



Foreign Affairs and
International Trade Canada

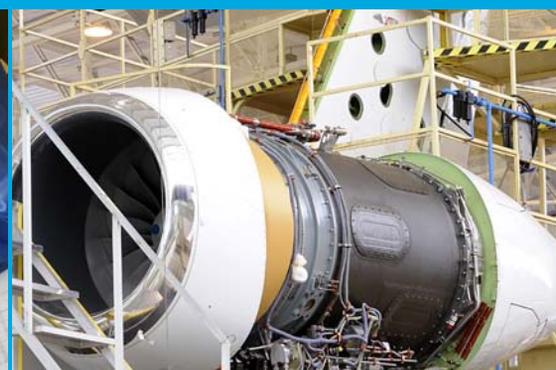
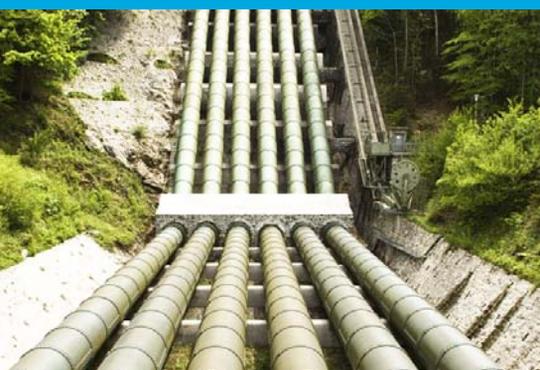
Affaires étrangères et
Commerce international Canada

Canada



CANADA'S STATE OF TRADE

Trade and Investment Update - 2012



Including a special feature on:
**International Trade and
its Benefits to Canada**

Canada's State of Trade

Trade And Investment Update - 2012

ABOUT THIS DOCUMENT

Canada's State of Trade – 2012 was prepared under the direction of Mykyta Vesselovsky of the Office of the Chief Economist of the Department of Foreign Affairs and International Trade. The report was written by Mykyta Vesselovsky, with contributions provided by Crystal Arnborg (Canadian Merchandise Export Diversification from 2002 to 2011; and Still on Top: Canada-United States Trade Relationship is the World's Largest), Celine Bak (A Profile of Canada's Clean Technology Companies), Rick Cameron (Trade, Output and Jobs in Canada), Raphaëlle Gauvin-Coulombe (Diverging Crude Oil Prices in North America—the Implications for Canada's Trade Balance), and by Motria Savaryn (Canadian Foreign Affiliates). Statistical assistance was provided by Nancy Blanchet, Maureen Francoeur, Motria Savaryn and Raphaëlle Gauvin-Coulombe. The Special Feature was written by Rick Cameron with contributions by David Boileau, Shenjie Chen, Bjorn Johannson, Motria Savaryn, Aaron Sydor, and Mykyta Vesselovsky. Comments at the drafting stage were provided by André Downs, Chief Economist, Office of the Chief Economist.

Your comments concerning this year's report are welcome. Please direct them to Mykyta Vesselovsky at:

<< Mykyta.Vesselovsky@international.gc.ca >>.

© Her Majesty the Queen in Right of Canada, represented by the Minister of Foreign Affairs and International Trade Canada, 2012

Catalogue no. FR2-8/2012

ISSN 1914-9956

Table of Contents

A Message from the Minister	V
Executive Summary	VII
I. Global Economic Performance	1
Overview and Global Prospects	1
United States	3
Japan	5
Eurozone	6
United Kingdom	7
Emerging Economies	8
Emerging Asia	8
Emerging Europe	9
Latin America and the Caribbean (LAC)	10
Commonwealth of Independent States (CIS)	10
Middle East and North Africa	11
Sub-Saharan Africa	12
Assumptions and Risks	13
II. Overview of World Trade Developments	15
Merchandise Trade	16
Trade Values (nominal trade)	16
Trade Volumes (real trade)	18
Prices and Exchange Rates	19
Country Ranking by Trade Values	21
Services Trade	22
Leading Services Traders by Value	25

III. Canada's Economic Performance	27
Gross Domestic Product	27
Contributions to Real GDP Growth.	28
GDP by Industrial Activity.	30
Gross Domestic Product by Province.	31
Employment.	34
Inflation.	35
The Canadian Dollar	37
Box: <i>Diverging Crude Oil Prices in North America— the Implications for Canada's Trade Balance</i>	38
IV. Overview of Canada's Trade Performance	41
Goods and Services	41
Box: <i>Trade, Output and Jobs in Canada</i>	44
Goods Trade.	48
Sectoral Performance of Goods Trade	48
Box: <i>A Profile of Canada's Clean Technology Companies— Playing to Their Niches</i>	51
Services Trade.	55
The Current Account	58
V. Key Developments in Canadian Merchandise Trade in 2011	61
Box: <i>Still on Top: Canada-United States Trade Relationship is the World's Largest</i>	63
Trade by Top Ten Partners	65
Merchandise Exports	65
Box: <i>Canadian Merchandise Export Diversification from 2002 to 2011</i>	66
Merchandise Imports	73
Merchandise Trade by Top Drivers.	75
Merchandise Trade by Major Product Groups	78
Energy Products.	78
Vehicles and Parts.	81
Mechanical Machinery and Appliances	82
Electrical and Electronic Machinery and Equipment	83
Technical and Scientific Equipment	84
Agricultural and Agri-food Products.	84
Minerals and Metals.	85
Chemicals, Plastics, and Rubber	87
Wood, Pulp and Paper.	87
Textiles, Clothing and Leather.	88
Consumer Goods and Miscellaneous Manufactured Products	88
Other Transportation Equipment	89
Trade by the Provinces and Territories.	90

VI. Overview of Canada's Investment Performance 93

Global Foreign Direct Investment Flows	93
Canada's Direct Investment Performance	98
Inward Investment	98
Inflows	98
Inward FDI Stock	99
Outward Investment.	102
Outflows	102
Outward FDI Stock	104
Box: <i>Canadian Foreign Affiliates</i>	107

VII. Special Feature 111

Figures

Figure 2-1: Change in Commodity Prices	20
Figure 3-1: Canada's Projected Budgetary Balance	27
Figure 3-2: Canadian Real GDP Growth	28
Figure 3-3: Contribution to Real GDP Growth	28
Figure 3-4: Real GDP Growth by Province	32
Figure 3-5: Unemployment Rate in Canada	34
Figure 3-6: C\$-US\$ Daily Exchange Rate	37
Figure 4-1: Canada's Exports of Goods and Services by Major Area	43
Figure 4-2: Canada's Imports of Goods and Services by Major Area	43
Figure 4-3: Growth in Canada's Goods Exports by Major Groups	49
Figure 4-4: Growth in Canada's Goods Imports by Major Groups	54
Figure 4-5: Components of Canada's Current Account	58
Figure 5-1: Canada's Top 10 Exports Destinations	66
Figure 5-2: Canada's Top 10 Import Sources	73
Figure 5-3: Canada's Top 10 Exports Commodities	78
Figure 5-4: Evolution of Canadian Merchandise Exports by Sector	79

Tables

Table 1-1: Real GDP Growth in Selected Economies	2
Table 2-1: World Merchandise Trade by Region and Selected Countries	16
Table 2-2: Leading Exporters and Importers in World Merchandise Trade	21
Table 2-3: World Services Trade by Region and Selected Countries	23
Table 2-4: World Exports of Services	24
Table 2-5: Leading Exporters and Importers in World Services Trade	25
Table 4-1: Canada Goods and Services Trade by Region	42
Table 4-2: Canada's Services Trade by Sector	56
Table 5-1: Canadian Merchandise Trade by Top Drivers	76
Table 5-2: Merchandise Trade by Province and Territory	91
Table 6-1: Global FDI Flows by Region and Selected Countries	94
Table 6-2: FDI Flows into Canada by Region	99
Table 6-3: Stock of Foreign Direct Investment into Canada by Country and Region	100
Table 6-4: Stock of Foreign Direct Investment into Canada by Major Sector	101
Table 6-5: FDI Outflows from Canada by Region	102
Table 6-6: Stock of Canadian Direct Investment Abroad by Country and Region	103
Table 6-7: Stock of Canadian Direct Investment Abroad by Major Sector	105

Special Feature

Figure 1: Imports as a Share of the Total Canadian Domestic Market	122
Figure 2: Trade and Standards of Living in Canada	127
Figure 3: Real Wage Rates	128
Table 1: The Effect of the CUSFTA on Canadian Manufacturing Productivity	126

Acronyms

BOC	Bank of Canada
BOP	Balance of Payments
CDIA	Canadian Direct Investment Abroad
CGE	Computable General Equilibrium
CIS	Commonwealth of Independent States
CPI	Consumer Price Index
CUSFTA	Canada United States Free Trade Agreement
DFAIT	Department of Foreign Affairs and International Trade
EU	European Union
FDI	Foreign Direct Investment
FTA	Free Trade Agreement
G-7	Group of Seven
GDP	Gross Domestic Product
HS	Harmonized System
I/O	Input /Output
IMF	International Monetary Fund
LAC	Latin America and Caribbean
MENA	Middle East and North Africa
NAFTA	North American Free Trade Agreement
NIE	Newly Industrialized Economies
OECD	Organization for Economic Co-operation and Development
RAM	Random Access Memory
ROW	Rest of World
SITC	Standard International Trade Classification
UK	United Kingdom
UNCTAD	United Nations Conference on Trade and Development
US	United States
WTO	World Trade Organization

Message from the Honourable Ed Fast, Minister of International Trade and Minister for the Asia-Pacific Gateway



Honourable Ed Fast,
Minister of International Trade and
Minister for the Asia-Pacific Gateway

I am pleased to present the 2012 edition of *Canada's State of Trade*. This report provides an overall assessment of Canada's recent international commercial performance and examines some of the key trends and developments in international trade and investment during the past year.

Many challenges continued to restrain the global economic recovery in 2011. Several years after the onset of the recession, many leading economies continue to struggle with weak growth, high unemployment and crises in public finances. As a trading economy, Canada has felt the economic impact of these

struggles but has outperformed most other industrialized countries. In fact, between July 2009 and July 2012, our economy created 735,500 net new jobs in Canada, making Canada one of only two G-7 countries to have recouped all of the jobs lost during the global recession. Canada's fiscal position remains the strongest in the G-7, and the government intends to keep this distinction by charting a path back to balanced budgets over the medium term. As well, both the International Monetary Fund and the Organisation for Economic Co-operation and Development forecast that Canada would remain among the leaders of the world's major economies this year and next. This performance reflects Canada's sound economic, fiscal and financial sector fundamentals, along with the effective and timely support provided under our Economic Action Plan.

The course of global economic expansion will continue to be uncertain, presenting Canada with many serious challenges and risks but also a number of opportunities. This is why the Economic Action Plan 2012 sets out a comprehensive agenda to bolster Canada's fundamental strengths and address the important long-term challenges confronting our economy. Our government's low-tax agenda will ensure that Canada remains an attractive environment for economic success. A clear focus on economic growth, sound public finances and the creation of high-quality

jobs will ensure that Canadians' standard of living continues to improve and remain the envy of the rest of the world.

To further position our country for long-term prosperity, our government is also implementing the most ambitious trade-expansion plan in Canadian history, one which will create new and deeper trade and economic relationships, particularly with large, dynamic and fast-growing economies. Since 2006, Canada has concluded free-trade agreements with nine countries, as well as foreign investment promotion and protection agreements with 11 countries. Major additional trade agreements are in negotiation, including one with the European Union, the world's largest trading bloc, and others with leading economies, such as Japan and India. Our most important current trade partnership—with the United States—is also being bolstered, with the implementation of the joint Action Plan on Perimeter Security and Economic Competitiveness, and the joint Action Plan on Regulatory Cooperation, which will facilitate trade and investment flows within the integrated North American economy. In June 2012, Canada welcomed the announcement by TPP members of their support for Canada joining the TPP. A TPP agreement will enhance trade in the Asia-Pacific region and will provide greater economic opportunity for Canadians and Canadian businesses.

Opening markets for Canadian exporters is one part of the Government of Canada's strategy. In 2007, the government launched the Global Commerce Strategy to respond to changes in the global economy and position Canada for long-term prosperity. This led to five years of Canadian leadership on the world stage in support of open trade, job creation, economic growth and prosperity for Canadians. Economic Action Plan 2012 proposes to refresh the Global Commerce Strategy through extensive consultations with Canada's business community, including the very critical category of small and medium-sized businesses. An updated Global Commerce Strategy will align Canada's trade and investment objectives with specific high-growth priority markets and ensure that Canada is positioned to its greatest advantage within each of those markets.

Canada's State of Trade 2012 shows that Canada's international trade has recovered strongly, in spite of a challenging economic environment. The report is a testimony to the strength and adaptability of Canadian businesses and workers and to the quality of our products and services.

Our government will continue to work together with businesses, investors and all Canadians to keep this country a strategic business location with all the advantages of a strong, resilient and competitive economy.



*The Honourable Ed Fast
Minister of International Trade
and Minister for the Asia-Pacific Gateway*

Executive Summary

2011 was a challenging year for the global economic recovery. After a strong rebound in output and trade that took place in 2010, fueled by inventory restocking, government stimulus and easy monetary policy, growth was expected to be slower in 2011. However, numerous adverse shocks made the slowdown worse than it should have been and also clouded the economic prospects for the year 2012 in several regions.

The eurozone crisis was the chief agent of uncertainty in the global economy in 2011. Growing fiscal stress and increasing uncertainty over the future of the European Monetary Union caused output in the eurozone to contract in the fourth quarter. The focus of the crisis shifted from the relatively small Greek economy to the large global players—Spain and Italy. As markets called into question the sustainability of their fiscal path, sovereign yields have increased, and the perceived risks associated with holding their sovereign debt have increased as well. This raised the degree of risk in the financial system, led to tightened credit conditions, lowered confidence and raised the overall level of uncertainty in the global economy. As several eurozone countries slipped into recession at the end of 2011, contagion from Europe spread through strong financial and trading links between this region and the rest of the world.

Generally, recoveries following financial crises are weaker and last longer, and this one is no exception. As governments in most of the advanced world shifted stance

from stimulus to fiscal consolidation, private and business debtors were still deleveraging. As a consequence, private demand and business investment did not pick up sufficiently, resulting in slow growth. Many governments faced fiscal pressures that made it difficult to address the high unemployment rate prevailing in most developed countries.

The year 2011 also had its share of natural disasters and unforeseen events. The Great East Japan earthquake cut short the recovery in that country, disrupted supply chains across the globe and severely impacted the global economy in the second quarter of the year. Floods in Thailand in the fourth quarter had a similar effect, dampening growth across Southeast Asia. Civil disorder in North Africa and outright civil war in Libya led to curtailment of many economic activities in that region and raised uncertainty about oil prices. Fears of the recession in the United States did not materialize, and the country did better than expected at the end of the year, but the political gridlock that called its credit rating into question has persisted, making effective economic governance difficult.

For the year as a whole, world real GDP grew by 3.9 percent in 2011, down from the 5.3-percent pace of 2010. The pace of growth in the advanced economies slowed down to 1.6 percent in 2011 from 3.2 percent in 2010. By contrast, growth in the developing world continued to be high, posting a 6.2-percent increase in 2011, following the 7.5-percent growth in 2010.

Among the developed economies, the Newly Industrialized Economies of Asia continued to lead in real output growth, posting a 4.0-percent growth in 2011, although this was significantly slower than their 8.5-percent performance in 2010. Germany was the fastest growing major economy, with 3.1-percent growth. While historically modest, the 1.7-percent performance of the United States was in the end better than expected, as consumer spending and employment started to recover. Eurozone growth was 1.4 percent in 2011 following a 1.9-percent performance in 2010, with part of the region tipping into recession at the end of the year. France was the only major advanced economy to grow faster in 2011 (up 1.7 percent) than in 2010 (up 1.4 percent). Japan, which registered a 4.4-percent growth in 2010, was back in recession with a 0.7-percent contraction to its real GDP.

In the developing world, Asian economies drove the growth. Developing Asia's economies expanded 7.8 percent in 2011. China led with 9.2-percent growth in 2011, following 10.4 percent in 2010, while India turned in a 7.2-percent performance in 2011 on the heels of 10.6 percent in 2010. Emerging Europe was the next fastest-growing region, with 5.3-percent growth, followed by Sub-Saharan Africa at 5.1 percent. South Africa, the largest economy in the latter region, slowed down to 3.1 percent in 2011. The Commonwealth of Independent States expanded 4.9 percent in 2011, with Russia growing at 4.3 percent, the same rate as in 2010. The Latin America and Caribbean region was next with 4.5-percent growth. Brazil's economy, however, grew only 2.7 percent in 2011, considerably slower than the 7.5 percent posted in 2010. The Middle East and North Africa region, afflicted by popular

unrest and internal tensions, posted the slowest growth of all the developing regions, at 3.5 percent.

As the recovery in the global economic and trading picture continued, albeit unevenly, the real economic activity in Canada expanded by 2.5 percent in 2011, after posting a 3.2-percent performance a year earlier. Growth in 2011 was largely driven by domestic strengths: strong private demand, stable financial system and booming business investment, while the second-quarter contraction in real GDP reflected largely a drop in exports as a result of external shocks. Growth slowed again in the last quarter of the year due to the resurgence of the eurozone crisis. All provinces and two out of three territories reported real economic growth in 2011. All major expenditure categories advanced on the year, with the exception of net trade. Inflation rose at a 2.9-percent pace in 2011, an increase from 1.8 percent in 2010, but excluding the most volatile prices resulted in a core inflation of just 1.9 percent in 2011. The Canadian dollar declined slightly against the U.S. dollar between January 1, 2011 and December 31, 2011, although its average valuation during that year was about 4 percent higher than in 2010. The employment picture improved in nearly all regions, with almost 200,000 net new jobs created during the year. While the unemployment rate improved only 0.1 percentage point during the year—from 7.6 percent in December 2010 to 7.5 percent in December 2011—the average for the year as a whole declined more substantially, from 8.0 percent in 2010 to 7.5 percent in 2011.

The volume of world trade continued to expand in 2011, but at a much slower pace than in 2010 as most of the recovery to pre-recession levels already took place. World

trade grew 5.0 percent in 2011 in real terms. Nominal trade values expanded 20 percent in 2011 due to rising resource prices. Real export growth in developed economies was stronger than expected, reaching 4.7 percent in 2011, while the developing world recorded an increase of 5.4 percent.

In Canadian dollar terms, Canada's exports of goods and services to the world expanded 11.8 percent in 2011. Goods led the growth at 13.0 percent and services advanced 5.0 percent. On the import side, imports of goods and services advanced 9.4 percent, with growth in imports of goods at 10.2 percent and growth in imports of services at 5.8 percent.

By sector, exports in six of seven major goods sectors expanded. Exports of energy products led the increase in total exports, with increased exports of industrial goods and materials following closely. A volume-driven increase in machinery and equipment exports was welcome news as it arrested a three-year decline. On the import side, expansion was driven by more imports of energy products; industrial goods and materials; and machinery and equipment.

Both exports and imports of services registered highest-ever levels. Both exports and imports of transportation services expanded rapidly in 2011, and the continued strength of the Canadian dollar in 2011 maintained a favorable climate for Canadians vacationing in and visiting foreign countries, driving the increase in the imports of travel services. The continuing growth in exports of commercial services extended Canada's trade surplus in that category into its second year.

Outflows of Canadian direct investment during the year grew 13.8 percent in 2011. Financial flows were directed largely towards the United States and the EU, and away from the other OECD countries and the rest of the

world. FDI inflows into Canada went up by two thirds, largely due to increased inflows from the EU.

The stock of Canadian direct investment abroad grew 7.0 percent (up \$44.6 billion to \$684.5 billion), largely caused by changes in currency valuation. Investment expanded most in traditional sectors of interest to Canadians abroad—finance and insurance; and manufacturing. The stock of foreign investment in Canada expanded at a slower pace (up \$22.4 billion to \$607.5 billion), with most of the increase in the manufacturing sector. Consequently, Canada's net direct investment asset position expanded to \$77.0 billion in 2011.

Taken as the sum of all of its components, Canada's current account deficit shrank by \$2.6 billion in 2011, as a result of a strong \$10.4-billion improvement in the goods trade balance. The deficit for every other component of the current account widened, although not enough to overcome the strong performance of the goods trade. The services trade deficit widened by \$1.9 billion, investment income deficit by \$4.6 billion and the current transfers deficit by \$1.3 billion. The resulting improvement was from a \$50.9-billion deficit in 2010 to a \$48.3-billion deficit in 2011, which marked the third straight current account deficit for Canada.

Special Feature: International Trade and Its Benefits to Canada

It would be very difficult to imagine a world without international trade for the average Canadian. International trade enriches our lives in so many ways and through so many direct and indirect channels that it would be virtually impossible to disentangle its effects or to precisely measure the innumerable

benefits and conveniences it has brought. As trade is liberalized, markets are expanded for producers, while new products and competition are introduced into domestic markets. The resulting allocation of resources toward the most efficient firms increases the economic well-being of society.

Some of the benefits exports provide to Canadians are straightforward. At the most basic level, they allow us to sell our goods and services and exchange them for foreign goods and services. They also help to support jobs in Canada, directly to those producing the goods and services, and indirectly to those in supporting activities to the producers of Canadian exports. Indeed, one in five jobs in Canada depend on exports, either directly or indirectly.

However, exports also provide other benefits that are not as readily apparent. For example, exports mean added production beyond that produced for the domestic market, which allows for economies of scale in production and lower average costs for producers, leading to lower prices to purchasers. Competing in export markets also means seeking out efficiencies and being innovative in all aspects of business. Rather than trying to produce many products, firms tend to focus and specialize in products or services where they have an advantage, resulting in an international division of labour and increased economic welfare. This also drives up the productivity of the firm and helps to increase the prosperity of the nation. Rising productivity allows firms to pay higher wages. Firms that rise to the challenges of the

export marketplace increase their production volumes and become larger. Following conclusion of the Canada-U.S. FTA, almost all Canadian manufacturing sectors exhibited some form of specialization, for example, by reducing the diversity of their output or switching from multiple-plant to single-plant operations. The ensuing efficiencies boosted Canadian manufacturing productivity by 13.8 percent, a remarkable trade-related achievement. Moreover, these exporting firms pay their employees a wage premium that cannot be explained after taking into account differences in relation to non-exporting firms.

