products	110.6	51.5
Industrial Goods	42.6	29.1
Light Consumer Goods	31.2	24.5
Machinery and Equipment	45.1	21.7
Manufactured Exports	229.5 (50.5%)	126.8 (41.8%)
Service Exports	56.0 (12.3%)	47.7 (15.7%)
Grand Totals	454.2 (100.0%)	303.7 (100.0%)

2002 Figures:

<u>Type of Exports</u>	<u>Gross Exports</u> <u>Net of Re-Exports</u>	<u>Value-Added</u> <u>Exports</u>
Agriculture and Fishing	30.6	22.1
Energy	51.3	42.4
Forestry	45.6	35.8
Mining	33.7	22.5
Resource Exports	161.2 (36.1%)	122.8 (40.6%)
Automotive Products	112.3	53.7
Industrial Goods	43.1	30.2
Light Consumer Goods	31.8	22.0
Machinery and Equipment	39.6	23.0
Manufactured Exports	226.9 (50.8%)	128.8 (42.6%)
Service Exports	58.9 (13.2%)	50.8 (16.8%)
Grand Totals	447.0 (100.0%)	302.5 (100.0%)

Source: These figures were derived from Statistics Canada, "Impact of Exports on the Canadian Economy, 1986-2002: National Open Input-Output Model," data, 2006. Figures may not sum exactly due to rounding.

Contrary to Hart's claim that free trade has shifted Canada's exports from "resource-based" to "knowledge-based" products,⁹³ "there has been no noticeable increase in the pace of transition to a 'knowledge-based economy'," since CUFTA.⁹⁴ However, as Roy notes, there has been a dramatic shift within Canada's resource exports: "For the first time ever, forestry products did not make the largest contribution to our trade surplus in 2001. Instead, energy took the lead."⁹⁵ Canadians might now best be described as pumpers of oil and gas, rather than as hewers of wood. The Staple Thesis and other insights based on Canada's resource dependence remain relevant to Canadian social science and public policy despite "new economy" rhetoric.⁹⁶

A major argument against NAMU is that an independent Canadian dollar cushions Canada's economy against volatile commodity prices. Courchene counters this contention by observing that, in terms of gross exports, "Canada's wealth-generating process is shifting away from resources towards human capital and high technology activities," which throws into question "the wisdom of allowing the exchange rate to track commodity prices."⁹⁷ Since natural resources predominate among Canada's value-added exports, this practice may make more sense than he suggests. Whereas substantial import content blunts the exchange rate's effect on manufacturers, exchange-rate fluctuations are an effective tool for buffering resource industries, which use relatively fewer imported inputs. But whether or not it is desirable to cushion the effect of changing world prices on Canada's economy remains open to debate.⁹⁸

Critics of CUFTA and NAFTA point out that these deals have not shielded Canadian exporters from American protectionism. In defending these Agreements, the Government of Canada's *International Policy Statement* claims that "Over 95% of Canada-U.S. trade is dispute-free."⁹⁹ This percentage likely reflects the fact that Canada disputes very few US exports. It is

further inflated by the import content of exports. Areas of frequent dispute, such as forest and agricultural products, loom larger as shares of value-added exports than of gross exports.

Examining Canadian exports by industry reinforces the point that Canada is less vulnerable to US policy than is commonly thought. Natural resources, the largest component of Canada's value-added exports, can be divided into two categories. First, there are products from the energy and mining sectors upon which US industry depends and that American officials will not sanction. Second, there are products from the forestry and agricultural sectors that American officials have often disputed, regardless of Canadian policy on other issues. Growing Chinese demand seems likely to further increase the resource share of Canada's exports and to reduce the proportion of it flowing to the US.¹⁰⁰

Beyond natural resources, manufactured exports are characterized by so much integration and symmetrical dependence that US officials could not afford to sanction them. Since Canada's service exports are more diversified between countries, they are correspondingly less vulnerable to American policy. In a trade context, it is not clear what Canada would lose by failing to assuage US concerns about security, energy, or other issues. It is equally unclear what Canada would gain by kowtowing to US interests.