As a small economy, Canada produces only a fraction of the goods and services it consumes and imports the rest. In a world devoid of international trade, it would be unrealistic to think that a country like Canada could make the necessary investments to produce the range of products and services it presently enjoys. In other words, our access to a broad variety of machinery, computers, and communications technologies, and to travel and entertainment, to name but a few, reflects our ability to sell Canadian-made goods and services in international markets. Open trade increases the variety of products available to Canadians and introduces new Canadian products to external markets; this presents both new trade opportunities and new varieties to Canadian and foreign markets. Trade liberalization also impacts a firm's pricing decisions by reducing mark-ups of price over costs, which helps to lower inflation in the country and keeps more money in the pockets of Canadian consumers.

Global Economic Performance¹

Overview and Global Prospects

In 2011, three years after the onset of the Great Recession—the first truly global one—sustained recovery of lost ground still proved elusive. Growth had returned in 2009, with the inventory restocking in early 2010 adding additional momentum. But the adverse events of the past few years consistently delayed and dampened the progress of the economic recovery in both the developed and developing worlds. Some of these events were unpredictable natural disasters, others stemmed from pre-recession patterns of activity that could not be sustained presently, but some were caused by the same forces that brought on the recession and have yet to be properly addressed. The Great Recession of 2008-2009, although technically over, continues to manifest itself in high unemployment, an uncertain business investment climate, fragile consumer confidence and further fiscal retrenchment.

After a strong cyclical rebound in global industrial production and trade in 2010, economic activity was already expected to moderate in 2011. However, as government stimulus expired across the developed world and political conditions for further stimulus did not materialize, private demand did not pick up the slack as expected. Throughout 2011, issues related to eurozone sovereign

debts have repeatedly proved resistant to half-measures. The political gridlock in the United States manifested in the debt ceiling crisis worried investors to the point that the United States' triple-A credit rating was downgraded. Meanwhile, civil disorder in many North African countries increased global uncertainty, and the civil war in Libya disrupted oil prices. Finally, the natural disasters in Japan, and their aftermath, disrupted the global value chain networks in Southeast Asia and, to some degree, across the world. The main impact of these events was concentrated in the second and fourth quarters, with the global growth consequently moving in a see-saw pattern throughout the year. The brunt of the Japanese disasters and the Libyan civil war hit the second quarter output hard, while the prospects for the eurozone were the darkest toward the end of the year, reducing economic growth in the fourth quarter. Thailand suffered devastating floods in that final quarter as well.

The world's real GDP growth moderated from 5.3 percent in 2010 to 3.9 percent in 2011, and further moderation to 3.5 percent is expected in 2012. This rebound was stronger than the rebounds following many previous recessions; the same is true for the patterns of consumption and investment. On the negative side, the recovering economies exhibited much higher levels of unemployment than usual, and part of the recovery was enabled

¹ Statistics, estimations and projections in this chapter come from the International Monetary Fund's *World Economic Outlook*, April 2012, supplemented by statistics from the U.S. Bureau of Economic Analysis, Statistics Canada, the Japan Cabinet Office, the European Central Bank, the U.K. Office for National Statistics, and the World Economic Outlook April 2012 database.

TABLE 1-1
Real GDP Growth (%) in Selected Economies
(2008-2011 and forecast 2012-2013)

	2008	2009	2010	2011	2012	2013
World	2.8	-0.6	5.3	3.9	3.5	4.1
Advanced Economies	0.0	-3.6	3.2	1.6	1.4	2.0
Canada	0.7	-2.8	3.2	2.5	2.1	2.2
United States	-0.3	-3.5	3.0	1.7	2.1	2.4
United Kingdom	-1.1	-4.4	2.1	0.7	0.8	2.0
Japan	-1.0	-5.5	4.4	-0.7	2.0	1.7
Eurozone	0.4	-4.3	1.9	1.4	-0.3	0.9
<i>of which France</i>	-0.2	-2.6	1.4	1.7	0.5	1.0
<i>of which Germany</i>	0.8	-5.1	3.6	3.1	0.6	1.5
<i>of which Italy</i>	-1.2	-5.5	1.8	0.4	-1.9	-0.3
NIEs	1.8	-0.7	8.5	4.0	3.4	4.2
Hong Kong	2.3	-2.6	7.0	5.0	2.6	4.2
South Korea	2.3	0.3	6.3	3.6	3.5	4.0
Singapore	1.7	-1.0	14.8	4.9	2.7	3.9
Taiwan	0.7	-1.8	10.7	4.0	3.6	4.7
Developing Economies	6.0	2.8	7.5	6.2	5.7	6.0
Developing Asia	7.8	7.1	9.7	7.8	7.3	7.9
<i>of which China</i>	9.6	9.2	10.4	9.2	8.2	8.8
<i>of which India</i>	6.2	6.6	10.6	7.2	6.9	7.3
<i>of which ASEAN-5</i>	4.8	1.7	7.0	4.5	5.4	6.2
Indonesia	6.0	4.6	6.2	6.5	6.1	6.6
Malaysia	4.8	-1.6	7.2	5.1	4.4	4.7
Philippines	4.2	1.1	7.6	3.7	4.2	4.7
Thailand	2.6	-2.3	7.8	0.1	5.5	7.5
Vietnam	6.3	5.3	6.8	5.9	5.6	6.3
CIS	5.4	-6.4	4.8	4.9	4.2	4.1
<i>of which Russia</i>	5.2	-7.8	4.3	4.3	4.0	3.9
Emerging Europe	3.2	-3.6	4.5	5.3	1.9	2.9
Latin America and Caribbean	4.2	-1.6	6.2	4.5	3.7	4.1
<i>of which Brazil</i>	5.2	-0.3	7.5	2.7	3.0	4.2
<i>of which Mexico</i>	1.2	-6.3	5.5	4.0	3.6	3.7
Middle East and North Africa	4.7	2.7	4.9	3.5	4.2	3.7
Sub-Saharan Africa	5.6	2.8	5.3	5.1	5.4	5.3

Source: IMF World Economic Outlook database, April 2012

by a substantial worldwide macroeconomic stimulus. But the strong GDP growth hides the story of a very uneven recovery for the developed and the developing worlds.

Growth in major advanced economies slowed from 3.2 percent in 2010 to 1.6 percent in 2011. The slowdown was caused in large part by developments in the eurozone. Growing fiscal stress and increasing uncertainty over the future of the European Monetary Union caused output in the eurozone to contract in the fourth quarter. However, deeper reasons are at the heart of the weak recovery both in the EU and across the developed world.

It is well-documented that recoveries are weaker and more prolonged in the aftermath of financial crises. The process of deleveraging in both financial and household sectors lengthens the recovery period, and the climate of stagnant credit and housing markets adds to the problem. Until that process is complete, the growth of domestic consumption and investment will continue to be slow, and unemployment will remain persistently high in the developed countries. The protracted downturn in European growth associated with trimming fiscal deficits slowed recovery while the climate of fiscal austerity that prevailed in the developed world in 2011 prevented additional government stimulus and limited the options for reducing unemployment.

Growth was much more robust in the developing world, which brought up the world average, and made the overall output recovery as robust as any in recent memory. Emerging and developing economies grew 6.2 percent in 2011, boosted by strong macroeconomic fundamentals, structural reforms and growing domestic demand. Asian developing economies were driving the growth, with China and India in the lead; they were followed by emerging Europe and Latin

America and Caribbean countries. Nevertheless, on the whole, growth in the developing world slowed down somewhat from the 2010 pace of 7.5 percent. This slowdown was ongoing throughout the year, with each quarter bringing weaker results. The cooling of the Chinese and several Asian economies was the outcome of deliberate tightening policies, while floods in Thailand disrupted the economies in the region in the fourth quarter, and the Middle East and North Africa experienced considerable unrest throughout last year.

The short-term forecast calls for weaker growth in real output of 3.5 percent in 2012, with developed economies growing 1.4 percent and developing economies 5.7 percent. Assuming improving financial conditions, continued monetary stimulus and the successful resolution of fiscal dilemmas, growth should pick up in 2013 to 4.1 percent. There are downside risks associated with these factors, as well as with the potential aggravation of the European situation, further geopolitical uncertainty and sudden movements in commodity prices; all of these factors keep the global situation more fragile than usual. Successful resolution of the European crisis in a way consistent with economic prosperity of the affected countries remains one of the key potential upsides for the global economic recovery. Others include preserving social and political stability in developing Asian economies undergoing controlled deceleration, and a sustained pickup in growth, employment and consumer confidence in the United States.

United States

After a strong performance in early 2010, partly based on inventory restocking, growth sputtered almost to a halt in the United States in the first quarter of 2011. After that weak start, the economy gained speed throughout the year and posted 1.7-percent growth for

the year as a whole, down from 3.0 percent in 2010. The gain was based primarily on stronger consumer spending. A sharp reduction in import growth eliminated the drag on the economy from the net export side, but lower government spending at all levels held back economic growth.

Consumer spending increased 2.2 percent in 2011 (4.7 percent in nominal terms), adding 1.53 percentage points to real GDP growth. This represented a slight increase over 2010, when it contributed 1.44 percentage points. In 2011, the biggest increase in consumer spending was in services, which added 0.66 percentage point to real GDP and grew 1.4 percent, while spending on durables was close behind with a 0.60-percentage point contribution and 8.1-percent growth. Increased spending in these areas was, however, tempered by slower growth in consumer spending on non-durables, which added only 0.28 percentage point to real GDP growth and grew 1.7 percent.

Non-residential fixed investment picked up in 2011, adding 0.82 percentage point to GDP growth, almost double its contribution in the previous year. This was due to a reversal of the drag on the economy that the lagging investment in structures was contributing until 2010. Growth in investment in equipment and software slowed down, but still added 0.71 percentage point to real GDP growth and increased 10.3 percent on the year.

Residential fixed investment contracted 1.4 percent in real terms in 2011, but less than in the previous years, shaving only 0.03 percentage point off growth as opposed to 0.11 percentage point in 2010. Construction of single-family structures continued to turn

down, while construction of multi-family structures decreased less and “other” structures increased.

Inventory investment went from being one of the biggest contributors to economic recovery at 1.64 percentage points in 2010 to being a drag on real GDP in 2011, subtracting 0.20 percentage point from growth. Net exports added 0.05 percentage point to GDP growth in 2011 after subtracting 0.51 percentage point the previous year. A sharp decrease in the growth of imports drove this change and offset a slowdown in export growth.

Government spending fell 2.1 percent in real terms, the largest such contraction in 40 years. A broad-based decline at federal, state and local levels that affected both defence and non-defence spending led to a drag of 0.45 percentage point on real GDP growth. The 2.1-percent decrease in state and local government spending was the largest on record since World War II.

The labor market situation in the United States showed signs of improvement last year, but the rate of job creation remained too slow to recoup the losses sustained during the recession within a reasonable timeframe. The unemployment rate hit a 10.0-percent high in October 2009 and was still at 9.1 percent in January 2011. The unemployment rate languished at that level for most of the year, with no sustained improvement until the fourth quarter, when several good months of job creation drove the unemployment rate down to 8.5 percent by December 2011. The participation rate remained firmly around 64 percent, about 2 percentage points below the long-run historic trend, bearing witness to the large number of discouraged workers who have given up looking for work.² From the peak

² The unemployment rate was driven down to 8.2 percent by March 2012, but this was partially due to another decrease in the participation rate, which reached 63.8 percent that month, a level last seen in 1983.

of employment in January 2008 to December 2010, 7.7 million jobs were lost in the United States, and by the end of 2011 only 1.8 million jobs had been recouped—not far ahead of the rate of population growth. Additionally, real wage growth was negative for the past two years, further underscoring the challenges for growth in U.S. consumer spending.

The U.S. economy is projected to grow by 2.1 percent in 2012 and by 2.4 percent in 2013. Continuing weakness in the housing sector and the labor market, combined with the deleveraging process, is expected to keep the recovery slow. With domestic factors paramount in the U.S. economic picture, only a modest improvement in the unemployment rate (to 8.2 percent) is expected, a level already reached in March 2012. The output gap will persist, which will keep core inflation in check for the foreseeable future while monetary policy is expected to continue to be accommodating.

Downside risks remain significant. Many tax provisions, including the cuts introduced during the previous presidency, are scheduled to expire in 2013. Should the political difficulties and gridlock in the United States persist until then, failure to renegotiate these as well as the scheduled automated spending cuts may contribute negatively to economic growth. The European sovereign debt crisis is the main foreign influence, primarily through the effects of the possible negative scenario on business confidence and investment in the United States. The housing sector will remain the key element in the recovery, where action on mortgage refinancing, broadly supportive of consumers, could help clear the existing overhang of foreclosures and underwater mortgages and kick-start the much-needed growth in that sector.

Japan

Japan's troubled economy achieved 4.4 percent growth in 2010, the fastest among major advanced nations that year, and its best showing in a generation. Unfortunately, Japan's success was cut short in 2011 by the Great East Japan earthquake. On top of the widespread devastation caused by the earthquake itself, tsunami and fires multiplied the damage, and the consequent long-term radioactive sore at the Fukushima nuclear plant may yet prove to be the most damaging blow of all. Considering the magnitude of these disasters, the Japanese economy proved very resilient, contracting by only 0.7 percent in 2011. Real GDP fell 7.9 percent in the first quarter, 1.2 percent in the second and then rebounded 7.6 percent in the third quarter, stronger than anticipated. Floods in Thailand in the fourth quarter presented additional shocks to the Japanese economy, bringing down the last quarter's results to 0.1 percent, and the average growth for 2011 to negative 0.7 percent (all rates annualized).

Trade was the key influence on Japan's GDP in 2011. The 3.1-percentage point contribution by exports to real GDP in 2010 vanished in 2011, and the drag from imports decelerated somewhat from 1.4 percentage points to 0.8 percentage point as imports grew just 5.8 percent in real terms. The resulting impact from net exports on GDP growth was negative 0.8 percentage point.

Private consumption rose 0.1 percent in 2011 and contributed 0.1 percent to GDP growth. A 0.4-percentage point increase in government consumption (which grew 2.0 percent in real terms) was offset by a decrease of 0.5 percentage point in private inventories and a fall of 0.2 percentage point in public investment (which decreased 3.6 percent

in real terms). Private residential and non-residential investment remained weak, both contributing just 0.1 percentage point to real GDP growth in 2011.

The unemployment rate reached 4.6 percent in December 2011, a fairly high level for Japan. The rate was double among persons aged 15 to 24. Difficulties in the employment situation were partly due to the disasters, and have showed signs of improvement since. Industrial production and the economy as a whole picked up slowly, but exports and corporate profits remained weak, with deflationary risks present. The long-standing issues in the Japanese economy that have stunted its growth for the past two decades still persisted, and the Japanese government continued to focus on combatting deflation and yen appreciation, a combination that could generate a vicious cycle for Japanese producers.

Prospects for Japan are positively influenced by its reconstruction spending; real GDP is expected to grow 2.0 percent in 2012, and moderate to 1.7-percent growth in 2013 as that spending is phased out. Downside risks are very significant, as Japan is vulnerable to a possible intensification of the European debt crisis and stands to lose amounts comparable to its projected real output growth under the unfavorable scenario of decreased external demand. Japan is also vulnerable to possible energy supply issues, such as an oil price spike due to political tensions and the slowing down of activity in the Chinese economy.

Eurozone

The embers of the European crisis continued to smolder in 2011, flaring up on several occasions and projecting uncertainty across the global economy. This uncertainty was the key feature in last year's global economic performance, and uncertainty will likely

continue in the short-to-medium term. This is because the resolution of the sovereign debt crisis in the affected countries could ultimately take several forms and require many years to complete. These forms could range from a fiscal union, to a partial or complete breakup of the common currency zone, to the gradual working out of European imbalances through inflation in the North and deflation in the South, to a combination of these and other solutions.

Largely in response to this uncertainty, growth in the eurozone decelerated from 1.9 percent in 2010 to 1.4 percent in 2011, with consumer spending growing just 0.2 percent in 2011 and government spending remaining flat. Accordingly, the contribution from private consumption to total GDP was minimal at 0.1 percentage point, and zero from government spending. Gross fixed capital formation added 0.2 percentage point to GDP growth, and changes in inventories boosted GDP by another 0.1 percentage point. Net exports provided the largest boost (1.0 percentage point) to real GDP growth.

Germany's real GDP increased 3.1 percent, France's by 1.7 percent while Italy showed modest 0.4-percent growth. The renewed fears of escalation of the sovereign debt crisis slowed growth in the fourth quarter sharply and tipped the region back into recession. As a large portion of the sovereign debts of Portugal, Spain and Italy is held by the banks, renewed doubts about the solvency of these countries lowered confidence in the banking sector and drove up the risks associated with financing, which in turn further depressed these economies by restricting private-sector credit. Funding pressures were somewhat alleviated at the end of 2011 by the European Central Bank's long-term refinancing operations, which stabilized market sentiment and reduced uncertainty.

Volatility and sovereign bond spreads retreated for several economies, although not for those directly affected, which were expected to normalize further, but may be driven back up by unforeseen shocks.

With the end-of-2011 recession expected to be shallow and short-lived, the forecast for the eurozone calls for a 0.3-percent contraction in real GDP during 2012 and a weak rebound of 0.9 percent in 2013. Italy, directly affected by sovereign risk, is expected to contract 1.9 percent in 2012 and 0.3 percent in 2013. France is projected to grow by 0.5 percent in 2012 and 1.0 percent in 2013, and Germany by 0.6 percent in 2012 and 1.5 percent in 2013. However, the degree of uncertainty associated with this forecast is unusually large. Continued progress in crisis management and advances towards its resolution, factored into the projections, have not been the pattern for the eurozone so far. As long as the underlying issues are not decisively resolved, renewed escalation of the eurozone crisis will continue to be a strong downside risk. It is also the prime source of risk for the global recovery as the eurozone maintains strong trading and financial links to other regions. The onset of another phase of the crisis may affect the global economy through credit tightening, uncertainty, contraction in trade and declines in commodity prices.

United Kingdom

The United Kingdom was particularly hard-hit by the Great Recession, as the traditionally large U.K. financial sector had been directly affected by the financial crisis preceding the recession. Output declined 4.4 percent in 2009 and rebounded only 2.1 percent in 2010. Further difficulties were in store for 2011, with growth of only 0.7 percent for the year. Four of the last six quarters (ending with the first quarter of 2012) have now

resulted in output contractions. Real GDP in the final quarter of 2011 was no higher than it was in the third quarter of 2010. Output of the production industries fell 1.2 percent in 2011, while services output increased by 1.6 percent.

Household final consumption contracted by 1.2 percent in 2011, imposing a drag of 0.7 percentage point on the real GDP, down from a positive contribution of 0.8 percentage point in 2010. Government final consumption expenditure remained flat for the year, also down from a 0.3-percent point contribution in 2010. Gross fixed capital formation fell by 1.2 percent in 2011 and slowed down real GDP growth by 0.2 percentage point, down from 0.5 percentage point in 2010.

The only positive contribution to GDP came from net exports, which increased growth by 1.0 percentage point. Exports decelerated from a contribution of 2.1 percentage points in 2010 to 1.3 percentage points in 2011, while imports went down much faster, from a drag of 2.5 percentage points on GDP in 2010 to a drag of only 0.4 percentage point in 2011.

In real growth terms, the United Kingdom's total exports added 4.6 percent in 2011. Goods exports advanced 5.1 percent, while services exports grew by 3.9 percent. Growth on the import side was muted at 1.2 percent overall; goods imports advanced 1.5 percent and services grew by 0.2 percent.

The United Kingdom is not subject to the sovereign debt problems affecting countries in the eurozone since it has full sovereignty over its currency and absolute control of its monetary policy, which has remained very accommodating. However, proximity to and trading links with the eurozone render the United Kingdom susceptible to European contagion, while the policies of fiscal consolidation continue to impose a drag on

its economy. Recovery in the United Kingdom has been slower than during any of the previous recessions—slower even than during the Great Depression. The 0.8-percent growth expected for the United Kingdom in 2012 is close to 2011 levels, but growth is scheduled to pick up to 2.0 percent in 2013.

Emerging Economies

Emerging Asia

In 2011, emerging Asia again recorded the fastest real GDP growth of all the regions, at 7.8 percent. This was a deceleration from 9.7 percent in 2010, partly reflecting the process of deliberate cooling of the economy in China and partly the outcome of the disruptions in the regional supply chains occasioned by the natural disasters in Japan in the first quarter and floods in Thailand in the fourth quarter. Weaker external demand also played a role in the slowdown, which progressed gradually throughout the year. Growth was led by China at 9.2 percent (slowing down from 10.4 percent in 2010) and India at 7.2 percent (down from 10.6 percent in 2010). Real GDP among the ASEAN-5³ grew 4.5 percent last year, with Indonesia in the lead at 6.5 percent. Real GDP growth in Thailand lost an estimated 2 percentage points following the floods in 2011, resulting in marginal 0.1-percent growth for the year.

Spillovers from the eurozone crisis affected this region, which has forged strong trading links with Europe, dampening the demand for Asian exports. Internal factors were in operation in India, where investment weakened and borrowing costs increased as the monetary policy tightened to combat inflation. However, strong performances in corporate profits and household income

in China helped stabilize consumption and investment there, supporting the “soft landing” scenario. The financial repercussions of the European crisis were limited and contained; Asian banks in general ended the year in excellent health and with sufficient extra lending capacity.

The region recovered more strongly than expected from the effects of the earthquake and tsunami that hit Japan in early 2011, showing resilient domestic demand, robust well-managed institutions and room for policy easing. Assuming these factors persist, projections are for an orderly slowdown in China despite weakening external demand. Growth is expected to moderate to 8.2 percent in 2012, and then pick up to 8.8 percent in 2013. Somewhat more uncertainty is associated with India, where the higher interest rates are expected to cool off the economy to 6.9-percent growth in 2012 before growth speeds up again to 7.3 percent in 2013. Similarly, growth in all four Asian NIEs is expected to slow down in 2012 (Hong Kong’s most of all to 2.6 percent) before resuming on a faster growth path in 2013. ASEAN-5 countries should be an exception, however, as expected robust recovery in Thailand and the Philippines, combined with strong domestic demand in Indonesia, are forecast to speed up economic growth among the ASEAN-5 to 5.4 percent in 2012 and then to 6.2 percent in 2013. Other developing Asian countries combined are expected to post 5.0-percent growth in both 2012 and 2013.

Downside risks for emerging Asia are significant. First and foremost, the escalation of the eurozone crisis could potentially shave over a percentage point off emerging Asia’s growth forecast; contagion of the banking systems with increased financial risk and

3 The IMF defines the top 5 members of the Association of Southeast Asian Nations (ASEAN) as ASEAN-5, which comprises Indonesia, Malaysia, Philippines, Thailand and Vietnam.

uncertainty is also a possibility. Tensions in oil-producing countries causing another spike in the price of oil would also lead to significant negative effects for the region. On the positive side, efforts directed at strengthening domestic demand may further solidify economic growth in the region based on increased domestic consumption.

Emerging Europe

Emerging Europe posted strong 5.3-percent real GDP growth in 2011. This performance, however, was driven by Turkey, which grew at 8.5 percent, and is not broadly representative of the whole region. Lithuania (up 5.9 percent), Latvia (up 5.5 percent) and Poland (up 4.4 percent) also grew strongly, while real GDP grew less than 2 percent in Hungary, Bulgaria and Serbia, and growth in Croatia was flat in 2011.

The eurozone crisis, which flared up again at the end of 2011, affected this region primarily through its strong financial links with Europe as well as its production links. The financial sector in emerging Europe is now closely integrated with the Western European banks; many financial institutions operating in Eastern Europe are subsidiaries of the banks headquartered in Austria, France and Italy. However, until the autumn of 2011 the credit supply shocks that followed each increase in sovereign debt risk in Western Europe were not felt in emerging Europe, and credit default swaps (CDS) spreads remained stable as the region was recovering from the Great Recession. Late in 2011, funding pressure on major Western European banks caused them to start another round of deleveraging, leading to a sizeable reduction in their Eastern European assets. Restricted funding from these sources makes growth

more dependent on financing from domestic sources and the provision of adequate liquidity in the banking sector.

Trade integration has also increased considerably between Eastern and Western Europe. Western Europe is Eastern Europe's largest export market and Eastern Europe is the fastest-growing destination for exports from Western Europe. Production chains have sprung up between the regions, with Eastern Europe as an assembly point, particularly for German firms. Consequently, estimates show that a shock to growth in Western Europe has a one-to-one effect on growth in Eastern Europe.

Given such strong linkages, the prospects in emerging Europe are heavily dependent on the events in the eurozone, which was in recession at the end of the year. Accordingly, growth in emerging Europe is expected to slow to 1.9 percent in 2012, with deceleration particularly sharp for Turkey (from 8.5 percent in 2011 to 2.3 percent). Hungary is expected to stall and Croatia to post a negative 0.5-percent growth in 2012. Growth in the region is expected to improve overall to 3.9 percent in 2013, with Turkey and Poland growing at 3.2 percent, Romania and Serbia at 3.0 percent, Hungary at 1.8 percent and Croatia at 1.0 percent.

Latin America and the Caribbean (LAC)

Strong commodity prices in 2011 bolstered the economies in the LAC region and promoted robust growth. LAC countries grew 4.5 percent on average, with Argentina leading the way with 8.9-percent growth.⁴ Ecuador also grew strongly at 7.8 percent, as did Peru, which posted 6.9-percent growth.

⁴ Based on Argentina's official GDP and consumer price index data. According to the IMF, this figure may overstate real GDP growth in the country.

Mexico was slower at 4.0 percent, although growth was higher than expected, while Brazil's growth decelerated to 2.7 percent.

Economic imperatives in the LAC region were different from most of the world. Amidst a general slowdown of world output and exports, overheating was the main regional concern through 2011. Many regional currencies appreciated significantly, none more so than the Brazilian real, which was 45 percent higher than its January 2009 value at one point during the year. Gloomy prospects in many other areas combined with very easy monetary policy in the developed world effectively made Brazil a comparatively attractive investment opportunity, and large capital inflows followed. However, this outcome adversely affected Brazil's exporters and manufacturers and forced Brazil's government to introduce certain controls to limit the inflow of capital into the country. The trend was halted at the end of 2011, removing some pressure from the currency, but it was feared the inflows may resume in 2012. Inflation thus remains a concern in South America.

The short-term outlook for the region is moderately positive, with growth of 3.7 percent expected in 2012, increasing to 4.1 percent in 2013. Mexico is forecast to slow down to 3.6 percent in 2012 and 3.7 percent in 2013, with its outlook closely tied to the performance of the United States. Brazil's growth, which was 2.7 percent in 2011, should pick up to 3.0 percent in 2012 and 4.2 percent in 2013 as overheating risks recede. Argentina is headed for a slowdown to 4.2 percent in 2012 and 4.0 percent in 2013. Central America's growth is forecast to be 4.0 percent through both years. The Caribbean countries continue to suffer from high public debts and

lower remittance and tourism flows; growth there should pick up slowly, to 3.5 percent in 2012 and 3.6 percent in 2013.

The LAC region remains rather insulated from the direct effects of the crises and concerns in the developed world. Commodity prices exert the strongest influence on the regional economy, and through trading channels these prices link the LAC's economic prospects to the pace of growth in Asia. Financial linkages with European banks are strong, and could potentially transmit European contagion to the LAC's financial markets. However, so far no reversal of capital flows has occurred in response to Europe's credit swings, perhaps because LAC's European subsidiaries are predominantly funded by local deposits, and it is expected that the region's relative immunity to the financial repercussions of the eurozone's sovereign debt crisis will likely continue in the near future.

Commonwealth of Independent States (CIS)

Growth was strong in the CIS region throughout 2011, resulting in a 4.9 percent growth performance. Several factors combined for the strong showing: recovering oil and commodity prices, a rebound in agricultural output, and a strong domestic demand. Russia grew by 4.3 percent, Kazakhstan by 7.5 percent, Ukraine by 5.2 percent and Belarus by 5.3 percent.

However, the eurozone crisis had strong spillover effects on this region. As in emerging Europe, the region's financial sector is very dependent on Western European banks. Significant capital outflows took place in Russia in response to the latest escalation of the eurozone situation, the Russian ruble

depreciated and several CDS spreads, particularly for Ukraine, have widened. The contagion was also transmitted through the trading links to Western Europe, with CIS exports weakening and industrial production slowing down.

Despite expectations for relatively high oil prices, the outlook is for weaker growth in the CIS for the next two years—4.2 percent in 2012 and 4.1 percent in 2013. Russia will slow down to 4.0-percent growth in 2012 and 3.9 percent in 2013. Other energy exporters in the region will perform relatively well: with strong oil prices and investments in infrastructure, Kazakhstan is on track for 5.9-percent growth in 2012 and 6.0 percent in 2013, while growth in Uzbekistan is expected to slow down to 7.0 percent in 2012 and 6.5 percent in 2013. Turkmenistan should grow 7.0 percent in 2012 and 6.7 percent in 2013.

Energy-importing CIS countries will experience slower growth as a group due to weaker export demand, financial crisis spillovers and tighter monetary and fiscal conditions. Real GDP in Ukraine is projected to increase by 3.0 percent in 2012 and speed up to 3.5 percent in 2013. Belarus is also projected to grow by 3.0 percent in 2012 and by 3.3 percent in 2013.

Inflation is expected to moderate across most of the region with the slowdown in economic activity and improvements in agricultural output, although Belarus will still experience problems with inflation caused by depreciation, despite the monetary and fiscal tightening. Potential spillovers from further eurozone developments through both financial and trading links remain an acute risk factor in the region. The health of the Russian economy remains crucially important

for the rest of the region, as Russia is a large source of remittances and foreign investment for most CIS countries.

Middle East and North Africa

Growth in the Middle East and North Africa was just 3.5 percent in 2011, reflecting a number of internal challenges to growth. After a relatively good performance during the Great Recession, this region is now buffeted by unforeseen turbulence. Political and social unrest, which resulted in the fall of several governments and, in extreme cases (e.g. Libya), in civil war, stalled internal economic growth and interfered with important trade, remittance and travel links with Europe. Additionally, the long-standing structural problems within these economies will require structural reforms to spur growth in the long term.

The economies of oil exporters as a group grew 4.0 percent last year, supported by strong oil prices. Iran grew only 2.0 percent, reflecting problems with the harvest and subsidy reform. Saudi Arabia grew 6.8 percent, Algeria 2.5 percent and the United Arab Emirates 4.9 percent. Sudan's contraction continued at 3.9 percent. Oil importers fared less well, with only 2.0-percent growth, held back by the effects of unrest in Egypt (where growth was up 1.8 percent) and Tunisia (down 0.8 percent). Israel grew 4.7 percent on the year.

The outlook for oil exporters differs substantially from that of oil importers. The former have been able to repair their shaken fiscal balances, while debt levels for the latter have been steadily deepening. On the other hand, social transfers have gone up considerably for the oil exporters, further locking in

their dependence on high oil prices. The continued impact from Europe's weakness affecting tourism and trade flows, remittances, and travel spending will hold down the region's overall growth prospects in the short term. Oil prices remain the major influence on the expectations for the region; prices may be depressed by prolonged European weakness or rise if oil supplies are disrupted as a result of continuing geopolitical tensions in the region, especially further armed unrest.

Oil-exporting economies are projected to grow 4.8 percent in 2012 and 3.7 percent in 2013. Iran will slow down to just 0.4 percent in 2012 and 1.3 percent in 2013. Saudi Arabia will post 6.0-percent growth in 2012 and 4.1 percent in 2013, while Algeria will accelerate by 3.1 percent and by 3.4 percent in the next two years. A major recession is under way in Sudan where a 7.3-percent decline in GDP is forecast for 2012, moderating to a 1.5-percent decline in 2013. Oil importers, meanwhile, will accelerate to 2.2 percent in 2012 and nearly catch up with oil exporters with 3.6-percent growth in 2013. A slow recovery is expected in Egypt with 1.5-percent growth in 2012 and 3.3 percent in 2013; Tunisia is expected to rebound to 2.2 percent in 2012 and 3.5 percent in 2013; and Israel will slow down to 2.7 percent in 2012 before speeding up to 3.8-percent growth in 2013. The region as a whole is expected to undergo 4.2-percent growth in 2012 and 3.7 percent in 2013.

Sub-Saharan Africa

One of the best-performing regions during the global recession, Africa recorded another year of strong growth and was relatively immune from the uncertainties in financial markets and worsening global conditions at the end of 2011. Growth was 5.1 percent,

with oil-exporting countries growing faster at 6.2 percent, middle-income countries the slowest at 3.9 percent (including South Africa with 3.1 percent growth), and the poorest countries doing very well at an average 5.8-percent growth. Ghana's first year of oil production resulted in growth of 13.6 percent. Nigeria performed well at 7.2 percent in 2011, as did Ethiopia at 7.5 percent and Democratic Republic of Congo at 6.9 percent.

High commodity prices ensured growth was stable during 2011. Limited financial links with Europe insulated this region from most of the adverse developments of 2011—with the exception of South Africa, whose financial system was affected by volatility and the depreciation of the rand. Trading links with Europe have been weakening in the last few decades, allowing diversification toward the fast-growing emerging markets and dampening contagion from the eurozone crisis. Strong investment in natural resource extraction continued.

South Africa's growth decelerated rapidly, reflecting the stronger financial and trading links between this relatively advanced economy and Europe. Unemployment remains high, and growth is expected to moderate further in the largest economy in the region to 2.7 percent in 2012, but should improve to 3.4 percent in 2013. As the global demand for diamonds slows down, so will Botswana's growth: projections are for 3.3-percent growth in 2012 and back up to 4.6 percent in 2013. Ghana's growth will moderate somewhat to 8.8 percent in 2012 and 7.4 percent in 2013. Tighter fiscal and monetary policies will restrict growth in the non-oil sector in Nigeria, but higher oil output is expected to compensate leading to a robust 7.1-percent growth in 2012 and 6.6 percent in 2013. New oil reserves coming on-stream in

Angola will speed up growth there to 9.7 percent in 2012, which will moderate to 6.8 percent in 2013.

Sub-Saharan Africa remains well insulated from the European crisis, except for South Africa, which may transmit negative shocks to the rest of the region. The risks of inflation and fiscal deficits remain; the outlook for these will largely depend on global food and commodity prices, respectively.

Assumptions and Risks

As indicated earlier, all projections in this chapter are based on the IMF's April 2012 *World Economic Outlook*. In making its projections, the IMF has made a number of technical assumptions that underpin its estimations. Key among these assumptions are that: 1) real effective exchange rates will remain constant at their average levels during February 13–March 12, 2012, except for the currencies participating in the European exchange rate mechanism II (ERM II), which are assumed to have remained constant in nominal terms relative to the euro; 2) established fiscal and monetary policies of national authorities will be maintained; and 3) the average price of oil per barrel will be US\$114.71 in 2012 and US\$110.00 in 2013 and will remain unchanged in real terms over the medium term. The Outlook also proposes a number of working hypotheses involving levels of various deposit rates in the world's financial markets. Interested readers should consult the Outlook for further details on these and other technical assumptions.

For the most part, the assumptions made by IMF modelers are based on officially announced budgets, adjusted for differences between the national authorities and the IMF regarding macroeconomic assumptions and projected fiscal outcomes, with medium-term

projections incorporating policy measures that are judged likely to be implemented. Similarly, assumptions about monetary policy are based on the established policy framework in each country.

One of the key factors in the global economic situation is the price of oil. While the assumption is that oil prices will remain in the vicinity of \$110 a barrel, the IMF has examined a scenario involving a potentially adverse shock that could disrupt the oil supply. Assuming that Iran's oil exports to the OECD countries halt suddenly and are not offset by the increased output elsewhere, the initial oil price increase could be between 20 and 30 percent, with further uncertainty about oil supply disruptions increasing the price still further—to an average of 50 percent over the projected value for the next two years. Such a development would slow down the recovery in private consumption and investment growth globally, with the exception of net oil exporters. Global output would contract by over 1 percent, and various spillovers, such as falling confidence in financial markets, could further worsen the damage.

The other key risk is that escalation of the eurozone crisis could potentially increase bank and sovereign stress, which in turn could affect other regions in proportion to their trading and financial involvement with Western Europe. The most affected areas would be the CIS and emerging Europe, with North America also exposed through financial links and Asia exposed through trading links. Other risks include deflationary pressures in parts of the eurozone, high budget deficits in the United States and Japan, and unwinding credit booms in some emerging market economies. Upside risks include better than expected recovery in the United

States and the eurozone, lightening of geopolitical tensions and the consequent easing in the price of oil.

Overall, although the global economy remains unusually fragile, the risks to growth are now somewhat lower than at the end of 2011. This reflects smaller dispersion in the expectations for oil prices, term spreads and general volatility. According to the IMF, the risk of a serious global slowdown in 2012 is now very small (about 1 percent).

Overview of World Trade Developments

In the wake of the record expansion in the volume of world trade in 2010 (13.8 percent), expectations were more modest for 2011. Nevertheless, in the turbulent economic climate of last year, growth in the volume of world trade still surprised on the downside, decelerating sharply to 5.0 percent in 2011 as the global economic recovery ran out of steam due to multiple critical events, including the disasters in Japan and the European sovereign debt crisis. However, as a result of higher prices, in particular resource prices, nominal trade values still increased 20 percent in 2011, compared to 22 percent in 2010.

Real export growth in developed economies was stronger than expected, reaching 4.7 percent in 2011. Considering several crises that took place in the developed world last year, these economies have done relatively well to reach that level. The rest of the world—including the developing economies and the Commonwealth of Independent States (CIS)—recorded an increase of 5.4 percent in 2011, somewhat below expectations.

Growth in real exports from the United States, at 7.2 percent, was the strongest driver in the performance of the developed nations, helping counteract the 0.5-percent decrease in real exports from Japan. The European Union's 5.2-percent growth in export volumes was at par for the developed world. These areas have all been affected by adverse events: fiscal uncertainty in the United States; the ongoing debt crisis in Europe; and the earthquake in Japan followed by the tsunami and the nuclear disasters.

Clearly, these events had wide-ranging repercussions and affected demand for the exports from developing countries as well. But these experienced adverse developments of their own. Unrest in many Arabic countries and the war in Libya affected oil shipments and were largely behind Africa's 8.3-percent contraction in exports in 2011. Flooding in Thailand affected output and exports from that country, and the natural disasters in Japan caused some disruptions in supply chains across Southeast Asia.

Growing Asian economies once again led the world in export expansion. India was the fastest-growing exporter nation among major traders, adding 16.1 percent to its exports in real terms. China was in second place, adding 9.3 percent. Asia's newly industrialized economies (NIEs)—which include Singapore, Hong Kong, Taiwan and South Korea—expanded their exports by 6.0 percent. Growth in export volumes from the CIS was only 1.8 percent, but averaged 5.4 percent and 5.3 percent in the Middle East and in South and Central America, respectively. However, as exports from these regions were to a significant degree composed of resources, their dollar value increased substantially (34 percent, 37 percent and 27 percent, respectively). Similarly, despite Africa's real export contraction, the value of its exports expanded 17 percent.

TABLE 2-1

World Merchandise Trade By Region and Selected Countries
(US\$ billions and %)

	EXPORTS				IMPORTS			
	Value	2011	Annual % change		Value	2011	Annual % change	
	US\$B 2011	Share (%)	2010	2011	US\$B 2011	Share (%)	2010	2011
World	17,779	100.0	22	20	18,000	100.0	21	19
North America	2,283	12.8	23	16	3,090	17.2	23	15
United States	1,481	8.3	21	16	2,265	12.6	23	15
Canada	452	2.5	23	17	462	2.6	22	15
Mexico	350	2.0	30	17	361	2.0	28	16
South & Central America	749	4.2	26	27	727	4.0	30	24
Brazil	256	1.4	32	27	237	1.3	43	24
Europe	6,601	37.1	12	17	6,854	38.1	13	17
EU-27	6,029	33.9	12	17	6,241	24.7	13	16
Germany	1,474	8.3	12	17	1,254	7.0	14	19
France	597	3.4	8	14	715	4.0	9	17
Italy	523	2.9	10	17	557	3.1	17	14
United Kingdom	473	2.7	15	17	636	3.5	16	13
CIS	788	4.4	31	34	540	3.0	24	30
Russia	522	2.9	32	30	323	1.8	30	30
Africa	597	3.4	29	17	555	3.1	15	18
Middle East	1,228	6.9	27	37	665	3.7	13	16
Asia	5,534	31.1	31	18	5,568	30.9	33	23
China	1,899	10.7	31	20	1,743	9.7	39	25
Japan	823	4.6	33	7	854	4.7	26	23
India	297	1.7	33	35	451	2.5	36	29
NIEs	1,290	7.3	30	16	1,302	7.2	32	18

Source: WTO secretariat

Merchandise Trade

Trade Values (nominal trade)

After 22-percent growth in 2010, the overall value of global merchandise exports expanded by 20 percent in 2011 to reach a record US\$17.8-trillion (see Table 2-1).

Double-digit increases in nominal exports and imports were the norm across all regions and countries, with the single

exception of exports from the disaster-struck Japan. A recovery in resource prices—with some prices regaining their pre-recession levels—was the major factor behind the nominal expansion of world trade, as volumes only expanded 5.0 percent. Several negative shocks to production affected trade, and slower overall GDP growth in the world in 2011 dampened trade expansion. These factors affected both real and nominal trade

flows. Manufactured goods traditionally exhibit more stable prices, and as a result movements in their real and nominal flows were fairly similar in 2011. It is notable that trade in manufactured goods was more robust at the beginning of the year as the immediate post-crisis recovery and restocking of inventories continued, and slowed toward the end of 2011, even going over into negative territory for office and telecom equipment.

Rising oil prices were responsible for the increase in nominal exports from the Middle East (up 37 percent) and the CIS (up 34 percent). Exports prices grew roughly 30 percent for both regions, making them the runaway leaders in export growth for 2011.

Exports from South and Central America also expanded substantially last year, up 27 percent. Brazil, responsible for about a third of them, increased its exports at the same rate. Predominantly resource-based, exports from this region also benefited from increasing commodity prices in 2011.

All of the other regions grew at a similar pace, between 16 and 18 percent. Asia, last year's leader, decelerated to 18-percent growth—largely the result of natural disasters in Japan that depressed export growth in that country from 33 percent in 2010 to 7 percent in 2011 and indirectly affected many other countries in the region through their supply chain linkages. The general cooling off in the Chinese economy resulted in only 20-percent growth in 2011, which was the average rate for the world. The four Asian NIEs grew their exports by a combined 16 percent. India's performance was exceptional, as it managed to increase its export growth from 33 percent in 2010 to 35 percent in 2011, the highest rate of growth among major traders.

African exports, buoyant in 2010 at 29 percent, grew only 17 percent in 2011. Civil war in Libya resulted in dramatic cuts in exports of Libyan oil. Metals and ores exported by Africa fuel the fast growth of Asian economies, such as India and China, and are back in demand as the world recovery progresses. These commodities grew significantly in price last year, and given their dominance among the continent's exports, led to export growth in nominal terms (while real exports from Africa fell).

European exports expanded 17 percent in 2011 and the increase was distributed fairly evenly, with exports from the EU-27, Germany, Italy and the United Kingdom each growing by 17 percent. France was slightly behind at 14 percent, while Greece's exports expanded 42 percent. Overall export growth in Europe was affected by the slowing economic growth and the clouds of further austerity on the horizon, leading to another recession at the end of 2011.

North America's exports grew the slowest among all regions in 2011, at 16 percent, with very similar performance across the three nations. Canada and Mexico both grew slightly faster at 17 percent, while exports from the United States grew 16 percent. Taking into account the weakening of the U.S. dollar last year, which depreciated by 4.2 percent against the Canadian dollar and by 1.6 percent against the Mexican peso, some of the growth for Canada and Mexico can be attributed to the increased valuations of their exports in U.S. dollar terms.