Exports by Province

The balance between interprovincial and international trade, as well as the latter's distribution among provinces, have significant implications for debates about North American integration and the future of Canadian Confederation. Arguing for greater North American economic integration, Courchene emphasizes that Canadian provinces export more to the US than to

each other and that Ontario depends more than the other provinces on international trade. However, a critical assessment of more recent statistics conflicts with this analysis.

Courchene slightly overstates the reliance of all provinces on the American market by using the proportion of their merchandise exports flowing to the US as a proxy for the proportion of their total exports flowing to the US.¹⁰¹

In a 2004 publication, he wrote,

In 1989, exports from all provinces to the US were 18.6 percent of GDP, whereas interprovincial exports were larger, at 22.9 percent of GDP. By 2001, the opposite relationship prevailed: interprovincial exports had fallen to 19.7 percent of GDP while exports to the US had mushroomed to 37.6 percent. . . the implications of this shift from a[n] east-west trading axis to a north-south trading axis are far-reaching.¹⁰²

Courchene suggests that this change in trade flows requires fundamental changes in Canadian policy.

Interprovincial exports have remained proportional to Canada's economy since 2001, standing at 20 percent of GDP in 2004. Gross exports to the US continue to exceed interprovincial exports, but have declined appreciably, falling to 30 percent of GDP in 2004. In contrast to the trend identified by Courchene, the gap between north-south exports and east-west exports narrowed by almost half, from 18 percent of GDP in 2001 to 10 percent of GDP in 2004.¹⁰³

Not surprisingly, exports to the US grew faster than interprovincial exports during the 1990s, when the American economy grew faster than the Canadian economy. Interprovincial exports increased more rapidly than exports to the US during recent years, when Canada outpaced the US in terms of economic growth. The trends identified by Courchene reflected not only economic integration, but also differing economic growth rates in the two countries.

Courchene compares the "east-west trading axis" with the "north-south trading axis" exclusively in terms of exports. By definition, total interprovincial imports equal total

interprovincial exports, but imports from the US are lower than exports to the US. Therefore, the gap between gross imports from the US and interprovincial imports was 6 percent of GDP in 2001 and only 3 percent of GDP in 2004.¹⁰⁴

On the other hand, considering the import content of exports may strengthen Courchene's point. Unfortunately, data on the import content of interprovincial exports, which is the same as the export content of interprovincial imports, does not yet exist. Relative to GDP and distance, interprovincial trade is more intense than Canada-US trade.¹⁰⁵ Therefore, one might expect to find more import content in exports to other provinces than in exports to the US.

Factoring out this content would shrink interprovincial trade relatively more than Canada-US trade, making the gap emphasized by Courchene proportionally wider in value-added terms. Whether the gap would widen or narrow in absolute terms depends on the extent to which east-west trade would shrink more than north-south trade. A larger gap today might imply that north-south trade has exceeded east-west trade for far longer than the gross data indicate.

If so, there has been no sudden shift in trade flows requiring a reorientation of policy. Rather, the huge economic pull of the US is a long-standing feature of Canada's political economy. As Campbell notes, Canadian "political leadership until Brian Mulroney more or less understood . . . that the role of policy was to control and discipline the gravitational pull of continental integration, not to encourage it."¹⁰⁶

Table 8: Canada-US Trade and Interprovincial Trade, 2000 - 2004
(unbracketed figures are in billions of dollars; bracketed figures are percentages of GDP)

	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>
Canadian GDP	1,076.6	1,108.0	1,154.2	1,216.2	1,290.2
Exports to US	395.6 (37%)	388.2 (35%)	385.4 (33%)	366.0 (30%)	387.9 (30%)
Imports from US	308.2 (29%)	296.5 (27%)	297.4 (26%)	282.1 (23%)	291.8 (23%)
Interprovincial Exports/Imports	217.7 (20%)	226.3 (20%)	232.7 (20%)	245.9 (20%)	259.3 (20%)

Note: The top and bottom rows are from Statistics Canada, "Table 384-0002: Gross Domestic Product (GDP), expenditure-based, provincial economic accounts," data, 2006 (specifically, series V687341 and V20663511, as of April 2006). The middle two rows are from Department of Foreign Affairs and International Trade, *Sixth Annual Report on Canada's State of Trade* (Ottawa: Government of Canada, 2005), Annex Table 2B.