By and large, global imports behaved similarly to global exports last year. Following 21-percent growth in 2010, the nominal value of imports increased 19 percent to \$18.0 trillion in 2011. Double-digit increases took place across all regions and major traders.

A major expansion in imports (approaching 30 percent) took place in the CIS, enabled by the large increase in revenue from oil exports from the region. Import growth in South and Central America decelerated from 30 percent in 2010 to 24 percent last year. Brazil's import growth matched the 24-percent average for the continent.

The value of imports into Asia expanded by 23 percent, with India in the lead with 29-percent import growth. China was somewhat behind with 25-percent growth, a decrease from 39-percent growth in 2010. Despite its challenges, Japan was at par for the region, expanding imports by 23 percent. Import growth among the four Asian NIEs was only 18 percent in 2011, down from 32 percent in 2010.

Imports into Africa grew 18 percent in 2011, exceeding the previous year's growth of 15 percent. A similar story developed in the Middle East, whose 16-percent import growth in 2011 was slightly above its 2010 growth of 13 percent.

Europe's import growth picked up somewhat in 2011, reaching 17 percent (up from 13 percent the year before). Considering the increases in resource prices—a fundamental component of European imports—overall growth was very weak. The ongoing sovereign debt crisis continued to impact import spending as governments in Europe made efforts to balance the current account, while the austerity-induced growth slowdown—bordering on recession for several countries—further depressed Europe's demand for imports. Among major traders, Germany's imports grew the most at 19 percent; France's were at par with the European average at 17 percent; while import growth in Italy and the United Kingdom was subpar at 14 percent and 13 percent, respectively.

North America experienced the slowest import growth of all regions in 2011, at 15 percent, with import growth in Canada and the United States at par for the region and Mexico's growth slightly above par at 16 percent. Continuing weakness in the U.S. economy likely depressed U.S. imports, while slower Canadian import growth was partly based on smaller resource content.

Trade Volumes (real trade)

In real terms, after adjusting for price changes and currency fluctuations, merchandise exports grew by a modest 5.0 percent in 2011. This was a considerable slowdown from the 13.8-percent growth in 2010, and although the direction was not unexpected, the magnitude of the decline was surprising. A number of negative shocks were responsible, chiefly the ongoing sovereign debt crisis in Europe, as well as the series of disasters in Japan, the gridlock in the U.S. Congress, the Libyan civil war, unrest in many Arab countries and floods in Thailand. Even when not affecting trade directly, these events contributed to the continuing uncertainty, fragile confidence and cautious behaviour of investors, businesses and consumers alike. A further slowdown in trade growth is expected for 2012.

A convenient benchmark for assessing trade growth is the comparison with the GDP. Historically, real exports grow approximately twice as fast as real GDP—rising even faster during recoveries, and falling faster during recessions. As world output grew 2.4 percent in 2011, the ratio of trade to output growth was about two to one. Thus, trade growth in 2011 was in line with output growth during normal times, although lower than could be expected during an economic recovery.

Developed economies performed relatively well, posting 4.7-percent real growth in merchandise exports, not far behind that of the developing economies and the CIS, whose exports grew by 5.4 percent. By contrast, imports into developed countries grew only 2.8 percent, while developing economies and the CIS expanded import volumes by 7.9 percent.

In contrast to its lagging trade growth in nominal terms, North America was one of the leading regions with respect to real export growth, which was up 6.2 percent in 2011. This was driven by the strong performance of the United States (up 7.2 percent), with the weaker U.S. dollar making U.S. exports more attractive. Only the volume of Asia's exports (up 6.6 percent) grew faster, with India posting a tremendous 16.1-percent growth and China and South Korea doing well at 9.3 percent each. Asian export performance was impacted by Japan, whose exports decreased by 0.5 percent in 2011.

The Middle East (up 5.4 percent) and South and Central America (up 5.3 percent) were the other regions where exports grew faster than the world average. Growth in European exports matched the world average (up 5.0 percent), while exports from the EU-27 grew slightly faster at 5.2 percent.

In an unusual development, Africa's exports contracted by 8.3 percent, largely occasioned by the civil war in Libya and the almost 75-percent reduction in Libyan oil exports that resulted. Exports from the CIS stagnated in volume terms, rising just 1.8 percent on the year.

On the import side, statistical discrepancies caused the world's real import growth of 4.9 percent to appear marginally lower than the world's real export growth of 5.0 percent. The CIS was the runaway leader

with 16.7-percent import growth, the volume increases enabled by improved terms of trade for energy and resource exports from the region. South and Central America expanded imports by 10.4 percent, and Asia posted an above-average growth of 6.4 percent. China's imports led the way in Asia with 9.7-percent growth in real terms, India recorded 6.6-percent growth and Japanese import volumes grew 1.9 percent even as that country recovered from natural disasters.

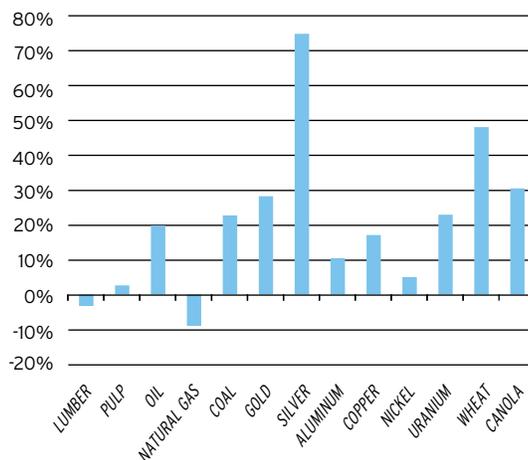
Imports into the Middle East and Africa grew apace with the world average, at 5.3 percent and 5.0 percent, respectively. North American imports grew slightly below the world average at 4.7 percent, with imports into the United States rising more slowly at 3.7 percent. Canada's imports rose faster at 8.1 percent, reflecting a resilient domestic demand and improving terms of trade. Europe experienced stagnation in real imports, gaining just 2.4 percent on the year, with the EU-27 even slower with 2.0-percent growth.

Prices and Exchange Rates

Commodity prices rose substantially in 2010 after crashing during the global recession. That across-the-board price increase was buoyed by strong demand from growing emerging markets and global economic recovery taking root. Although most commodity prices continued to rise in 2011, price differences among the individual commodities were more apparent than in 2010 (Figure 2-1).

The largest commodity price increases were observed in precious metals: silver prices jumped 74.6 percent and gold prices rose 28.1 percent during the year. Higher prices for precious metals drove much of the trade movements in 2011, both on the import and export sides, as described in chapters 4

FIGURE 2-1
Change in Commodity Prices from 2010 to 2011



Source: TD Economics Commodity Price Report, February 29, 2012

and 5 of this report. Prices in the agricultural sector expanded across the board, with wheat leading at 47.9 percent and canola at 30.4 percent, buoying the value of Canadian exports in these commodities.

Metals and ores continued to increase in price, but not as quickly as in 2010 when the increases ranged from 30 to 50 percent. The price of uranium grew the most in 2011, up 22.8 percent; copper prices rose 17.0 percent; and aluminum prices increased by 10.4 percent. By contrast, the price of nickel increased a scant 5.0 percent.

While oil prices rose 19.7 percent during 2011, natural gas prices fell 9.0 percent. Coal prices grew robustly at 22.6 percent, increasing the value of Canada's exports, mostly to Asian destinations. Prices in the forestry sector stagnated, with the price of pulp gaining 2.6 percent and the price of lumber losing 3.3 percent.¹

According to the Bank of Canada's sectoral price indices based on Canadian production and world market sales, the price of Canadian energy products rose 10.6 percent during 2011. Metals and minerals gained 14.7 percent, forestry prices moved little, and agricultural prices rose 34.8 percent.² Weighting commodity prices according to Canadian production, the index moved up 12.9 percent last year, or by 16.7 percent if energy is excluded. This situation, i.e. where energy prices drag down the overall commodity price growth, is unusual, and may be largely explained by lower relative prices for Canadian-produced oil last year (see Chapter 3 box on WTI and Brent pricing).

Weekly West Texas Intermediate (WTI) crude oil prices opened the year at US\$89.54 a barrel. Steady growth during the first four months of the year took prices 25 percent higher, to US\$112.30 at the end of April. However, prices slowly weakened thereafter to just under US\$100 by the end of July, when the price of oil dropped quickly to US\$82.86 by mid-August to cruise in the US\$80 range until early October. A sustained increase during the last three months of the year brought oil prices back to the US\$100-mark, with the last reading of the year at US\$99.81 on December 30, 2011. Overall, the WTI price rose 11 percent in 2011 according to the U.S. Energy Information Administration.³

Gold prices averaged US\$1,571.97 per troy ounce in 2011, up 28 percent from US\$1,224.52 in 2010. Prices fluctuated in a wide band from US\$1,319.00 in January 2011 to US\$1,895.00 in September. Gold was worth US\$1,531.00 per troy ounce at the end of the year.⁴

1 Commodity Price Report, TD Economics, February 29, 2012.

2 Bank of Canada Commodity Price Index, <http://www.bankofcanada.ca/rates/price-indexes/bcpi/>

3 Price behaviour of WTI oil is based on trade in the spot market at Cushing, Oklahoma, as quoted by the U.S. Energy Information Administration (EIA) at <http://tonto.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=RWTC&f=W>.

4 Prices per troy ounce, London Afternoon (PM) Gold Price Fixings as quoted in <http://www.usagold.com/reference/prices/2011.html>.

TABLE 2-2

Leading Exporters and Importers in World Merchandise Trade, 2011
(US\$ billions and %)

2011 Rank	2010 Rank	Exporters	2011 US\$B Value	2011 % Share	2011 Rank	2010 Rank	Importers	2011 US\$B Value	2011 % Share
1	1	China	1,899	10.4	1	1	United States	2,265	12.3
2	2	United States	1,481	8.1	2	2	China	1,743	9.5
3	3	Germany	1,474	8.1	3	3	Germany	1,254	6.8
4	4	Japan	823	4.5	4	4	Japan	854	4.6
5	5	Netherlands	660	3.6	5	5	France	715	3.9
6	6	France	597	3.3	6	6	United Kingdom	636	3.5
7	7	South Korea	555	3.0	7	7	Netherlands	597	3.2
8	8	Italy	523	2.9	8	8	Italy	557	3.0
9	12	Russia	522	2.9	9	10	South Korea	524	2.9
10	9	Belgium	476	2.6	10	9	Hong Kong	511	2.8
13	13	Canada	452	2.5	11	11	Canada	462	2.5

Source: WTO Secretariat

Substantial fluctuations in exchange rates affected world trade values in 2011. Large movements in some key currencies, such as the Swiss franc and the Brazilian real, led to a shift in terms of trade for these traders and real effects on economic, trade and commercial policies. On the other hand, the depreciation of the U.S. dollar by almost 5 percent against a weighted basket of world currencies not only stimulated a large expansion in U.S. exports, but upwardly affected the nominal dollar values of international transactions. The U.S. dollar depreciated against the euro by 4.8 percent, against the Japanese yen by 10.1 percent, against the British pound by 3.7 percent, against the Chinese yuan by 4.7 percent and against the Canadian dollar by 4.2 percent.

According to the Bank of Canada's average monthly exchange rate statistics, the Canadian dollar started the year at parity with the U.S. dollar (US\$1.006 in January), grew evenly to reach a high of US\$1.044 in April, retreated to US\$1.024 in June and then climbed once again to US\$1.047 by July. After the resolution of the U.S. debt ceiling crisis, the Canadian dollar gradually declined to US\$0.981 by October and experienced no major movements until the end of the year, closing at the US\$0.977 monthly average for December.⁵

Country Rankings by Trade Values⁶

For the third year running, China was the world's top merchandise exporter, with \$1,899 billion in exports. Its share of world exports remained at 10.4 percent, however, since its export growth was equal to the world average at 20 percent.

5 Bank of Canada exchange rate statistics at <http://www.bankofcanada.ca/rates/exchange/monthly-average-lookup/>.

6 All values quoted in this sub-section are in U.S. dollars.

The United States held on to second place in the rankings, narrowly edging Germany with total export value of \$1,481 billion, as compared to the \$1,474 billion value of German exports. The share of world exports for each declined to 8.1 percent in 2011.

Japan was a distant fourth, with \$823 billion in exports amounting to less than half of China's. Relatively slower growth in 2011 reduced the Japanese share of the world export market from 5.1 percent to 4.5 percent.

Exports from the Netherlands (\$660 billion) and France (\$597 billion) retained their fifth and sixth rankings, respectively, although their individual shares retreated on the year as well. The world share of exports from the Netherlands declined from 3.8 percent in 2010 to 3.6 percent in 2011, and France's share slipped from 3.4 percent to 3.3 percent.

South Korea kept the seventh place that it won in 2010, with exports of \$555 billion, although its share of world exports slipped from 3.1 percent in 2010 to 3.0 percent in 2011.

Italy barely held on to eighth place, with \$523 billion in exports, holding off surging Russia, whose exports vaulted from 12th place to 9th in 2011, reaching \$522 billion. Each country held a 2.9-percent share of world exports.

Belgium retreated to 10th place with \$476 billion in exports and a 2.6-percent world share. Canada remained in 13th place, although within easy reach of the tenth place with \$452 billion in exports and a 2.5 percent share of world exports.

On the import side, the rankings remained similarly stable. The United States continued to top the world charts as the unchallenged leader, with \$2,265 billion in imports, although the U.S. share of world

imports contracted from 12.8 percent to 12.3 percent in 2011. China remained in second place, with \$1,743 billion in imports (9.5 percent of the world share) and Germany ranked third with imports valued at \$1,254 billion (6.8 percent).

Japan, once again in fourth place, imported \$854-billion worth of merchandise, increasing its share of world imports to 4.6 percent. France kept fifth place with \$715 billion, its 3.9-percent share unchanged. The United Kingdom was sixth with a 3.5-percent share and the Netherlands was seventh with 3.2 percent. Italy remained in eighth spot with a 3.0-percent share of world imports.

South Korea's imports overtook Hong Kong's to claim ninth place, reaching \$524 billion (2.9 percent). Hong Kong rounded out the top 10 with \$511 billion (2.8 percent), and was immediately followed by Canada with \$462 billion in imports (2.5 percent of world imports).

Services Trade⁷

World services exports expanded 11 percent in 2011 to reach \$4,150 billion, after a similar expansion of 10 percent in 2010 (see Table 2-3).

According to the WTO, the share of services in total trade (goods and services) on the balance of payments basis declined to 18.6 percent in 2011, the smallest proportion since 1990. This is partly attributable to the recovery bringing about faster growth in the goods trade, as goods are more affected by the business cycle. Rising commodity prices significantly boosted the valuation of merchandise trade and were therefore also partly responsible for the decline in the share of services in total trade.

⁷ All values quoted in this section are in U.S. dollars.

TABLE 2-3

World Services Trade by Region and Selected Countries
(US\$ billions and %)

	EXPORTS				IMPORTS			
	Value	2011	Annual % change		Value	2011	Annual % change	
	US\$B	Share	2010	2011	UA\$B	Share	2010	2011
	2011	(%)			2011	(%)		
World	4,150	100.0	10	11	3,865	100.0	10	10
North America	668	16.1	9	10	516	13.4	8	8
United States	578	13.9	9	11	391	10.1	6	6
Canada	74	1.8	15	10	99	2.6	15	10
Mexico	15	0.4	5	0	25	0.6	8	16
South & Central America	130	3.1	15	14	163	4.2	23	18
Brazil	37	0.9	15	21	73	1.9	36	22
Europe	1,964	47.3	4	10	1,605	41.5	3	8
EU-27	1,762	42.5	4	10	1,480	38.3	2	4
Germany	253	6.1	3	9	284	7.3	3	8
France	161	3.9	1	11	141	3.6	2	7
Italy	107	2.6	3	9	115	3.0	1	5
United Kingdom	274	6.6	2	11	171	4.4	1	7
CIS	96	2.3	13	20	133	3.4	19	21
Russia	54	1.3	8	22	90	2.3	22	24
Africa	85	2.0	11	0	149	3.9	10	9
Middle East	111	2.7	6	10	210	5.4	9	10
Asia	1,096	26.4	23	12	1,091	28.2	21	14
China	182	4.4	32	7	236	6.1	22	23
Japan	143	3.4	10	3	165	4.3	6	6
India	148	3.6	33	20	130	3.4	45	12
NIEs	386	9.3	21	12	305	7.9	19	9

Source: WTO secretariat and author's calculations

The CIS region was the fastest-growing exporter of commercial services last year, with a 20-percent expansion. Exports from the CIS countries grew to \$96 billion, fuelled by broad-based growth of 22 percent in Russian services exports, which reached \$54 billion. Strong growth (14 percent) also took place in South and Central America where services exports reached \$130 billion. Brazil,

which accounted for over a quarter of services exports in that region, grew 21 percent to reach \$37 billion.

Asia's services exports grew 12 percent in 2011 to reach \$1,096 billion. India's 20-percent growth again led the region, with transportation and travel services growing particularly well. The value of India's services exports (\$148 billion) exceeded that

TABLE 2-4
World Exports of Services, 2005-2011
(US\$ billions and %)

	2011 Exports	Share	2011 growth	2010 growth	2005-2011 growth
	(US\$B)	(%)	(%)	(%)	(%)
All Services	4,149	100.0	11	10	9
Transportation	855	20.6	8	15	7
Travel	1,063	25.6	12	9	7
Commercial services	2,228	53.7	11	8	10

Source: WTO secretariat

of Japan (\$143 billion), which was up slightly by 3 percent in 2011. Japan's transportation services, travel services in particular, suffered an outright decline. China's services exports expanded by a subdued 7 percent to \$182 billion, the largest by value in the region. The four Asian NIEs grew their exports 12 percent, to reach the combined value of \$386 billion. The growth rates in services in all regions were much weaker than the rates in 2010, when the frayed links in the global trading network were still being restored.

Africa's services exports showed zero growth in 2011, largely due to the civil unrest in Tunisia and in Egypt, which cut their exports by 20 percent and 19 percent, respectively. At \$85 billion, Africa remained the least-exporting region analyzed while the Middle East increased its services exports by 10 percent to \$111 billion.

Growth in Europe was equal to that in North America (10 percent). In Europe, the United Kingdom grew by 11 percent and passed Germany as the world's second-largest exporter of services on the strength of the revisions to its dominant export, other business and financial services. Total exports reached \$274 billion for the United Kingdom and \$253 billion for Germany, which grew 9

percent. France increased its services exports by 11 percent to \$161 billion and Italy by 9 percent to \$107 billion.

The United States expanded its services exports by 11 percent, just ahead of Canada, where services exports grew 10 percent. No growth in services exports was reported for Mexico.

On the import side, the CIS was also the leader, increasing its services imports by 21 percent to \$133 billion. A broad-based increase of 24 percent in Russian imports to \$90 billion was behind that growth. Services imports for South and Central America expanded by 18 percent to reach \$163 billion, driven by Brazil's 22-percent growth to \$73 billion.

Imports of services into Asia grew 14 percent overall, driven by China's strong 23-percent growth. Total Asian imports reached \$1,091 billion, with China accounting for imports worth \$236 billion. India's import growth was slower at 12 percent, while Japan's was only 6 percent. The four Asian NIEs together added 9 percent to their services imports. The Middle East expanded imports by 10 percent to reach \$210 billion, while Africa's imports grew by 9 percent to \$149 billion.

TABLE 2-5

Leading Exporters and Importers in World Services Trade, 2011
(US\$ billions and %)

2011 Rank	2010 Rank	Exporters	2011 US\$B Value	2011 % Share	2011 Rank	2010 Rank	Importers	2011 US\$B Value	2011 % Share
1	1	United States	578	13.9	1	1	United States	391	10.1
2	3	United Kingdom	274	6.6	2	2	Germany	284	7.3
3	2	Germany	253	6.1	3	3	China	236	6.1
4	4	China	182	4.4	4	4	United Kingdom	171	4.4
5	5	France	161	3.9	5	5	Japan	165	4.3
6	10	India	148	3.6	6	6	France	141	3.6
7	6	Japan	143	3.4	7	7	India	130	3.4
8	7	Spain	141	3.4	8	8	Netherlands	118	3.1
9	9	Netherlands	128	3.1	9	9	Italy	115	3.0
10	8	Singapore	125	3.0	10	10	Ireland	113	2.9
18	18	Canada	74	1.8	12	13	Canada	99	2.6

Source: WTO Secretariat

Europe and North America continued to be net exporters of services, with import shares of 41.5 percent and 13.4 percent, respectively, as opposed to export shares of 47.3 percent and 16.1 percent respectively. In Europe, services imports grew 8 percent in 2011, reaching \$1,605 billion. Germany was Europe's chief importer of services, up 8 percent to \$284 billion. Imports into France and the United Kingdom grew by 7 percent each, while Italy lagged with 5-percent growth in imports.

The United States increased its services imports by only 6 percent to \$391 billion, further improving its positive trade balance in the services trade. Canada's services imports grew faster at 10 percent, and Mexico's led the region at 16 percent.

Overall, transportation services was the slowest-growing services sub-category in 2011, up only 8 percent. Commercial services grew by 11 percent and travel services picked up by 12 percent. The slow

growth of transportation services may be partially explained by sluggish growth in world goods trade volumes, and the glut of shipping capacity that depressed revenues in the shipping sector, as indicated by the falling Baltic Dry Index. Over the past six years, the growth in the three principal components of services was more balanced, with commercial services expanding the fastest at 10 percent and the rest growing at 7 percent.

Leading Services Traders by Value

The United States was the leading services trader in the world, on both the export and import sides, in 2011. It exported \$578-billion worth of services, or 13.9 percent of the world's total, while importing only \$391 billion, or 10.1 percent of the world's total. With exports of services exceeding imports by \$187 billion, the United States also posted the world's biggest trade surplus in services.

The United Kingdom took over the second spot in export rankings from Germany, with \$274 billion in exports and a 6.6-percent world share. Germany was in third spot, with \$253 billion and a 6.1-percent share. China and France followed with \$182 billion (4.4-percent share) and \$161 billion (3.9-percent share), retaining fourth and fifth places, respectively.

India vaulted four places to rank sixth following a 20-percent expansion in its services exports, reaching \$148 billion and achieving a 3.6-percent world share. Japan with \$143 billion and Spain with \$141 billion slid down a rank each to seventh and eighth spots, respectively. The Netherlands passed Singapore to remain in ninth spot, with \$128 billion in services exports. Singapore fell two positions, dropping from eighth to tenth place, to \$125 billion and a 3.0-percent share of world services exports. Canada was in 18th place, with \$74 billion in services exports and a 1.8-percent world share.

On the import side, no movements occurred in the top 10 rankings. Germany held second place with services imports of \$284 billion, or 7.3 percent of the world's total. China held third spot, with \$236 billion in imports. The United Kingdom (\$171 billion), Japan (\$165 billion) and France (\$141 billion) occupied spots four to six, and India was close behind with \$130 billion in import values. The Netherlands, Italy and Ireland rounded out the top 10 with \$118 billion, \$115 billion and \$113 billion in services imports, respectively. Canada went up a position from 13th to 12th spot in 2011 as its services imports expanded to \$99 billion, or 2.6 percent of the world's total.

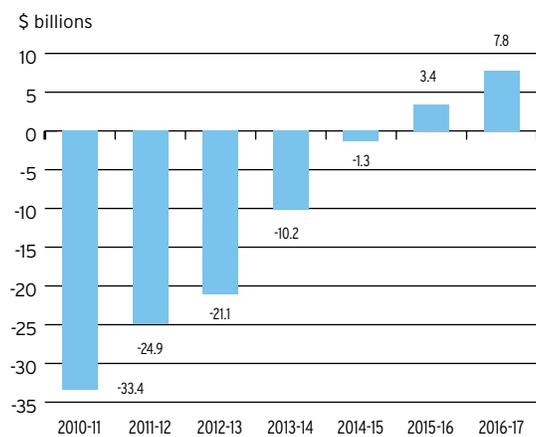
Canada's Economic Performance

During 2011, Canada's economic recovery continued, despite a more challenging global environment which saw output in the United States and the EU grow by only 1.7 percent and 1.6 percent, respectively. Economic activity contracted in the second quarter and was sluggish in the fourth quarter, reflecting external shocks from the natural disasters in Japan, the sputtering U.S. recovery and the escalation of the eurozone crisis. Canada's growth in 2011 was largely driven by domestic strengths. Business investment and confidence rose and many new jobs were added during the year, carrying the employment level over the the pre-recession peak. With the manufacturing sector still operating at roughly four fifths of its capacity, the Bank of Canada conducted an easy monetary policy that was not limited by concerns about inflationary pressures. One downside to the current prolonged period of low interest rates is Canada's record-high household debt, with the consumer debt-to-personal disposable income ratio now above 150 percent.

Canada's solid trade and economic performance has translated into a healthier fiscal position. According to the recently released Budget 2012, the fiscal deficit for 2011-12 fiscal year is now expected to come in at \$24.9 billion—\$7.4 billion less than projected in the Budget 2011—due to better than expected revenue growth. Despite expected deficits over the next few years, Canada remains on track to reach a balanced budget

FIGURE 3-1

Canada's Projected Budgetary Balance, 2010/11-2016/17



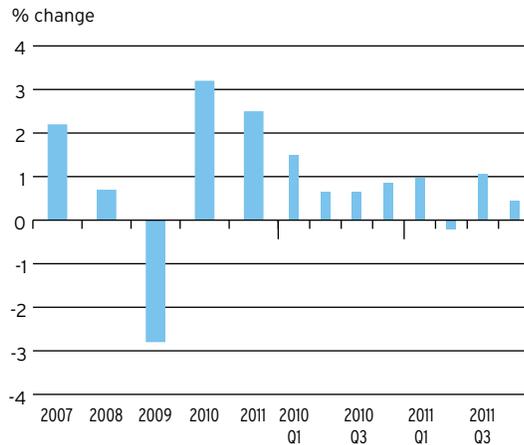
Data: Department of Finance
Source: Office of the Chief Economist, DFAIT

over the medium-term. Canada still boasts the strongest fiscal position in the G-7, and the IMF projects Canada's total net debt-to-GDP ratio will remain the lowest among the G-7 countries and be at about one third of the G-7 average in 2016.

Gross Domestic Product

Canada's real GDP contracted 2.8 percent in 2009 on the heels of the global recession, but economic activity rebounded in 2010 with 3.2-percent growth (see Figure 3-2). In 2011, real GDP continued to recover, but at a slower pace, increasing 2.5 percent for the year as a whole. There was a contraction in the second quarter amidst troubling economic conditions in Europe, Japan and the United States, which

FIGURE 3-2
Canadian Real GDP Growth, 2007-2011



Source: Statistics Canada

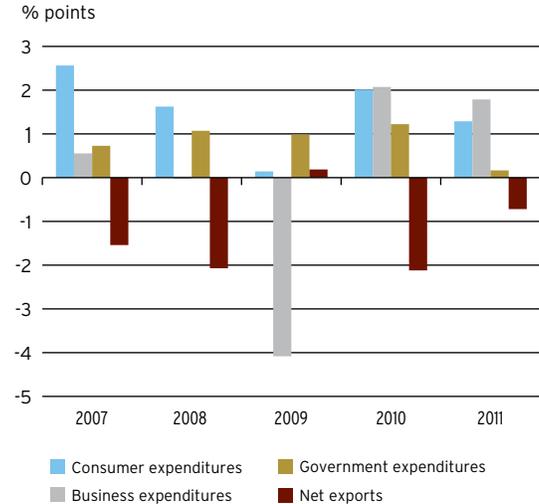
generated considerable uncertainty, but growth picked up again in the second half of the year as the outlook improved. Growth slowed again in the fourth quarter due to the resurgence of the eurozone crisis.

Contributions to Real GDP Growth

Analysis of the expenditure components of GDP (Figure 3-3) shows that most of the GDP growth in 2011 was due to increased business expenditures, which contributed 1.79 percentage points to the increase in real output (nearly three quarters of the whole). Business investment grew at a very brisk pace in 2011, at 10.2 percent for the year.

The bulk of the growth in business investment came from investment in machinery and equipment, which grew at 13.7 percent. Growth in investment in industrial machinery was particularly strong, at 23.4 percent. Rapid growth occurred in computers and other office equipment (up 19.6 percent); trucks (up 19.4 percent); and agricultural machinery (up 18.7 percent). In contrast,

FIGURE 3-3
Contribution to Real GDP Growth, 2007-2011



Source: Statistics Canada

investment in furniture (up 5.4 percent), software (up 3.5 percent) and automobiles (up 0.7 percent) grew more slowly.

Business investment in non-residential structures (manufacturing plants) grew at the same pace as investment in machinery and equipment (13.7 percent). Investment in engineering structures drove this growth with a 17.2-percent increase, while investment in buildings grew more slowly at 4.6 percent.

Investment in residential structures advanced only 2.3 percent in 2011, a sharp slowdown from 10.1 percent in 2010. Growth in the value of new housing construction (up 1.6 percent) and renovations (up 1.7 percent) lagged behind the increases in ownership transfer costs (up 5.5 percent). Sales of new dwellings (including land), were down 5.4 percent last year, with sales of single dwellings decreasing more sharply, at 7.3 percent; sales of multiple dwellings contracted 2.1 percent.

The restocking of inventories continued even more briskly than in the previous year, with business investment in inventories growing 36.2 percent in 2011. Business investment in non-farm inventories expanded 21.9 percent from the previous year, to \$9.1 billion, most of that increase occurring in the wholesale trade sector, which grew 92.0 percent. Wholesale inventories of both durable and non-durable goods expanded considerably, although offset by the drop in retail inventories of motor vehicles. Manufacturing inventories of durables expanded 13.4 percent, but manufacturing inventories of non-durables contracted 8.6 percent. Farm inventories expanded to \$1.5 billion, with growth in grain inventories leading the way.

Real personal expenditures on consumer goods and services slowed down in 2011, increasing only 2.2 percent. This added 1.29 percentage points to real GDP growth, a reduction from the 2.01-percentage point contribution the year before. Growth in this category was driven by expenditures on services, which expanded 3.0 percent. That growth resulted in a contribution of 0.98 percentage point to real GDP growth, also a reduction from a 1.20-percentage points contribution in 2010. Growth in durables, semi-durables and non-durables was weaker at 1.1 percent, 1.7 percent and 1.0 percent, respectively. All of these items contributed less to the real GDP growth than in the previous year, with the total contribution from goods amounting to only 0.31 percentage point compared to 0.81 percentage point in 2010.

Among major sectors, real consumer expenditures rose the most in the clothing and footwear sector in 2011, with a 4.4-percent increase in spending amounting to \$1.9 billion. Furniture, furnishings and household equipment and maintenance was

the slowest-growing of the major sectors, expanding just 0.4 percent (up \$0.3 billion). Expenditure growth by subsector was the highest for natural gas (up 6.2 percent), other fuels (up 5.6 percent), women's and children's clothing (up 5.6 percent), purchased transportation (up 5.2 percent) and net expenditures abroad (up 9.8 percent). By contrast, during 2011 declines occurred in expenditures on new and used motor vehicles (down 0.4 percent), tobacco products (down 1.2 percent), semi-durable household furnishings (down 0.4 percent), reading and entertainment supplies (down 2.2 percent), recreational services (down 1.4 percent), and personal effects (down 4.3 percent).

Government contribution to the growth in real GDP was the lowest in five years, totalling 0.17 percentage point. Total government spending and investment grew only 0.5 percent in 2011. A 2.9-percent decrease in government investment, which dragged GDP down by 0.12 percentage point, was offset by a 1.2-percent increase in government spending on goods and services, which contributed 0.28 percentage point to real GDP growth.

Real exports and imports of goods and services rose by 4.4 percent and 6.5 percent, respectively. Slower export growth slowed the contributions of exports to GDP to 1.33 percentage points in 2011, down from 1.83 percentage points in 2010. However, the negative contribution from growth in real imports decreased even more, from 3.95 percentage points in 2010 to 2.05 percentage points in 2011. As a result, trade was a drag on growth last year, but to a much lesser extent than in three of the previous four years: the net exports contribution was negative 0.72 percentage point last year, an improvement on the negative 2.12-percentage points contribution in 2010.

Volume of exports of goods and services increased by \$19.4 billion in 2011. Most of this increase (over 96 percent) was due to the increase in exports of goods, which was split between four principal sectors: machinery and equipment, industrial goods and materials, automotive products and energy products, in that order. Commercial services played an important role in services exports, accounting for over half of the overall \$0.9-billion increase.

Volume of imports of goods and services grew by \$37.1 billion in 2011, and, as with exports, most of the growth was due to increased imports of goods (which grew by \$31.3 billion, or 84.3 percent of the total increase), although the contribution of goods was less overwhelming than for exports. Gains were concentrated in machinery and equipment (\$22.3 billion, or 71.2 percent of the total increase in imports of goods). Industrial goods and materials (up \$5.2 billion) and automotive products (up \$4.7 billion) posted the other notable increases. Imports of services grew by 5.7 percent in real terms, gaining \$5.8 billion. Travel services contributed most to the increase, at \$2.3 billion, with transportation and commercial services splitting the rest almost equally.

GDP by Industrial Activity

Industrial activities expanded by 2.6 percent in 2011, with greater growth in goods production (up 3.5 percent) than in services production (up 2.2 percent).

All goods-producing sectors grew in 2011, with utilities (up 4.4 percent) leading the way. The increase in natural gas distribution (up 6.5 percent) contributed the most to the growth in utilities, while water, sewage and other systems held back (up 1.2 percent). Electric power generation advanced 4.4 percent in 2011.

Growth in the mining, oil and gas extraction sector (up 4.3 percent) was close behind utilities, driven by oil and gas extraction, its dominant component, which increased 3.1 percent during the year. Faster growth in mining (up 5.2 percent) was driven by the increases in copper, nickel, lead and zinc ore mining (up 17.9 percent) and potash mining (up 13.7 percent). Support activities for this sector grew 15.3 percent in 2011.

The construction sector grew 4.1 percent during the year, driven by the 6.9-percent advance in engineering, repair and other construction activities. Output in the agriculture, forestry, fishing and hunting sector expanded 2.0 percent in 2011, with forestry and logging output growing by 9.2 percent and animal production decreasing 2.0 percent.

External demand for Canadian goods slowed in 2011, with the recovery in the United States still slow and uncertain and the European crisis flaring up once again. The volume of manufacturing output, which accounts for just under half of the goods-producing industries, grew 2.4 percent during the year, slowing down from the previous year's growth rate of 5.2 percent. Nevertheless, manufacturing output declined in real terms in many sub-sectors, including food manufacturing (down 0.4 percent), beverage and tobacco product manufacturing (down 1.5 percent), textile product mills (down 3.9 percent), clothing manufacturing (down 3.5 percent), paper manufacturing (down 2.2 percent), printing and related support activities (down 3.0 percent), petroleum and coal products manufacturing (down 4.4 percent), chemical manufacturing (down 1.4 percent) and furniture and related product manufacturing (down 1.7 percent).

These losses were offset by solid growth in other areas, especially in machinery and metal manufacturing. Real output in machinery manufacturing expanded 16.3 percent and exceeded pre-crisis levels; output in computer and electronic product manufacturing expanded 5.5 percent; and output in electrical equipment, appliance and component manufacturing expanded 5.9 percent, all of these increases greater than in 2010. Primary metal manufacturing grew 3.2 percent in real terms, while fabricated metal product manufacturing gained 5.7 percent. Real output increases also took place in textile mills (up 4.1 percent), leather and allied product manufacturing (up 3.5 percent), wood product manufacturing (up 0.9 percent), plastics and rubber products manufacturing (up 4.6 percent), non-metallic mineral product manufacturing (up 1.5 percent), transportation equipment manufacturing (up 3.3 percent) and miscellaneous manufacturing (up 2.6 percent). In total, 12 of the 21 major manufacturing sectors grew while 9 declined, but the increases occurred, arguably, in more skill- and capital-intensive areas with a high degree of added value.

Output in services, traditionally less volatile than output in goods, grew 2.2 percent overall. Transportation and warehousing services grew 3.8 percent; real estate, rental and leasing increased 3.0 percent; and professional, scientific and technical services grew 2.7 percent. Wholesale and retail trade volumes increased by 2.8 percent and 2.1 percent, respectively. Finance and insurance grew by 2.2 percent, and health care and social assistance expanded by 2.1 percent. Arts, entertainment and recreation was the only major services sector to decline, down 1.2 percent in 2011.

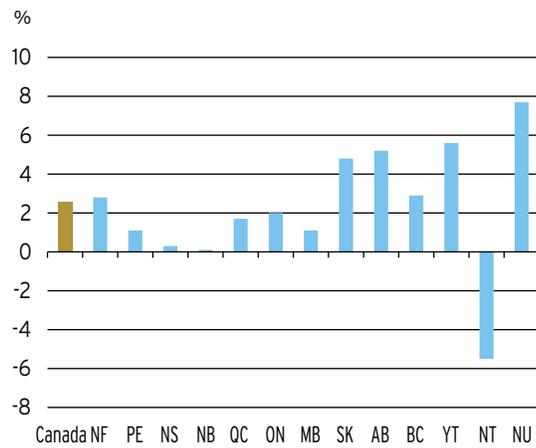
Gross Domestic Product by Province

Canada's increase in real output in 2011 was felt across the country, with all provinces and two of the three territories posting positive growth. The increases were not spread evenly, however. Nunavut, Yukon, Alberta and Saskatchewan grew the fastest in 2011 due to increased exploration, mining and related construction activities. New Brunswick and Nova Scotia were the slowest-growing provinces in the country.

In **Newfoundland and Labrador**, real output advanced 2.8 percent in 2011 after leading all provinces with 5.8-percent growth in 2010. Significant increases in metal ore mining output drove this increase, as well as output in non-residential and engineering construction related to mining and oil projects. Output in fishing, hunting and trapping industries also increased, as did the manufacturing of seafood products, both of which contributed to gains in wholesale trade. Real output in the services sector rose 2.4 percent; increases in finance, insurance and real estate and in architectural, engineering and related services led the way.

In **Prince Edward Island**, real GDP expanded 1.1 percent in 2011, down from a 2.7-percent increase in 2010. A 1.7-percent increase in services output offset a decrease of 0.8 percent in goods output. Non-residential construction, utilities, retail trade and finance, insurance and real estate services drove the increase in services. By contrast, lower fishing activity and a smaller potato crop as a result of poor weather offset the growth in manufacturing of frozen food products, leading to the decline in the output of goods. A contraction in transportation

FIGURE 3-4
Real GDP Growth by Province, 2011



Source: Statistics Canada

equipment manufacturing and miscellaneous manufactured products also contributed to this decline.

In **Nova Scotia**, real GDP increased 0.3 percent in 2011 after growing 1.6 percent in 2010. As in Prince Edward Island, there was a decrease in real output in goods-producing industries (down 4.0 percent). Gains in fishing, food manufacturing and manufacturing of rubber and plastic products were offset by declines in output in oil and gas extraction, construction and transportation equipment. Services output advanced 1.4 percent, however, as output rose in finance, insurance and real estate and in health care and social services.

New Brunswick posted the smallest real GDP growth among the provinces, at 0.1 percent in 2011, after a 3.0-percent increase in 2010. Output fell in most goods sectors: construction, manufacturing, forestry and logging, and utilities. Crop production fell 16.0 percent, driven by a smaller potato harvest due to inclement weather conditions. In services, output in wholesale trade and transportation services declined along with the declines in goods output, but

overall services output increased 1.2 percent. This increase was led by finance, insurance and real estate services.

In **Quebec**, real GDP expanded 1.7 percent in 2011, decelerating from a 2.5-percent increase in 2010. Growth was mostly due to the output of services increasing 1.7 percent, led by wholesale trade; transportation and warehousing; finance, insurance and real estate; and architectural, engineering and related services. Manufacturing output increased slightly, with growth in output of transportation equipment and machinery offset by lower output of chemicals (including pharmaceuticals) and wood and paper products. Higher levels of mine engineering work and residential construction led the increases in construction activity, which grew 4.1 percent. Other goods sectors contributing to the growth were utilities and forestry and logging.

In **Ontario**, real output rose 2.0 percent in 2011, slowing down from 3.2 percent in 2010. Manufacturing output increased 2.4 percent in 2011, the second consecutive year of growth following four years of declines. Many heavy manufacturing industries grew, including machinery, primary and fabricated metal products, plastic products and other transportation equipment. Production of motor vehicles and parts fell, largely as a result of supply chain disruptions caused by the disasters in Japan. In addition to the higher manufacturing output, increases in metal ore mining and exploration activity also fuelled growth. Construction output increased 0.9 percent as increases in residential and non-residential building offset a decline in electric power engineering construction. Growth in the services sectors was 1.9 percent. Increases took place in finance, insurance and real estate services; professional, scientific and

technical services; and accommodation and food services. Advances in wholesale trade and transportation and warehousing services took place as well as a result of increased goods production.

In **Manitoba**, real output increased 1.1 percent in 2011, following a 2.2-percent gain in 2010. GDP derived from crop production fell sharply (down 21.0 percent) due to heavy rains and flooding. Output in service industries grew faster than in goods industries, with gains in retail trade; finance, insurance and real estate; and accommodation and food services. On the goods side, construction output declined 4.0 percent with the conclusion of work on major engineering projects. Goods manufacturing declined slightly (down 0.1 percent) as gains in manufacturing of chemicals and agricultural and mining equipment were offset by losses in output of food, fabricated metal and printed products.

In **Saskatchewan**, real GDP expanded 4.8 percent in 2011, an improvement on the 4.2-percent increase of 2010. Growth was brisk in goods-producing industries at 5.9 percent, while services advanced 3.8 percent. Crop production grew by 10.0 percent, aided by favorable weather conditions. Strong export demand led to higher output in non-metallic mineral mining (including potash), exploration, and engineering construction activity. Growth in the goods sector was accompanied by growth in wholesale trade and transportation and warehousing services. Strong population growth led to growth in retail trade and in finance, insurance and real estate services as well as a 21.0-percent increase in residential construction.

In **Alberta**, real output grew 5.2 percent in 2011, faster than the 3.3-percent growth in 2010. This was the strongest economic performance among Canada's

provinces. Higher energy prices led to an increase in oil and gas extraction and exploration activities. Construction of oil and gas engineering projects also contributed to the growth. Output in the manufacturing sector increased 10.9 percent with large gains in the output of machinery, fabricated metal products, chemicals and wood products. Output of services increased 4.1 percent, driven by growth in retail and wholesale trade; transportation services; professional, scientific and technical services; and accommodation and food services.

In **British Columbia**, real GDP increased 2.9 percent, following a 3.2-percent increase in 2010. Output in goods industries led the increase (up 5.6 percent). Increased global demand for natural resources led to growth in oil and gas extraction, engineering construction and machinery manufacturing. Support activities for mining and oil and gas extraction rose 24 percent from increased mineral and natural gas exploration activity. Strong export demand also contributed to growth in forestry and logging and in manufactured wood products. Output of services rose 2.0 percent, led by gains in transportation and warehousing and in finance, insurance and real estate.

Output in the territories is typically more volatile than in the provinces due to their smaller populations and greater dependence on such activities as mining and exploration where GDP can vary considerably from year to year. In the **Northwest Territories**, real GDP declined 5.5 percent in 2011 following a 1.3-percent increase in 2010. Output in mining and oil and gas extraction fell 13 percent, led by a large drop in diamond mining. However, support activities for mining and

oil and gas extraction posted a 21-percent increase due to higher exploration activity. Construction declined 5.3 percent, driven by a decrease in the building of commercial and institutional structures, despite increased construction activity at new mines.