Table 9: Provinces Ranked by International Exports as Shares of GDP, 1999 and 2004

<u>Gross Exports, 2004</u>		<u>Gross Exports, 1999</u>		<u>Value-Added Exports, 1999</u>	
NB	46 %	ON	53 %	SK	33 %
ON	45 %	QC	39 %	ON	32 %
SK	41 %	SK	39 %	AB	31 %
AB	39 %	NL	38 %	QC	28 %
NL	38 %	AB	37 %	NL	28 %
QC	33 %	NB	36 %	BC	27 %
MB	29 %	BC	33 %	NB	26 %
BC	28 %	MB	30 %	PEI	25 %
PEI	27 %	PEI	30 %	MB	24 %
NS	26 %	NS	25 %	NS	18 %

Statistical Measures of Variation

Range (Max - Min)	20 %	Range (Max - Min)	28 %	Range (Max - Min)	15 %
Standard Deviation	7.6%	Standard Deviation	7.6%	Standard Deviation	4.4%

Note: "Gross Exports, 2004" and "Gross Exports, 1999" are from Department of Foreign Affairs and International Trade, *Sixth Annual Report on Canada's State of Trade* (Ottawa: Government of Canada, 2005), Annex Table 1A. "Gross Exports, 1999" and "Value-Added Exports, 1999" are from Ziad Ghanem and Philip Cross, "The Import Intensity of Provincial Exports," *Canadian Economic Observer*, Statistics Canada Catalogue no. 11-010-XPB (June 2003), 3.5 (Table 1). The author calculated "Statistical Measures of Variation" for each numeric column.

A countervailing factor is the substantial import content of automotive exports, and export content of automotive imports, which inflates trade with the US more than trade between provinces. Factoring out this content would shrink north-south trade more than east-west trade, narrowing the gap between them. Ultimately, one cannot properly compare international and interprovincial exports without value-added data on the latter. But there is clearly more to the story of north-south versus east-west trade than the existing literature implies.

In partnership with Colin Telmer, Courchene presents the idea that Ontario is being transformed from “Canada’s heartland” into a “North American region state.” Rather than using their province’s clout to promote Canadian unity, recent Ontario governments have pursued Ontarian interests more aggressively. Courchene and Telmer present the notion that Ontario depends vastly more than other provinces on international trade as “the ‘economic determinism’, as it were, that underpins Ontario’s emerging economic-region-state status.”¹⁰⁷ Courchene writes, “with nearly 50 per cent of its GDP destined for US markets, can Ontario successfully make its way in North America without North American currency integration? Telmer and I say no.”¹⁰⁸

Critics of this region-state analysis have accepted the economic significance that Courchene and Telmer attribute to Ontario’s trade flows, but dispute the hypothesized link between these flows and Ontarian political identity.¹⁰⁹ But is it true, even in purely economic terms, that international trade is pulling Ontario away from “its sister provinces” into “North American economic space”?¹¹⁰

Manufactured products sold to the US account for a much larger portion of international exports emanating from Ontario than of international exports emanating from other provinces. When Telmer and Courchene published their analysis in 1998, gross exports to the US were rising relative to Canada’s GDP and trade seemed to set Ontario apart from the other provinces. In 1999,

for example, gross international exports equalled 53 percent of Ontario's GDP, compared to between 25 and 39 percent for the other nine provinces. But, as discussed above, manufactured exports to the US have fallen relative to Canada's GDP since then. Consequently, gross international exports dropped to 45 percent of Ontario's GDP by 2004, compared to between 26 and 46 percent for the other nine provinces. Ontario exported relatively less than New Brunswick, but relatively more than other provinces.¹¹¹