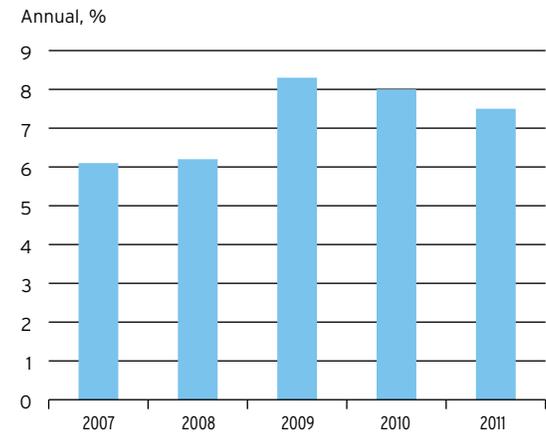
In **Nunavut**, real output expanded 7.7 percent in 2011, following an 11.3-percent gain in 2010. As the price of gold climbed higher for the second consecutive year, the output of gold and silver ore mining continued to increase. The high price of gold also spurred exploration activity and construction as work on a new mine got underway. Non-residential construction activity decreased in 2011 after two years of growth. Wholesale trade declined due to reduced wholesaling of machinery and equipment.

In **Yukon**, real GDP grew 5.6 percent in 2011 after a gain of 4.0 percent in 2010. Higher commodity prices led to increases in output of support activities to mining and oil and gas extraction, and exploration for gold and silver hit record levels. Production in the metal ores sector increased with the opening of a new silver mine. Output in construction rose 21 percent as work on a new metal mine continued, which also caused gains in wholesale trade and transportation services. Retail trade gained 6.6 percent and the finance, insurance and real estate sector increased by 4.7 percent.

Employment

The recovery in employment in Canada continued in 2011, although the economy created jobs at a reduced pace compared to 2010. Employment increased by 1.1 percent over the course of the year (December 2010 to December 2011), resulting in 190,000 new jobs. During the year, 205,000 net new

FIGURE 3-5
Unemployment Rate in Canada, 2007-2011



Source: Statistics Canada

full-time jobs were created, and net 15,000 part-time jobs were lost. From the start to the end of the year, the national unemployment rate did not decrease significantly, edging down by only 0.1 percentage point from 7.6 percent in December 2010 to 7.5 percent in December 2011. The average for the year as a whole, however, declined more substantially—by 0.5 percentage point to 7.5 percent (see Figure 3-5).

Gains in employment were not distributed evenly across the country. Most Atlantic provinces saw small job gains during the year—from 1,100 new jobs in New Brunswick, all of them part-time, to a 4,300-job gain in Newfoundland and Labrador, all of them full-time. Nova Scotia was the leader in job creation in this region, gaining 11,300 new jobs, and improving its unemployment rate from 10.5 percent in December 2010 to 7.8 percent in December 2011.

Quebec was the only province to lose jobs last year, its employment decreasing by 55,900 jobs. The unemployment rate increased 1.3 percent during the year to 8.7

percent in December 2011. Manitoba saw small job gains that left its unemployment rate essentially unchanged, while Saskatchewan's unemployment rate fell 0.3 percentage point to 5.2 percent at the end of 2011, with marginal changes in employment but a decrease in the participation rate.

The big winners in the employment picture in 2011 were Alberta and Ontario. Alberta created over 100,000 of new full-time jobs (with 99,300 new jobs overall) while its unemployment rate decreased from 5.6 percent in December 2010 to 4.9 percent in December 2011. Ontario gained 84,500 jobs, decreasing its unemployment rate by 0.5 percentage point to 7.7 percent by the end of the year. British Columbia also generated 32,600 new jobs, a significant gain, reducing its unemployment rate to 7.0 percent in December 2011, down from 7.6 percent in December 2010.

Jobs stagnated in the goods-producing sectors in 2011, which generated only 6,800 jobs, an increase of 0.2 percent. Job gains in the construction sector (up 35,800 jobs) and aggregate gains in forestry, fishing, mining, quarrying, oil and gas industries (up 25,200 jobs) were offset by the continued decline of employment in the manufacturing sector (down 48,600 jobs, a 2.7-percent decline) and the utilities sector (down 14,000 jobs, a 9.5-percent decline).

Over 96 percent of job creation took place in the service sector last year. Service-producing industries gained 183,100 jobs, amounting to a 1.4-percent gain in employment. Most of the gains took place in professional, scientific and technical services (up 79,500 jobs, a 6.2-percent expansion), accommodation and food services (up 65,400 jobs, a 6.2-percent increase) and health care and

social assistance (up 56,000 jobs, a 2.7-percent increase). Losses were also common, but less significant—finance, insurance, real estate and leasing lost 33,500 jobs; business, building and other support services lost 16,200 jobs; and transportation and warehousing services lost 15,700 jobs.

At the end of the year 2011, employment stood at 17.35 million, well above its 17.18 million pre-recession high in October 2008 with almost 180,000 new jobs created. While employment stagnated in the first two months of 2012, jobs growth returned in March with 82,300 new jobs, driving the unemployment rate down to 7.2 percent. Canada's participation rate suffered a hit during the recession that has yet to be corrected, although it was not nearly as pronounced as in the United States. The participation rate declined from about 67.5 percent during the 2007-2008 period to 66.8 percent by October 2009. After improving marginally to 67.1 percent by January 2011, the rate declined to 66.7 percent in December 2011—essentially unchanged from October 2009.

Inflation

Consumer prices rose 2.9 percent over the course of 2011, following an increase of 1.8 percent in 2010, as reflected by the basket of goods and services used by Statistics Canada in the calculation of its Consumer Price Index (CPI). Faster inflation in 2011 was largely due to higher prices for gasoline and food items. The 2011 increase was slightly higher than the annual average growth rates observed in the early 2000s. Prices rose in all eight major components during the year, with transportation and food continuing to post the largest increases. The rate of inflation was higher than last year in seven of the eight major components of the CPI.

Food prices advanced 3.7 percent during the year, a much faster rate of growth than the 1.4-percent growth in 2010. Prices for food purchased from stores rose 4.2 percent, much faster than the 1.0-percent growth in the previous year, with vegetables leading the increase with 7.1-percent growth. Prices of meat and meat products advanced 5.3 percent, and prices of bakery and cereal products by 5.2 percent. The growth in prices of food purchased from restaurants grew more slowly at 2.8 percent in 2011.

Shelter costs rose 1.9 percent, accelerating slightly from 1.4-percent growth in 2010. The increase was driven by the costs of water, fuel and electricity rising 4.0 percent, which in turn were primarily explained by a 25.2-percent increase in costs of fuel oil and other fuels. The costs associated with household operations, furnishings and equipment rose 1.9 percent in 2011, primarily driven by the costs of services in this area, as the prices of household services and equipment actually declined 0.3 percent. Prices of clothing and footwear increased marginally last year (up 0.3 percent), reversing the declines of the three previous years. Prices of clothing and footwear still declined, but the costs of related accessories and services have offset that decline and resulted in overall growth.

Transportation costs drove the overall CPI increase, with prices rising 6.4 percent in this area. This was explained by the higher cost of gasoline, which rose 20.0 percent on the year. Prices for public transportation grew 5.6 percent, driven mainly by the 7.7-percent increase in inter-city transportation prices.

Prices in the health and personal care sector advanced 1.7 percent during 2011, following a 2.7-percent increase in 2010.

Increases in prices of services were the main drivers, with health care services rising 2.9 percent and personal care services 4.0 percent.

Prices in recreation, education and reading increased 1.2 percent last year, a slightly higher inflation rate than in the three previous years. Prices for goods associated with this category generally fell—video equipment by 12.0 percent, audio equipment by 5.6 percent and digital computing equipment by 11.3 percent. However, the prices of education (including tuition fees), various cultural and recreational services and fuel for recreational vehicles combined to increase overall prices for this category.

Finally, prices for alcoholic beverages and tobacco products rose 1.9 percent, similar to the average increase in the last few years. Most of the increases came from the higher prices of tobacco products (up 3.7 percent), and additionally from higher prices of beer served in licensed establishments (up 2.7 percent), while the cost of alcoholic beverages purchased from stores fell 0.5 percent.

By province, inflation was the highest in the Atlantic provinces: Nova Scotia led the country with 3.8-percent inflation, followed by New Brunswick with 3.5 percent and Newfoundland and Labrador close behind with 3.4 percent. Prices rose 3.0 percent during the year in Quebec and Manitoba and 3.1 percent in Ontario. Alberta and British Columbia each posted the lowest inflation rate in the country—2.4 percent.

The Bank of Canada's core index¹ increased 1.9 percent for 2011 as a whole after rising 1.5 percent in the previous year.

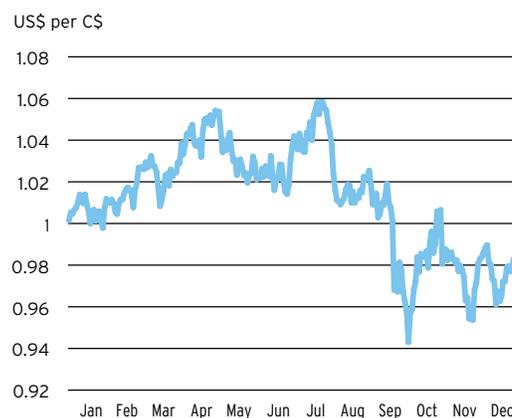
¹ The Bank of Canada's core index is a special aggregate of the CPI that excludes eight of its most volatile components (fruit, vegetables, gasoline, fuel oil, natural gas, mortgage interest, inter-city transportation and tobacco products) as well as the effect of changes in indirect taxes on the remaining components. It is used by the Bank of Canada as a policy instrument to help see through the temporary volatility in prices and maintain overall inflation within the 1 to 3 percent target range.

The Canadian Dollar

After appreciating 10.9 percent against the U.S. dollar in 2010, the Canadian dollar continued to rise in 2011, although not as sharply. The 250-day average valuation of the Canadian dollar was US\$1.011 in 2011. That represented an appreciation of US4.01¢ over the year, or 4.1 percent. Relative to the other major currencies, the average yearly value of the Canadian dollar declined 0.8 percent against the European euro, 5.3 percent against the Japanese yen, but rose 0.4 percent against the British pound sterling.

As far as the yearly dynamics are concerned, the movement of the Canadian dollar against the U.S. dollar was restricted to a 12-cent band during the year (from US\$0.94 to US\$1.06). On January 4, 2011, the Canadian dollar was at parity with the U.S. dollar (US\$1.001), and from there its value rose slowly for four months to reach a high of US\$1.054 by the end of April. After retreating to US\$1.014 in June, it climbed again to US\$1.058 by late July. From there, the Canadian dollar gradually declined to parity in late September, and then lost over 3 percent of value on September 22. After hitting a low of US\$0.943 on October 4, it reached parity again at the end of October and a few more ups and downs at the end of the year brought it to US\$0.983 on December 30, the final trading day of the year.²

FIGURE 3-6
C\$-US\$ Daily Exchange Rate (2011)



Source: Bank of Canada

² Bank of Canada daily noon exchange rate statistics at <http://www.bankofcanada.ca/rates/exchange/10-year-lookup/>.

Diverging Crude Oil Prices in North America—the Implications for Canada's Trade Balance

The price of oil is subject to large, short-term fluctuations, but has been trending upward overall since 2002. As Canada is a net exporter of oil, this upward trend has had a positive effect on terms of trade and national income and has notably helped increase the profitability of developing the oil sands.

However, a new phenomenon has been observed since the end of 2010. For one thing, while the prices of Brent and West Texas Intermediate (WTI) were essentially identical historically, an increasingly pronounced gap has been observed between them (Figure 1). According to the Bank of Canada, the gap can mainly be explained by an excess crude oil supply in the United States at Cushing, in Oklahoma. This surplus is notably the result of technical problems related to pipeline transportation and refining, and of the new shale oil develop-

ments, which can be found all over North America, including in regions that have not produced oil historically. The arrival of shale oil has resulted in greater diversification in production sources and an increase in North American supply. This excess supply and the inadequate transportation capacity are driving down WTI prices relative to the price of Brent.

Furthermore, the difference in processing costs between Western Canadian Select (WCS) on the one hand and WTI and Brent on the other explains the negative price differential between these products on the world market. As WCS is heavier, there are higher production costs and the resulting products are generally less valuable.¹ However, since mid-2011, the price difference has grown wider with WTI (Figure 2). According to Scotia Economics, the insufficient

FIGURE 1
Brent and WTI Crude Oil Prices

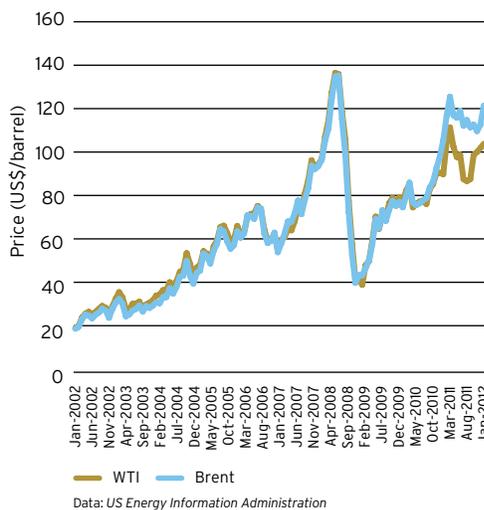
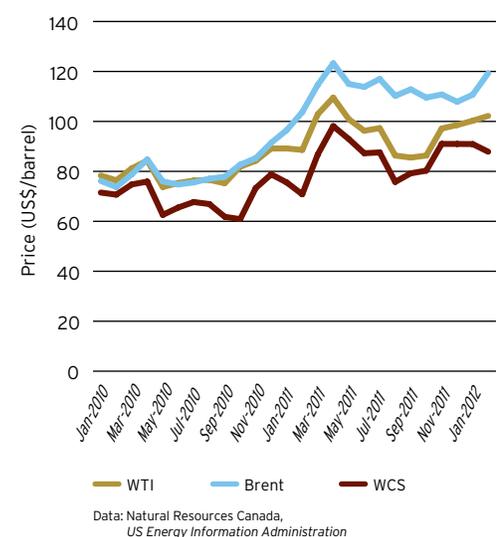


FIGURE 2
Brent, WTI and WCS Crude Oil Prices



1 Government of Canada, Natural Resources Canada

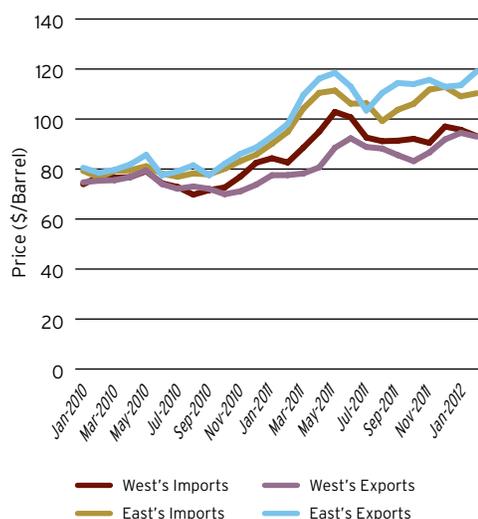
pipeline capacity and temporary refinery shutdowns have played a major role in this imbalance, as has the decrease in U.S. demand, which declined 1.6 percent² in 2011.

As the oil market is a global one, Canada has very little influence on price. Almost all crude oil exports are to the United States and exports from the West are generally sold at WCS prices. Diversifying our trading partners could allow Canada to be less dependent on the U.S. market and make the most of the growing demand from emerging countries, particularly China. That is also why projects like the Northern Gateway Pipeline, which notably help increase transportation capacity, could benefit Canada's oil industry.

Imports, which come mainly from Europe and the Middle East, are generally purchased at Brent prices. Although this higher import price increases production costs for companies that use oil as a production input and increases the price of consumer goods, these negative effects are normally compensated with increased revenues for domestic oil producers. Consequently, Canada has a certain immunity to increases in oil prices.

This was not the case in 2011: the increased import price was not counterbalanced by an equivalent increase in export price. Although exports from the East were generally sold at Brent prices, this gap was not enough to reverse the negative impact of exports from the West, which were sold at WCS prices.³ This phenomenon helped reduce the crude

FIGURE 3
Canadian Crude Oil Export and Import Market



Data: Office of the Chief Economist, DFAIT

oil trade balance and decreased Canada's terms of trade in the energy sector. According to the April 2012 *Monetary Policy Report*, this situation also played a role in reducing the real income of Canadians.

To quantify the impact of this gap, we can estimate what the trade balance would be if the price of Brent were the import and export reference price. The trade balance is calculated using monthly data from the January 2010 to December 2011 period.⁴ After taking into account the difference in oil processing costs for exports from the West—subtracting the average historical difference between WCS and WTI for the period between January 1998 and October 2007, which was estimated at \$8.49—we see that the monthly trade balance for crude oil would have been, on average, \$891 million higher throughout 2011.⁵ By comparing it to the

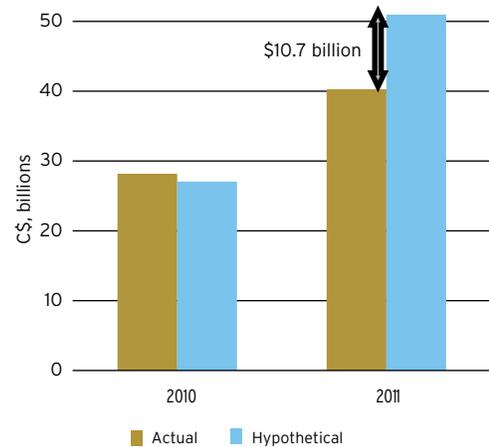
2 Scotiabank, Global Economic Research, *Scotiabank's Commodity Price Index Declines in March*, April 2012

3 The West includes Alberta, Manitoba, Saskatchewan and British Columbia, and the East includes Ontario, Quebec, New Brunswick, Newfoundland and Labrador, and Prince Edward Island.

4 Office of the Chief Economist, DFAIT

actual balance, which was \$40.27 billion for 2011, we can conclude that the hypothetical loss of export revenue associated with the increasing gaps between Brent, WTI and WCS was \$10.7 billion,⁶ that is, the sum of the gaps between the hypothetical and real trade balances (Figure 4). For a better understanding of the relative size of the cost of this loss, note that this represents 0.6 percent of the nominal GDP. If this phenomenon is maintained, it will continue to decrease Canada's trade balance and play a role in slowing national income growth.

FIGURE 4
Crude Oil Trade Balance



Data: Natural Resources Canada, Office of the Chief Economist, DFAIT, US Energy Information Administration and the Bank of Canada

- 5 The hypothetical trade balance was calculated by assessing the value of imports and exports from the East at the Brent price. For exports from the West, the price used in this exercise corresponded to the Brent price adjusted downward to take into account the difference in processing costs, which is \$8.49.
- 6 Two more hypothetical scenarios were prepared to estimate the loss of export revenue. The first assessed the value of imports at the Brent price, but removed the exporter region for exports, using the adjusted Brent price to take processing costs into account for the East and the West. According to that scenario, the loss is estimated at \$10.2 billion for 2011. In the second scenario, exports from the East and the West were also assessed at the adjusted Brent price to take processing costs into account, but the actual import prices were kept (not the Brent price). According to this second scenario, the loss is estimated at \$11.8 billion for 2011.

Overview of Canada's Trade Performance

In 2011, Canada's trade in goods and services went through a second consecutive year of strong recovery after the 22-percent loss in 2009 during the global recession. Both exports and imports continued to regain lost ground: exports reached 95 percent of their pre-recession value, while imports reached their highest value on record. Both exports and imports expanded in most sectors. Commercial activity in some sectors exceeded its pre-recession peaks and recorded highest-ever levels. Overall terms of trade continued to improve in 2011, but they are still below the 2007 levels.

Export growth was led by energy products and industrial goods, with strong price recovery behind the improvements, but also some increases in volumes exported. Machinery exports have stopped declining in 2011 and produced a volume-driven improvement, while export volumes for the troubled automotive and forestry sectors improved for the second consecutive year.

Imports reached new highs in 2011, driven by the stronger domestic economy relative to its global peers in the EU, Japan and the United States. Greater import volumes drove the increases in nearly every sector, except for the energy sector, which was buoyed by prices, and the forestry sector. Increased consumer and business confidence and investment in inventories contributed to the rally.

Total growth in exports exceeded the growth in imports, thereby reducing the 2010 trade deficit level by over a quarter. Growth

in exports of goods was particularly strong, driving Canada back into trade surplus territory for goods after two years of deficits. The deficit in exports of services widened somewhat, offsetting the goods improvement to a degree. Increased deficits in current transfers and especially in investment income mitigated the improvement coming from the trade balance side. As a net result Canada's current account deficit decreased only slightly, from \$50.9 billion to \$48.3 billion.

Goods and Services

Overall, Canada's international trade continued its progress up the recovery path, growing by 10.6 percent last year. Canada's total exports of goods and services increased by 11.8 percent in 2011. This amounted to an increase in exports of \$56.3 billion to \$532.4 billion (Table 4-1). Imports of goods and services also rebounded significantly at 9.4 percent, or \$47.8 billion, to reach \$555.6 billion—their highest-ever recorded value. As a result of these movements, the trade deficit narrowed by \$8.6 billion (a 26.9-percent reduction), from \$31.8 billion in 2010 to \$23.2 billion in 2011. This was the third consecutive trade deficit in Canada after 15 years of surplus. Canada's deficit originated in the 2009 meltdown in world trade; the improved trade balance in 2011 represented the first improvement since that event.

Exports and imports of goods and services advanced robustly to all the major market areas in 2011, with the notable exception of imports from Japan (Figures 4-1 and 4-2).

TABLE 4-1

Canada Goods and Services Trade by Region, 2011
(\$ millions and annual % change)

	Exports of Goods and Services			Imports of Goods and Services			G&S Balance 2011
	2011	2011 share	% growth over 2010	2011	2011 share	% growth over 2010	
World	532,393	100.0%	11.8	555,594	100.0%	9.4	-23,201
U.S.	370,255	69.5%	10.5	337,772	60.8%	7.6	32,483
EU	55,334	10.4%	12.6	61,095	11.0%	10.6	-5,761
Japan	12,612	2.4%	15.3	10,816	1.9%	-5.9	1,796
ROW	94,192	17.7%	16.4	145,911	26.3%	14.7	-51,719
	Exports of Goods			Imports of Goods			Goods Balance 2011
	2011	2011 share	% growth over 2010	2011	2011 share	% growth over 2010	
World	457,548	100.0%	13.0	456,129	100.0%	10.2	1,419
U.S.	330,672	72.3%	11.5	281,106	61.6%	8.1	49,566
EU	42,398	9.3%	16.3	45,778	10.0%	13.5	-3,380
Japan	11,356	2.5%	16.9	9,298	2.0%	-7.6	2,058
ROW	73,122	16.0%	18.0	119,947	26.3%	15.9	-46,825
	Exports of Services			Imports of Services			Services Balance 2011
	2011	2011 share	% growth over 2010	2011	2011 share	% growth over 2010	
World	74,845	100.0%	5.0	99,465	100.0%	5.8	-24,620
U.S.	39,584	52.9%	2.9	56,666	57.0%	5.1	-17,082
EU	12,937	17.3%	2.2	15,318	15.4%	2.9	-2,381
Japan	1,255	1.7%	2.9	1,518	1.5%	6.0	-263
ROW	21,069	28.2%	11.4	25,963	26.1%	9.2	-4,894

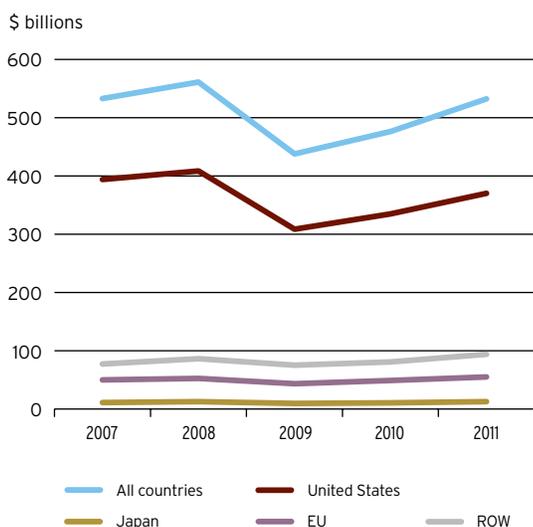
ROW = Rest of World

Source: Statistics Canada, CANSIM Table 376-0001

The natural disasters in Japan that devastated the Japanese economy in 2011 were behind the decline in imports from that country. The dominating share of the United States in Canada's overall trade declined somewhat, from 66.0 percent in 2010 to 65.1 percent in 2011, continuing a downward trend that dates back to 2000, when the U.S. share stood at 76 percent.

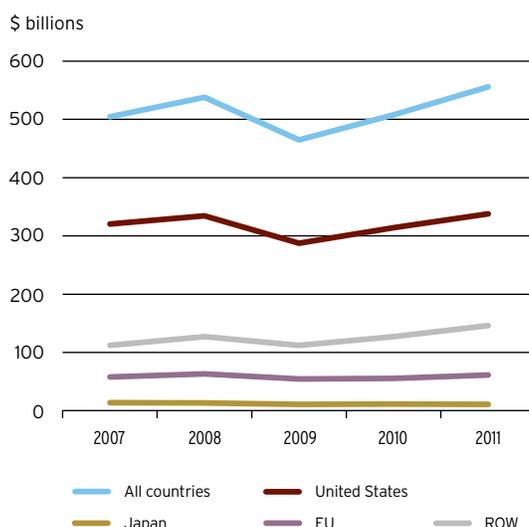
While there were gains to all destinations in exports of goods and services, exports to the United States grew the least at 10.5 percent, but contributed the most to the increase with \$35.1 billion in gains. This was due to the sheer volume of exports to Canada's No. 1 trading partner, which now stand at \$370.3 billion, or 69.5 percent of Canada's total exports of goods and services. This was

FIGURE 4-1
Canada's Exports of Goods and Services
by Major Area, 2007-2011



down from 70.4 percent in 2010. Exports to other major areas grew faster than the average: by 12.6 percent to the EU, by 15.3 percent to Japan and by 16.4 percent to the rest of the world (ROW), which includes all of the OECD countries (with the exception of the United States, the EU and Japan) and all of the non-OECD countries together. As a consequence, shares of all these other export destinations grew at the expense of the United States. Exports to the EU went up \$6.2 billion last year to reach \$55.3 billion, notwithstanding the Euro zone's financial and fiscal difficulties. Likewise, despite the challenging conditions in the Japanese economy, exports of goods and services to Japan advanced by \$1.7 billion and stood at \$12.6 billion for the year. Exports to the ROW grew the fastest, which raised the ROW share of Canadian exports of goods and services from 17.0 percent in 2010 to 17.7 percent in 2011. That translated into an increase of \$13.3 billion in exports to these countries, which reached \$94.2 billion last year.

FIGURE 4-2
Canada's Imports of Goods and Services
by Major Area, 2007-2011



Imports of goods and services from all the major areas grew more slowly than exports to them. In 2011, Canada imported 7.6 percent more goods and services from the United States, or \$23.9 billion, than the previous year. This growth was slower than average and reduced the market share of the United States in the import mix to 60.8 percent (amounting to \$337.8 billion), down from 61.8 percent a year earlier. Unlike on the export side, imports from Japan contracted—by \$683 million, or 5.9 percent. That led to a reduction in Japan's import share from 2.3 percent in 2010 to 1.9 percent in 2011. The import shares dropped by these two major economies were picked up almost exclusively by the ROW destinations, which expanded their combined share to 26.3 percent in 2011, up from 25.1 percent in 2010 and 24.1 percent in 2009. The value of imports of goods and services from the ROW into Canada grew by \$18.7 billion last year, up 14.7 percent, to reach \$145.9 billion. Import growth from the EU stood at 10.6 percent, with its share

expanding slightly to 11.0 percent. The value of imports from the EU increased by \$5.9 billion, ending the year at \$61.1 billion.

The narrowing of the trade deficit by \$8.6 billion was primarily due to the increasing surplus with the United States. Faster growth of exports over imports translated into an \$11.2-billion improvement in trade balance with the United States, for a surplus of \$32.5 billion. The trade balance with the EU changed little in 2011, showing a small

improvement of \$0.3 billion, while the trade balance with Japan improved significantly—from a deficit of \$0.6 billion to a surplus of \$1.8 billion. These improvements were partly offset by the worsening trade deficit with the ROW, which increased by \$5.4 billion in 2011 and stood at \$51.7 billion at the end of the year. Overall, last year marked the first improvement to the overall trade balance since the 2009 crisis, shaving over a quarter off Canada's atypical trade deficit.

Trade, Output and Jobs in Canada

The ratio of exports to gross domestic product (GDP) is often used to gauge economic health, the rationale being that exports creates jobs and increases income by expanding the market for domestically produced goods and services. In this regard, the economic environment of the 1990s was quite favourable for Canadian exporters: the share of exports in GDP grew substantially over the 1990s, peaking at 45.6 percent in 2000, up from only 25.1 percent in 1991, and then declining to 31 percent in 2011.

However, comparing exports to GDP is misleading because GDP is a measure of the value-added content of output whereas exports are the equivalent of gross sales, regardless of where the intermediate inputs were produced. In order to assess the domestic content of exports, the import content of the exports should be removed.

Statistics Canada has produced a number of studies that use Input-Output (I/O) tables to show the extent to which imports and employment are embodied in exports. The I/O tables provide a com-

prehensive accounting of the purchases made by all industries in producing their products. By subtracting purchases from other industries from gross production, the value added and imports by industry can be derived. This then can be used to estimate the import intensity of an industry and to remove the import content of production.

These studies have shown that as the share of exports in GDP climbed over the 1990s, Canadian firms also increasingly used imports to produce exports (Cameron [1999], Ghanem and Cross [2003]): the overall import content of Canada's exports peaked at roughly one-third in 1999 (Ghanem and Cross [2003]) before falling to 27.1 percent in 2003 (Ghanem and Cross [2008]). Removing the import content of exports, the share of value-added exports in GDP has declined, from 31.4 percent in 2000 to 27.9 percent in 2004 (Ghanem and Cross [2008]). However, these Statistics Canada studies have been largely silent on the number of jobs embodied in exports, with one exception:

the 1999 study by Cameron that reported 21 percent of all jobs were directly or indirectly derived from exports.

The following section re-visits the import and job embodiment of exports using the 2008 Statistics Canada I/O tables—the most recent year available.

Imports and employment embodied in exports in 2008

In 2008, exports accounted for 35.4 percent of GDP. However, when the import content (26.3 percent) is removed from gross exports, the share of value-added exports in GDP slips to 26.1 percent. Table 1 shows that, on average 10.1 percent of all jobs were directly related to exports, and generated an additional 0.9 jobs indirectly (through supplying inputs needed to produce the exported

good—such as steel for making cars) for each direct job created.¹ This means that for the economy overall, 19.3 percent of all jobs were directly or indirectly related to exports, or one in five jobs.

The six major sub-sectors of the economy display considerable variation in their export orientation, or share of exports in sectoral GDP. As expected, construction activities are almost exclusively focused on the domestic market, while Canadian manufacturers, always searching for new offshore markets, have the greatest degree of export orientation, at 164 percent. While it may seem odd for a sector to register a degree of export orientation in excess of 100 percent (given that exports are only one part of total production), this is explained by the fact that the I/O tables report exports

TABLE 1

Employment and Import Content Embodied in Exports, 2008

Sector	Exports as a share of GDP (%)	Import content of exports (%)	Value-added exports as a share of GDP (%)	Percentage of industry jobs directly related to exports (%)	Export employment multiplier #	Percentage of all jobs in the sector related to exports (%)
Total Economy	35.4	26.3	26.1	10.1	1.9	19.3
Agriculture, forestry, fishing, & hunting	65.4	18.8	53.1	23.0	1.9	43.6
Mining and oil & gas extraction	76.5	7.8	70.5	32.5	3.7	118.6
Utilities	10.9	10.4	9.8	7.6	1.8	13.5
Construction	0.2	14.2	0.1	0.0	1.6	0.1
Manufacturing	164.4	40.1	98.5	43.0	2.2	93.1
Services	10.8	11.9	9.5	6.0	1.5	9.2

Source: Statistics Canada I/O division and author's calculations

¹ In other words, total exports have an overall employment multiplier of 1.9, which means that each job directly associated with exports is associated with 1.9 jobs in the economy (i.e., 1 direct job plus 0.9 indirect jobs). Cross and Ghanem (2006) suggest that such multipliers show the linkages between a change in a factor in one industry and its ripple effect on others.

by sector and express these on a gross value basis, whereas GDP represents the value added in the sector. Thus, a sector such as manufacturing gets credited for the full export value but may contribute only a small portion of the value added to the final products that are exported. In addition, increased fragmentation of the production process has resulted in trade flows outpacing production, as intermediate products may be traded across the border several times before the product is finalized. The net result is likely the inflation of export flows on a gross basis (due to multiple counting) relative to the value being added at each stage of production.

The import content of exports in most sectors is approximately 10 percent, with minor variations. The exceptions are agriculture, forestry, fishing, and hunting, at just under 19 percent, and manufacturing, at just over 40 percent.

As expected, given the heavy weighting of goods in Canada's overall exports, the goods sectors held the greatest share of industry jobs related to exports. Manufacturing led the way at 43 percent of all jobs directly related to exports in 2008. Mining and oil and gas extraction were next at about one-third of jobs, followed by agriculture, forestry, fishing, and hunting.

Table 1 shows that the export employment multiplier is greatest for mining and oil and gas exploration, at 3.7. When combined with the impact of direct employment (32.5 percent), exports of minerals, and oil and gas generate

employment in the economy equivalent to 118.6 percent (or more than all) of the jobs in this sector. Similarly, with more than 40 percent of all manufacturing jobs directly dependent on exports, and a total employment multiplier of 2.2, exports in manufacturing generate the equivalent of 93 percent of all manufacturing jobs across the economy. At the other end of the spectrum, for each job generated by services exports, an additional half-of-a-job is created elsewhere in the economy. Overall, exports of services generate only 6 percent of all services jobs directly and the equivalent of 9 percent of all services jobs across the economy in total.

Do exporting industries pay more?

One of the supporting arguments for open trade is that exporting firms pay their employees higher wages than non-exporting firms. The data do not subdivide industries between exporters and non-exporters, but they do allow for a division according to the export intensity of a specific industry (or share of exports in industry-level GDP) and a comparison of that intensity against the average hourly compensation that workers receive in that industry. While most sectors export to some degree, the analysis focuses on the goods-producing sectors, reflecting the fact that goods constitute the bulk of Canada's exports, and the manufacturing sector has been broken down into 20 major subsectors.³

2 A recent study by Breau and Brown (2011) finds that exports pay a 6-percent wage premium after controlling for manufacturing plant and worker characteristics.

3 In addition, utilities, construction and support services to the extraction and forestry sectors have been removed from the analysis.

TABLE 2
Export Intensity and Compensation in
Goods-Producing Sectors⁴

Export intensity	Exports as a share of GDP (%)	Total hourly compensation (\$)
High	292.2	39.99
Moderate	148.9	30.45
Light	76.2	25.96

Source: Statistics Canada I/O division and author's calculations

Correlation between hourly compensation and export share of GDP - manufacturing	0.68
Correlation between hourly compensation and average exports per employee - manufacturing	0.80

Table 2 shows that, in aggregate, the higher the export share in GDP, the higher the total hourly compensation. Broadly speaking, the most export-intensive goods sectors pay wages⁵ that are, on average, more than 50 percent higher than the least export-intensive sectors. When wages and

export intensity are correlated on a sector-by-sector basis across the 20 manufacturing subsectors, the relation holds up, with a correlation coefficient of 0.68. When wages are correlated with the exports per employee, the correlation jumps to 0.8, implying that wages rise as exports per employee increase.⁶

Bibliography

Breau, Sébastien and W. Mark Brown (2011), "Global Links: Exporting, Foreign Direct Investment, and Wages: Evidence from the Canadian Manufacturing Sector," *The Canadian Economy in Transition Series*, Statistics Canada Catalogue no. 11-622 – No. 021, August.

Cameron, Grant (1999), "Exports, GDP and Jobs," *Perspectives*, Statistics Canada Catalogue no. 75-001, Winter 1999: 39-41.

Cross, Philip and Ziad Ghanem (2006), "Multipliers and Outsourcing: How industries interact with each other and affect GDP," *Canadian Economic Observer*, Statistics Canada Catalogue no. 11-010, January 2006: 3.1-3.18.

Ghanem, Ziad and Philip Cross (2003), "The Import Intensity of Provincial Exports," *Canadian Economic Observer*, Statistics Canada Catalogue no. 11-010, June 2003: 3.1-3.6.

Ghanem, Ziad and Philip Cross (2008), "Tracking value-added trade: Examining global inputs to exports," *Canadian Economic Observer*, Statistics Canada Catalogue no. 11-010, February 2008: 3.1-3.12.

4 Sectors that are classified with high export intensity include transportation equipment, petroleum and coal product manufacturing, primary metals manufacturing, and chemicals. These sectors exhibit a degree of export intensity greater than 200 percent of sectoral GDP. Sectors with moderate export intensity include paper manufacturing, computer and electronic products, electrical equipment and appliances, machinery, leather products, textiles, clothing, plastics and rubber, miscellaneous manufacturing, and wood products. These sectors exhibit a degree of export intensity between 100 percent and 200 percent. Finally, those sectors classified as having light export intensity exhibit a degree of export intensity that is less than 100 percent of sectoral GDP. These sectors include furniture, fishing, hunting and trapping, food manufacturing, mining, oil and gas extraction, crop and animal production, fabricated metals, non-metallic minerals, printing products, beverages and tobacco, and forestry and logging.

5 More correctly, this is hourly compensation, but hereafter we will refer to this compensation as wages.

6 This is a simple correlation and as such does not imply causation. The economic literature suggests that other factors such as plant size, capital intensity, foreign control and multi-unit firm status are positively associated with higher wages. See Breau and Brown (2011) for a further elaboration on possible causes of such wage premiums.

Goods Trade

While services dominate the GDPs of modern economies, including that of Canada, the lion's share of Canada's exports still comes from goods and will do so for years to come. Goods accounted for 85.9 percent of total exports in 2011, up from 85.0 percent the year before. Goods shipments are much more sensitive to economic ups and downs than services, both in terms of volumes and prices, and therefore tend to move more, both during recessions and during recoveries, thus also causing larger movements in total trade than in GDP. It is not surprising then, as Canada's trade recovery continues, that the dominant part in it is played by goods. Total exports of goods rose 13.0 percent last year, or \$52.7 billion, to reach the value of \$457.5 billion. This increase accounted for 93.6 percent of the total growth in exports. Overall trade increased by \$104.1 billion, with goods responsible for 91.3 percent of that increase. Total goods trade came within 2 percent of the 2008 record level. In 2011, Canada recorded its first goods trade surplus since 2008.

Out of the total \$52.7-billion increase in goods exports, \$34.0 billion (64.5 percent) was accounted for by exports to the **United States**, an increase of 11.5 percent for the year. In the meantime, imports from the United States accounted for exactly one half of the total growth in goods imports, which amounted to \$42.3 billion in 2011. As imports from the United States grew by only 8.1 percent, the goods trade surplus with Canada's biggest trading partner widened by \$12.8 billion to reach \$49.6 billion last year.

Over a fifth of the growth in goods exports (21.1 percent) was accounted for by the **rest of the world (ROW)** destinations.

Exports grew significantly, by 18.0 percent, gaining \$11.1 billion in 2011 to reach \$73.1 billion. Imports of goods grew almost as fast at 15.9 percent, but gained \$16.5 billion due to higher volumes of trade to reach \$119.9 billion by the end of the year. These movements further widened the trade deficit in goods between Canada and the ROW by \$5.3 billion to reach \$46.8 billion.

Canada's exports of goods to the **EU** grew 16.3 percent last year, gaining \$5.9 billion to total \$42.4 billion. Imports grew a little more slowly at 13.5 percent (or \$5.4 billion) to reach \$45.8 billion, or 10.0 percent of all Canada's goods imports. The resulting effect was to shrink Canada's goods trade deficit with the EU by \$0.5 billion, from \$3.9 billion in 2010 to \$3.4 billion last year.

Goods exports to **Japan** grew solidly at 16.9 percent in 2011, adding \$1.6 billion and ending up at \$11.4 billion for the year. Meanwhile, imports from Japan retreated 7.6 percent, losing \$0.8 billion in value. Goods imports from Japan stood at \$9.3 billion for the year 2011. Consequently, the goods trade balance with Japan improved by \$2.4 billion, from a deficit of \$0.4 billion in 2010, to reach a surplus of \$2.1 billion.

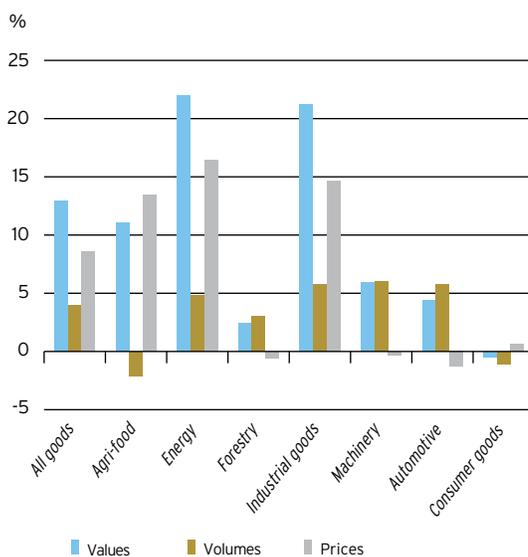
Sectoral Performance of Goods Trade

The recovery in the goods trade gathered speed in 2011, with exports in some key sectors exceeding their pre-recession levels. Advances were made in six out of seven major sectors. Most of the double-digit (13.0 percent) increase in goods trade was explained by rising prices, which grew by 8.6 percent overall. Volumes of exports grew only 4.0 percent by comparison. More than three quarters of the overall growth came from increases in exports of energy products

and industrial goods and materials. These sectors accounted for nearly one half of Canada's overall goods exports in 2011.

Industrial goods and materials were the largest export sector for the second year running, growing 21.2 percent in 2011, almost as fast as in the previous year. This added \$20.4 billion to the value of exports and propelled exports in this sector to \$117.0 billion, above their record pre-recession level. The importance of this sector continued to grow, as it now accounts for 25.5 percent of total Canada's goods exports. Rising prices for the products in this sector were responsible for over two thirds of the growth. Metals and alloys led the advance, gaining \$8.2 billion, or 22.7 percent, to hit \$44.3 billion. This category in turn was driven by the sub-category of precious stones and metals, which accounted for \$6.4 billion—over three quarters—of the growth in metals and alloys. The general rise in the price of gold and of silver was behind the 28.6-percent price increase in this category, and, combined with the 13.0-percent increase in volumes, yielded a substantial 45.3-percent increase in the value of exports. Among metals and alloys, this growth was only exceeded by the growth in nickel exports at 50.2 percent. Notably, that increase was driven by higher volumes (up 42.8 percent) rather than prices (up 5.1 percent). Metal ores was the fastest-growing sub-category, at 34.4 percent, and accounted for \$4.5 billion of the overall increase in exports in 2011. Exports of copper ores and iron ores led the way, with growth of 51.4 percent (\$1.3 billion) and 33.1 percent (\$1.5 billion), respectively, with the former driven by increased volumes and the latter by higher prices. The 18.8-percent growth in chemicals (up \$5.7 billion) was caused by rising prices for organic and inorganic chemicals, higher

FIGURE 4-3
Growth in Canada's Goods Exports
by Major Groups, 2011



volumes for exported plastic and synthetic rubber, and a mix of both for fertilizers. The only significant items that experienced declines were asbestos (down 45.3 percent) and primary iron and steel (down 23.4 percent), both due to lower volumes.

Export gains in **energy products**, the second-biggest sector, were the largest of all sectors at \$21.1 billion, up 23.2 percent, to reach \$112.1 billion in total exports in 2011. Price increases were the major factor behind this gain. Fully 85.6 percent of the increase was due to the growth in exports of crude oil, which went up 36.3 percent as price increases of 18.5 percent combined with the 13.1-percent growth in volumes. Coal prices grew over 40 percent, electricity prices fell 10 percent, while prices for petroleum and coal products grew more or less in line with the rising price of crude oil (up about 20 percent). Consequently, electricity exports remained practically unchanged for the year as higher volumes mitigated the 10-percent fall in prices. Coal exports increased \$2.0 billion

(38.4 percent) and exports of petroleum and coal products gained \$3.2 billion (17.9 percent). Natural gas prices went down 11.6 percent, driving the \$2.2-billion (14.3 percent) decline in the value of natural gas exports.