Since Ontario's international exports are mainly manufactured products sold to the US, they have far more imported content than those of other provinces. Factoring out this content reduces Ontario's exports from 53 to 32 percent of GDP for 1999. This revelation makes sense because, as Ghanem and Cross note, "Ontario's continued growth when the US economy slumped after 2000 would be hard to explain if exports really contributed over half of all [its] income."¹¹²

In gross terms, Ontario appeared to be about a third more dependent than Saskatchewan on international exports in 1999. Value-added figures reveal that Ontario derived less of its income than Saskatchewan from international exports.¹¹³ More generally, as Ghanem and Cross point out, "The provincial dispersion of export shares also is much less than it appears."¹¹⁴ In statistical terms, the range and standard deviation for value-added-export shares are roughly half of what they are for gross-export shares.¹¹⁵ International exports create much less discrepancy between Ontario and other provinces in value-added terms than in gross terms.

Unfortunately, value-added data on provincial exports for years after 1999 is not yet available. But, given the gross data for 2004, one can only assume that value-added data for that year would situate Ontario much closer to the middle of the pack. If Ontario does not depend substantially more than other provinces on international exports, then these trade flows need not pull

it away from pan-Canadian political structures. On the contrary, since gross figures overstate its share of Canada's exports, Ontario's interests may have been accorded unduly great influence in formulating federal trade policy.

In 1999, Harvey Lazar and Tom McIntosh referred to Courchene's emphasis on "the rapid increase in bilateral trade with the United States and the fact that international trade has grown much more rapidly in recent years than interprovincial trade" and to "his belief that this process has profound implications for how Canadians govern themselves." In their assessment, "The facts that underlie Courchene's analysis are not in doubt. Yet there is more than one way to interpret the trade and investment data."¹¹⁶

This paper offers a different assessment. In recent years, trade with the US has declined appreciably relative to Canada's economy, and interprovincial trade has grown faster than Canada's international trade. Courchene's contentions about North American integration and Canadian Confederation are debatable not only because varying interpretations of the same facts are possible, but also because recent trends and the import content of exports alter the salient facts.

Conclusion

This paper develops a value-added approach to Canadian trade statistics. Empirically, the new approach is needed because recent economic trends are inconsistent with the conventional approach. If about half of Canada's goods are bought from or sold to the US, why have large exchange-rate fluctuations had so little effect on Canadian-dollar price and profit levels? How has the Canadian economy performed so well during an American economic slump? A value-added approach to trade statistics is credible because it helps answer these questions.

Influential Canadians have effectively used gross-export numbers to advance policies that promote international trade and competitiveness at the expense of other priorities. Value-added figures indicate that Canada's exports contribute less to the national economy, rely less on the US, depend more on natural resources, and are more evenly distributed between provinces than gross figures suggest. Considering the import content of exports weakens arguments for curtailing the Canadian state and for striking a 'grand bargain' with the US.

For years, Statistics Canada has produced excellent technical work on the difference between gross and value-added exports. Canada's public-policy discourse should take account of these findings.

**Appendix: Assumptions about the Concentration of Import Content in Exports to the US
(figures are shares of gross exports)**

	<u>2000</u>	<u>2001</u>	<u>2002</u>
<u>Upper-Bound Assumption</u>			
<u>(97.5% of Imported Content is in Exports to US)</u>			
Import Content of Exports	35.3%	33.4%	33.3%
Import Content of Exports to US	42.5%	40.4%	40.3%
Import Content of Exports to Rest of World	4.6%	4.3%	4.3%
“Other” Content of Exports	1.5%	3.5%	3.4%
“Other” Content of Exports to US	1.5%	3.5%	3.4%
“Other” Content of Exports to Rest of World	1.5%	3.5%	3.4%
<u>Lower-Bound Assumption</u>			
<u>(90% of Imported Content is in Exports to US)</u>			
Import Content of Exports	35.3%	33.4%	33.3%
Import Content of Exports to US	39.2%	37.2%	37.2%
Import Content of Exports to Rest of World	18.5%	17.3%	17.1%
“Other” Content of Exports	1.5%	3.5%	3.4%
“Other” Content of Exports to US	1.5%	3.5%	3.4%
“Other” Content of Exports to Rest of World	1.5%	3.5%	3.4%

Note: These figures were calculated from data in Tables 1 and 6 (above). The “Upper-Bound Assumption” is “Assumption 2,” and the “Lower-Bound Assumption” is “Assumption 1,” in Tables 5 and 6 (above).

NOTES

1. For an overview of this movement, see Thomas Courchene, “Thinking North America: Pathways and Prospects,” in Folio 1 of *The Art of the State, Volume II: Thinking North America*, edited by Thomas Courchene, Donald Savoie, and Daniel Schwanen (Montreal: Institute for Research on Public Policy, 2004), 14-17.
2. Government of Canada, “A Role of Pride and Influence in the World: Commerce,” in *Canada’s International Policy Statement* (Ottawa: Government of Canada, 2005), 7, and Allan Gotlieb, “Baby Steps Toward a Partnership,” *The Globe and Mail*, April 13, 2005, A19.
3. Andrew Jackson, “From Leaps of Faith to Lapses of Logic,” *Policy Options*, Vol. 20, No. 5 (June 1999), 17.
4. Gordon Ritchie, “Who’s Afraid of NAFTA’s Bite?,” *The Globe and Mail*, February 15, 2005.
5. Paul Krugman, “What Do Undergrads Need to Know About Trade?,” *The American Economic Review*, Vol. 83, No. 2 (May 1993), 24.
6. Department of Foreign Affairs and International Trade, *Canadian Trade Review, First Quarter 2002* (Ottawa: Government of Canada, 2002), 3-4.
7. Mel Hurtig, *The Vanishing Country: Is It Too Late to Save Canada?* (Toronto: McClelland & Stewart, 2002), 390.
8. Calculated from Statistics Canada, “Table 380-0017: Gross Domestic Product (GDP), expenditure-based, annual,” data, 2006. Specifically, series V646937 (GDP), V646954 (Exports), and V646957 (Imports) were checked in April 2006.
9. Grant Cameron and Philip Cross, “The Importance of Exports to GDP and Jobs,” *Canadian Economic Observer*, Statistics Canada Catalogue no. 11-010-XPB (Nov. 1999), 3.1.
10. Table 1 of this paper.
11. This paper is based on Statistics Canada figures, which are consistent with OECD figures. The Bank of Canada generated significantly different figures on the import content of Canadian exports, which were published by John Helliwell and Larry Schembri, “Borders, Common Currencies, Trade, and Welfare: What Can We Learn from the Evidence?,” *Bank of Canada Review* (Spring 2005). The Bank of Canada’s figures have not yet been reconciled with Statistics Canada’s figures.
12. Exceptions include: Hurtig, *Vanishing Country*; Madelaine Drohan, “Canada Has Chance to Avoid Recession,” *The Globe and Mail*, Jan. 13, 2001, B8; John Helliwell, “North American Integration: Assessing the Options,” presented at the “Canada and the New American Empire” Conference, November 26-28, 2004 [http://www.globalcentres.org/can-us/economic_helliwell.pdf]; Jim Stanford, “Putting Globalization in its Place,” *This Magazine* (March/April 2001), 16; Andrew Jackson, *From Leaps of Faith to Hard Landings: Fifteen Years of “Free Trade”*, Canadian Centre for Policy Alternatives Paper (December 2003); and Erin Weir, “Lies, Damned Lies, and Trade Statistics,” presented at the “Globalism and its Challengers” Conference (University of Alberta, September 24, 2005) [<http://www.ualberta.ca/GLOBALISM/conference/weir.pdf>].

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13. Canada, "Commerce," 1.
 14. Department of Foreign Affairs and International Trade, *NAFTA @ 10: A Preliminary Report* (Ottawa: Government of Canada, 2003).
 15. Table 1 of this paper.
 16. Ziad Ghanem and Philip Cross, "The Import Intensity of Provincial Exports," *Canadian Economic Observer*, Statistics Canada Catalogue no. 11-010-XPB (June 2003), 3.1.
 17. Table 2 of this paper.
 18. In 2001, (Import Content of Exports/Gross Imports) = (14.5% of GDP/37.7% of GDP) = 0.38. In 2002, (Import Content of Exports/Gross Imports) = (13.8% of GDP/37.0% of GDP) = 0.37.
 19. Philip Cross, "Cyclical Implications of the Rising Import Content of Exports," *Canadian Economic Observer*, Statistics Canada Catalogue no. 11-010-XPB (December 2002), 3.9.
 20. Courchene, "Thinking North America," 3.
 21. Quote from Michael Hart, *A Trading Nation: Canadian Trade Policy from Colonialism to Globalization* (Vancouver: University of British Columbia Press, 2002), 449. Hurtig quotes Donald Macdonald to the same effect in *Vanishing Country*, 376.
 22. John McCallum, "Two Cheers for the FTA," *Policy Options*, Vol. 20, No. 5 (June 1999), 9.
 23. See Table 1 of this paper.
 24. Philip Cross and Ziad Ghanem, "Canada's Natural Resource Exports," *Canadian Economic Observer*, Statistics Canada Catalogue no. 11-010-XPB (May 2005), 3.1.
 25. Peter Dungan and Steve Murphy, "The Changing Industry and Skill Mix of Canada's International Trade," paper 4 in *Perspectives on North American Free Trade* (Ottawa: Industry Canada, April 1999), ii and iv.
 26. William Watson, "Free Trade: 10 Years On," *Policy Options*, Vol. 20, No. 5 (June 1999), 3; Krugman, "What Undergrads Need to Know"; Jackson, "Leaps of Faith," 13.
 27. Quote from Jackson, "Leaps of Faith," 14. Watson, McCallum, and Mulroneu make the same observation on pages 3-5, 6, and 21 respectively in the same issue of *Policy Options*.
 28. Richard Lipsey, "The Canada-U.S. FTA: Real Results Versus Unreal Expectations," in *Free Trade: Risks and Rewards*, edited by Ian MacDonald (Montreal & Kingston: McGill-Queen's University Press, 2000), 106.
 29. John Helliwell, "Policies to Improve Well-Being," in *Canadian Conundrums: Views from the Clifford Clark Economists*, edited by Robert Brown (Toronto: C. D. Howe Institute, 2002), 2.

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30. Emphasis in original. Dungan and Murphy, "Changing Industry and Skill Mix," iii.
 31. Cameron and Cross, "Importance of Exports to GDP and Jobs," 3.4.
 32. Jim Stanford, *Sector Development Policy*, Canadian Centre for Policy Alternatives Paper, forthcoming.
 33. Jackson, "Leaps of Faith," 14.
 34. Helliwell, "Well-Being," 2 and Helliwell, "North American Integration."
 35. David Hummels, Jun Ishii, and Kei-Mu Yi, "The Nature and Growth of Vertical Specialization in World Trade," *Journal of International Economics*, Vol. 54, No. 1 (June 2001).
 36. For more on the costs of free trade, see Erin Weir, "The Canada-US Free Trade Agreement and NAFTA." In *Towards Re-peripheralisation?*, edited by Paul Bowles (London: Routledge, forthcoming).
 37. James Laxer, "Wake Up Time," *Canadian Dimension* (November/December 2002).
 38. Ibid.
 39. Cross and Ghanem, "Natural Resource Exports," 3.6.
 40. Ibid., 3.2.
 41. Steven Theobald, "Surplus Dips but Still Strong: Imports Growing Three Times Faster than Exports," *Toronto Star*, May 13, 2006.
 42. Table 3 of this paper.
 43. Hummels, Ishii, and Yi, "Vertical Specialization," 84-85 (especially Figure 2).
 44. Quote from Jackson, "Leaps of Faith," 14.
 45. Hart, *A Trading Nation*.
 46. Quote from Patrick Grady and Kathleen Macmillan, "Is North-South Killing East-West?," *Policy Options*, Vol. 20, No. 5 (June 1999), 68. Earl Fry makes the same point in "Canada-US Economic Relations: A Window of Opportunity," *Policy Options*, Vol. 24, No. 2 (February 2003), 33 and 36.
 47. Table 4 of this paper.
 48. Thomas Courchene, "The Case for a North American Currency Union," *Policy Options*, Vol. 24, No. 4 (April 2003), 21.
 49. Thomas Courchene, "Towards a North American Common Currency: An Optimal Currency Area Analysis," in *Room to Manoeuvre?: Globalization and Policy Convergence*, edited by Thomas Courchene (Montreal & Kingston: McGill-Queen's University Press, 1999), 297-298.

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51. *Ibid.*, 19.
52. Pierre Martin, "Globalization, Offshoring, and American Trade Politics: Prospects for Canada-US Trade," *Policy Options*, Vol. 26, No. 2 (February 2005), 82.
53. Quoted in Hurtig, *Vanishing Country*, 392.
54. Jeffrey Simpson, "Canada's Tests," *The World in 2006* (London: The Economist, 2005), 41.
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56. John McDougall, "The Long-Term Determinants of Deep/Political Canada-US Integration," in Folio 7 of *The Art of the State, Volume II: Thinking North America*, edited by Thomas Courchene, Donald Savoie, and Daniel Schwanen (Montreal: Institute for Research on Public Policy, 2004), 9.
57. Armine Yalnizyan, *Paul Martin's Permanent Revolution*, Canadian Centre for Policy Alternatives Paper (January 2004), 6.
58. Wendy Dobson, *Shaping the Future of the North American Economic Space: A Framework for Action*, C. D. Howe Institute Commentary, No. 162 (April 2002), 4. Also see Jack Granatstein's statement below.
59. Department of Foreign Affairs and International Trade, *Sixth Annual Report on Canada's State of Trade* (Ottawa: Government of Canada, 2005), Annex Table 1C.
60. Cross, "Import Content in Exports," 3.7.
61. *Ibid.*, 3.8.
62. The implications of these assumptions are displayed in this paper's Appendix.
63. Table 5 of this paper.
64. Cross, "Import Content in Exports," 3.9.
65. Canada, *NAFTA @ Ten*, 60.
66. Jack Granatstein, *A Friendly Agreement in Advance: Canada-US Defense Relations Past, Present, and Future*, C. D. Howe Institute Commentary, No. 166 (June 2002).
67. This 2003 figure is from Cindy Bloskie, "Canada's Imports by Country," *Canadian Economic Observer*, Statistics Canada Catalogue no. 11-010-XPB (September 2004), 3.1 and 3.6.
68. Helliwell, "North American Integration."

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69. Courchene, "North American Currency Union," 22-23, and Dobson, *North American Economic Space*, 4.
70. For example, see Steve Maich, "Is America Going Broke?," *Maclean's* (March 7, 2005), 26.
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72. Table 8 of this paper.
73. Ibid.
74. Cross, "Import Content in Exports," 3.6 and 3.8.
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78. Bruce Campbell, *Of Independence and Faustian Bargains: Going Down the Deep Integration Road with Uncle Sam*, Canadian Centre for Policy Alternatives Paper (February 2005), 3.
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80. Campbell, *Deep Integration*, 7.
81. Hurtig makes a similar point in *Vanishing Country*, 393-394.
82. John Helliwell, "Canada's National Economy: There's More to It Than You Thought," in *Canada: The State of the Federation, 1998/99: How Canadians Connect*, edited by Harvey Lazar and Tom McIntosh (Montreal & Kingston: McGill-Queen's University Press, 1999), 95.
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