Machinery and equipment exports finally arrested their three-year decline and posted a gain of \$4.5 billion, or 5.9 percent, to reach \$80.6 billion in 2011. This was still about 14 percent off the high mark for this sector in 2007. All categories contributed to the increase, with volumes driving the increase as prices in the sector remained unchanged, except for the 10-percent drop in the prices of office machines and equipment exports. Industrial and agricultural machinery exports, which accounted for about a quarter of all exports in this sector, grew the fastest (up 11.9 percent) and added \$2.1 billion to the export gain. Aircraft and other transportation equipment, which accounted for another quarter of the exports, grew modestly at 3.3 percent, adding \$0.6 billion in value. The rest of this category, other machinery and equipment, grew 4.4 percent on the strength of the increase in other equipment, tools and end products, while the increases in the volume of exports of office machines and equipment made up for the drop in their prices.

Automotive products exports, which were in decline from 2004 to 2009, experienced a second straight year of recovery, albeit with a smaller gain than in 2010, as the U.S. auto consumer market continued to show considerable weakness. The 4.4-percent gain amounted to a \$2.5-billion increase in value and brought the total to \$59.3 billion, a third below the record 2004 level. Although exports of trucks and other motor vehicles gained a considerable 27.7 percent, this only amounted to \$0.6 billion as this category has shrunk during the past decade. Exports of motor vehicle parts grew 3.3 percent and

added \$0.5 billion to the total growth. Passenger autos, the bulk of the category, overcame the 1.8-percent decline in prices and posted a 3.5-percent overall gain, adding \$1.3 billion.

Agricultural and fishing products was the other major sector whose exports exceeded its pre-recession level, gaining 11.1 percent, or \$4.1 billion, and thereby reversing the declines of the past two years. Export values ended the year at \$41.0 billion, with volumes weakening 2.1 percent while prices increased 13.5 percent. Leading the price increases were wheat, at 40.9 percent, barley, at 31.3 percent, other cereals, at 28.5 percent, and canola at 23.5 percent. Consequently, wheat exports added \$1.3 billion, canola exports added \$1.2 billion, and the rest of the gains were widely distributed. Live animals was the only item whose exports declined, losing \$0.2 billion in exports through a 29.1-percent decline in volumes despite a 20.3-percent price increase.

The ups and downs of the **forestry products** sector mirrored those in the automotive products sector. Strong growth in 2010 interrupted five years of declines followed by modest growth in 2011. Forestry products exports went up 2.4 percent last year, or \$0.5 billion, reaching \$22.4 billion. A 3.0-percent growth in volumes offset a 0.6-percent weakening in prices. Lumber gained 6.9 percent (\$0.3 billion) and other crude wood products gained 35.3 percent (\$0.2 billion), helped by a 10-percent jump in prices.

Other consumer goods was the only major sector to experience a decline in export values, although at 0.5 percent it was only marginal, amounting to a mere \$75 million. Nevertheless, 2011 was the fourth year of decline for this sector which includes furniture, sporting equipment and apparel. Volumes fell 1.1 percent while prices inched up 0.6 percent.

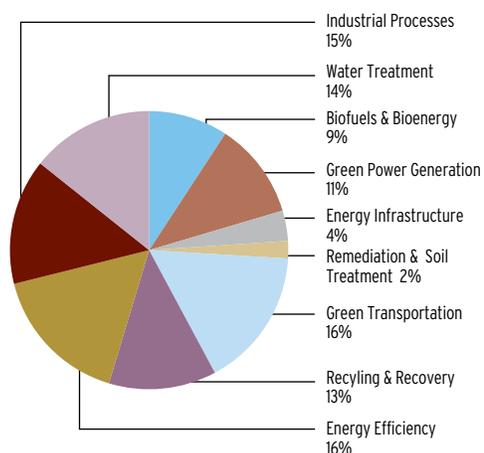
A Profile of Canada's Clean Technology Companies—Playing to Their Niches

The Canadian clean technology sector is often identified as holding great promise. Some of the key characteristics of the sector are that despite its relatively small size in the global context, it is export intensive and, in particular, relies on non-U.S. export destinations for a large share of its revenues. The sector is also R&D intensive, along the lines of the Canadian aerospace industry. These factors suggest that Canada possesses strength in key niches on which future growth could be based.

The clean technology sector incorporates industries that A) produce traditional goods or services, but with a significantly reduced environmental footprint than more traditional production methods; B) produce goods or services that reduce the use of water and/or energy of other sectors or industries; and C) remediate a negative environment impact that has already occurred. A key aspect of the definition of a clean technology company is that it must possess a proprietary technology that distinguishes it from its more traditional counterparts.¹

Given the relatively new nature of the sector and that it spans a number of existing industries, it is not covered well by existing definitions at either the product or industry level. To circumvent this problem, this report makes use of data from the *2011 Canadian Clean Technology Industry Report*.

Canadian Clean Technology Revenues by Industry

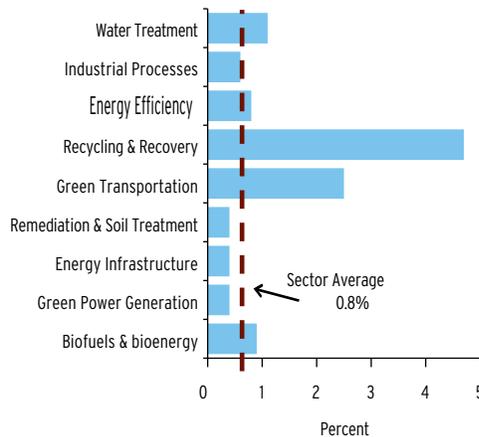


Clean technology firms are generally small or medium-sized. Although the sector employs 44,000 Canadians, the average number of employees per firm is estimated to be only 64. In 2010, Canadian clean technology companies generated \$9.0 billion in revenues and the sector is estimated to have grown at a compound annual average rate of 19 percent since 2008—all the more impressive given that the global recession occurred during that period. The sector's revenue is fairly equally distributed between industries other than Energy Infrastructure and Remediation & Soil Treatment, which are relatively small.

The Canadian clean technology sector is relatively small on the global scale, representing only 0.8 percent of the estimated \$1.1-trillion global market for clean

¹ Unlike some definitions used for this sector, clean technology does not include upstream or downstream inputs or support services such as financing.

Canadian Share of Global Market



technology.² It is notable that this is well below both Canada's share of global trade (at about 2.6 percent in 2010) and Canada's share of the global economy (about 2 percent). Canada is a relatively small player in most industries as well with the majority falling below the simple benchmark, i.e. Canada's 2-percent share of global GDP. Recycling & Recovery as well as Green Transportation stand out as the only two industries exceeding this benchmark by a notable margin, potentially indicating strength in both. However, as is shown later, Recycling & Recovery remains largely a domestically oriented industry.

Given the relatively small size of the Canadian market, to achieve a reasonable scale Canadian clean technology companies must, almost from conception, seek global markets. It is for this reason that these companies tend to be, on average,

relatively export intensive. In 2010, 80 percent of clean technology firms exported, with 53 percent of total revenues, on average, being generated from outside of Canada.

It is no surprise that the United States is the prominent market, accounting for nearly one third of industry revenues and 57 percent of export earnings. Somewhat more surprising is that 23 percent of industry revenues and 43 percent of export earnings are from non-U.S. foreign markets, a share that is notably higher than for most Canadian manufacturing industries. Fully 55 percent of clean technology exporters exported to non-U.S. markets in 2010. Europe was by far the largest foreign market outside of the United States, accounting for 11 percent of revenues and almost half of export earnings from non-U.S. destinations.

A review of export shares of revenues for individual industries shows that Industrial Processes and Energy Infrastructure stand out as being particularly export intensive. These are followed by Green Transportation which, as previously noted, is one of the subsectors where Canada also holds an above-average share of world markets.

It is indeed notable that nearly all industries rely heavily on foreign markets for a large share of their revenues, and non-U.S. foreign markets at that. As of 2010, four of the nine industries relied on international markets for more than fifty

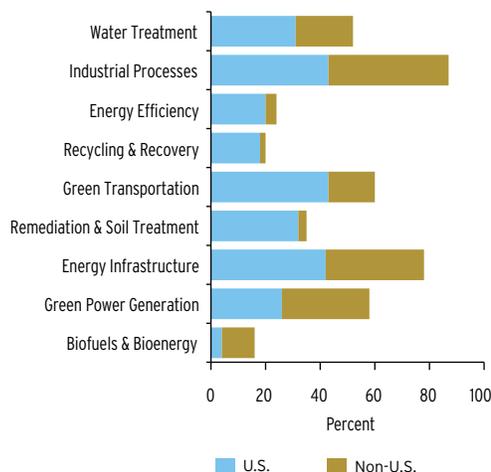
² This is according to the 2011 *Canadian Clean Technology Industry Report*, which uses a definition of the sector that is consistent with other figures cited in this article. There are a number of alternative measures of the size of the industry based on various definitions of the sectors and methodologies.

percent of their revenues. This is likely a sign that these industries hold strong niches in their respective industries supported by proprietary technologies.

The clean technology sector is also R&D intensive. As a group, the sector invested an estimated \$985 million in R&D in 2010, or approximately 11 percent of revenues. The scale of this investment is similar to that of the Aerospace sector.

Overall, clean technology is a fast-growing sector of the Canadian economy. Although currently small by international standards, its strength lies in exploiting niches built on technological advantage and innovation. To do so, growing internationally will be a key dimension of that strategy. This in turn will allow Canadian firms to spread their costs of R&D over

Exports Share of Revenues



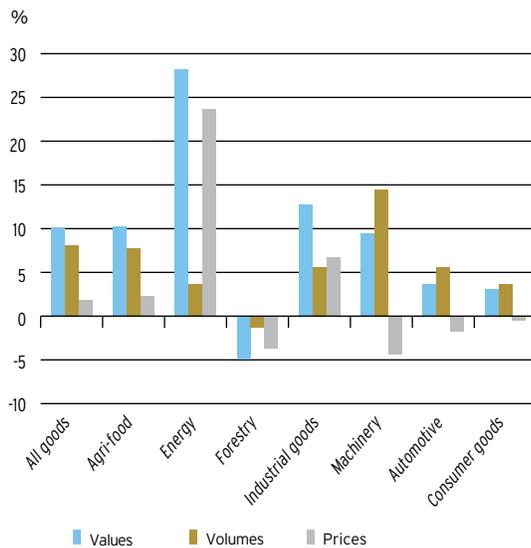
international markets, enable them to attract globally competitive levels of capital and allow them to grow to scale.

Total imports of goods grew 10.2 percent last year as the domestic economy continued on its recovery path, with most of the increase accounted for by increased volumes, which went up 8.1 percent. Imports increased by \$42.3 billion to reach \$456.1 billion in 2011, their highest recorded value. Six out of seven major sectors increased their import values last year.

Machinery and equipment was the largest import category and exceeded its pre-recession record level to reach \$124.7 billion on the strength of a 9.5-percent increase in 2011 (a gain of \$10.8 billion). Prices dropped 4.3 percent overall, but import volumes increased much faster at 14.4 percent. Over half of the increase was accounted for by industrial and agricultural machinery, where imports rose \$5.5 billion, or 18.4 percent.

That category now accounts for \$35.7 billion, or well over a quarter, of Canada's machinery and equipment imports. Last year, increases were driven by large volumes of drilling and mining equipment purchased abroad—with volumes up 76.9 percent and prices down 8.8 percent, import values grew 61.4 percent and added \$1.1 billion to the year's growth. Imports of excavating machinery also grew strongly, at 30.5 percent, as did other industrial machinery at 17.9 percent (with all gains caused by increased volumes). Other industrial machinery accounted for over half of the category of industrial and agricultural machinery, and added \$2.7 billion to its growth. Imports of other transportation equipment grew 20.1 percent on the strength of volumes, adding \$1.1 billion to imports in this sector. Prices for office machines

FIGURE 4-4
Growth in Canada's Goods Imports
by Major Groups, 2011



and equipment declined 17.2 percent, while import volumes rose 24.9 percent, leading to growth of \$0.5 billion. Other machinery and equipment, a wide-ranging category, grew more evenly this year, at 6.2 percent, due to volumes overcoming a slight drop in prices, but the sheer size of this category—nearly half of all Canadian machinery and equipment imports – occasioned a rise of \$3.5 billion in imports in 2011.

Industrial goods and materials remained the second-largest import category at \$98.0 billion, likewise reaching a record-high level. Growth was 12.7 percent on the year, adding \$11.1 billion to total goods imports, with prices and volumes contributing almost equally to the gains. Metals and metal ores was the leading category, with growth of \$6.9 billion, or 20.7 percent. The precious metals sub-category was the prime mover in this category, growing 34.2 percent (mainly on volumes) to add \$3.8 billion to the growth in metals and metal ores. The relatively small

8.7-percent increase in the prices of precious metals imported into Canada, coupled with a much greater rise in export prices (as indicated above), suggests that Canada may have imported more raw metals (e.g. gold and silver) to create added value this year and to take advantage of higher prices of the finished products manufactured from those metals. In other items, metals in ores and concentrates grew 18.6 percent, as did other steel and iron products, adding \$2.1 billion to this category's import values, driven by growth in both prices and volumes. Other categories within industrial goods and materials grew more slowly, with chemicals and plastics gaining 8.8 percent (\$2.6 billion) largely due to a 6.4-percent increase in prices. Organic chemicals volumes went down 10.4 percent, but this was compensated for by a 14.3-percent price rise. Import values of other industrial goods and materials increased \$1.6 billion (6.5 percent), mostly accounted for by metal fabricated basic products, which grew \$1.3 billion (13.5 percent), driven by higher volumes while prices remained stable.

Automotive products imports registered a second consecutive yearly increase in 2011, growing 3.7 percent and gaining \$2.6 billion to reach \$71.3 billion for the year. A price weakening of 1.8 percent was offset by volumes rising 5.6 percent. Trucks and other motor vehicles imports was the major growth category, increasing by \$1.5 billion, or 8.8 percent; volumes grew 12.9 percent, counteracting a 3.6-percent price drop. Motor vehicle parts gained 2.8 percent, increasing by \$0.8 billion, while imports of passenger cars did not change significantly.

Other consumer goods remained an important import sector, which declined only slightly during the recession, and grew

3.2 percent in 2011 (\$1.9 billion) to reach a record \$59.6 billion. Volumes accounted for most of the increase as prices moved very little in 2011. The two main contributors to import growth were apparel, with a gain of 9.2 percent, or \$0.9 billion, and miscellaneous end products, with a gain of 5.5 percent, or \$1.3 billion.

Imports of **energy products** grew significantly in 2011 (29.7 percent). That increase of \$12.0 billion propelled the total to \$52.6 billion, close to the 2008 pre-recession level. With the overall increase in prices in this sector amounting to 23.6 percent, this was primarily a price story, but with important nuances. Petroleum and coal products (refined fuels) contributed \$7.0 billion to the increase, with their tremendous 60.7-percent growth fuelled both by rising prices (up 28.2 percent) and greater volumes (up 25.3 percent). Crude petroleum imports added another \$4.5 billion to the increase, growing 18.9 percent, but the impact of a 38.0-percent price increase there was cushioned by a 15.5-percent retreat in import volumes. Meanwhile, coal prices dropped 8.9 percent, but import volumes increased 19.4 percent and thus coal imports expanded \$0.5 billion overall.

Agricultural and fishing products imports grew for the seventh consecutive year since 2004, an upward trend that carried on throughout the recession. A 10.3-percent increase last year added another \$3.0 billion to their value, for the total of \$32.6 billion. The overall effect of higher prices (up 2.3 percent) was muted, but volumes expanded 7.8 percent. Gains were widespread among the sectoral categories, with meat (up 17.7 percent), sugar (up 23.7 percent) and crude vegetable products (up 24.2 percent) standing out. Each of those categories contributed \$0.4 billion to

the sector's total increase in imports. A price rise of 21.9 percent was behind the increase in imports of crude vegetable products, but meat and sugar grew mostly on volumes. A 56.7-percent increase in the price of corn led to a 39.1-percent contraction in volumes, while cocoa, coffee and tea import volumes grew 25.4 percent as a 9.8-percent decrease in prices took place.

Forestry products sector was the only one where imports declined, losing \$130 million (down 4.9 percent). The total value of imports was down to \$2.5 billion, amounting to 0.5 percent of Canada's total goods imports, and it appears likely that most of the economy's forestry needs were met with domestic products. Import values for both crude wood products and wood fabricated materials decreased, with the former driven by volumes and the latter by prices.

Services Trade

2011 was a year of continued recovery for services trade. The 5.0-percent growth in services exports continued the 2010 trend, adding \$3.6 billion to the total to set a new record for Canadian service exports at \$74.8 billion. Imports of services also broke previous records, reaching \$99.5 billion after a 5.8-percent increase (up \$5.5 billion). As a result, Canada's services trade deficit widened by \$1.9 billion to reach \$24.6 billion in 2011. The bulk of the increase in the deficit came from a growing deficit in travel services (\$15.9 billion last year, largely in the sub-category of personal travel). Elsewhere, an increased deficit in transportation services was offset by an improvement in the commercial services trade balance. Trade in services constituted 16.0 percent of Canada's total trade in 2011.

TABLE 4-2

Canada's Services Trade by Sector, 2010 and 2011
(\$ millions and annual % change)

	Exports			Imports			Balance		
	2010	2011	% growth	2010	2011	% growth	2010	2011	\$ change
Total, all services	71,253	74,845	5.0	94,010	99,466	5.8	-22,757	-24,621	-1,864
Travel	16,198	16,759	3.5	30,463	32,661	7.2	-14,265	15,902	-1,637
Business travel	2,720	2,829	4.0	3,892	4,031	3.6	-1,172	-1,202	-30
Personal travel	13,478	13,930	3.4	26,571	28,630	7.7	-13,093	-14,700	-1,607
Transportation	12,005	13,250	10.4	21,034	23,124	9.9	-9,029	-9,874	-845
Water transport	3,078	3,550	15.3	8,913	10,359	16.2	-5,835	-6,809	-974
Air transport	5,664	6,317	11.5	9,693	10,295	6.2	-4,029	-3,978	51
Land and other transport	3,262	3,384	3.7	2,426	2,470	1.8	836	914	78
Commercial services	41,263	43,221	4.7	41,183	42,347	2.8	80	874	794
Construction services	268	289	7.8	235	427	81.7	33	-138	-171
Insurance services	4,524	4,539	0.3	6,427	6,741	4.9	-1,903	-2,202	-299
Other financial services	3,409	3,681	8.0	3,769	3,458	-8.3	-360	223	583
Computer and information services	5,041	4,982	-1.2	2,991	3,143	5.1	2,050	1,839	-211
Royalties and licence fees	3,928	3,796	-3.4	8,926	8,988	0.7	-4,998	-5,192	-194
Management services	5,250	5,730	9.1	5,212	4,990	-4.3	38	740	702
Research and development	3,900	4,445	14.0	1,156	1,227	6.1	2,744	3,218	474
Architectural, engineering, and other technical services	4,964	4,809	-3.1	2,802	3,565	27.2	2,162	1,244	-918
Other miscellaneous services to business	4,666	5,102	9.3	4,622	5,019	8.6	44	83	39
Audio-visual services	2,264	2,479	9.5	2,686	2,646	-1.5	-422	-167	255
Government services	1,788	1,616	-9.6	1,332	1,332	0.0	456	284	-172

Source: Statistics Canada, CANSIM Table 376-0035

Canada traditionally runs a services trade deficit with its major trading partners. Nominally and proportionally, the largest deficit is with the United States (\$17.1 billion, or 69.4 percent of the total), followed by the ROW at \$4.9 billion, the EU at \$2.4 billion and Japan at \$0.3 billion. The bulk of the increase in the services deficit last year could be traced to the growing deficit with the United States, which widened by \$1.6 billion in 2011. Deficits with the EU and Japan also increased slightly, while the deficit with the ROW was reduced by \$0.2 billion.

Travel and tourism services constituted 28.3 percent of Canada's total trade in services, but this sector typically drives the overall trade balance since imports of travel services (Canadians traveling abroad) traditionally exceed exports (foreigners traveling to Canada) by a wide margin. The continued and growing strength of the Canadian dollar in 2011 maintained a favorable climate for Canadians vacationing in and visiting foreign countries. Foreign travel expenditures by Canadians went up 7.2 percent, or \$2.2 billion, with the bulk of it being personal travel, while spending by foreigners traveling to Canada grew only 3.5 percent, or \$0.6 billion. Imports of travel services grew to an unprecedented \$32.7 billion, an increase of over 60 percent from 2004. The trade balance for business travel was essentially unchanged for the year, with the increase in the deficit coming almost entirely from personal travel.

Transportation services trade rebounded strongly in 2011, with imports and exports both exceeding their pre-recession record levels. Exports added \$1.2 billion, or 10.4 percent, and imports grew \$2.1 billion, or 9.9 percent. Exports of water transport services grew the fastest at 15.3 percent,

followed by air transport at 11.5 percent, with land and other transport a distant third at 3.7 percent. Imports of water transport services also expanded the most at 16.2 percent, with air transport growing 6.2 percent and land and other transport up 1.8 percent. The trade balance shifted \$0.8 billion toward deficit on the year, primarily due to stronger imports of water transportation services.

The wide array of **commercial services** produced an unusual trade surplus for Canada for the second year running. Exports gained \$2.0 billion, or 4.7 percent, while imports only expanded \$1.2 billion, or 2.8 percent. This resulted in a trade surplus of \$0.9 billion, up \$0.8 billion from the year before. Exports grew robustly in research and development services (up \$0.5 billion, or 14.0 percent), communication services (up \$0.3 billion, or 10.5 percent), and audiovisual services (up \$0.2 billion, or 9.5 percent). Substantial gains also took place in management services and other financial services. Royalties and licence fees as well as architectural and engineering services experienced declines in exports of 3.4 percent and 3.1 percent, respectively. Imports grew in construction services (up \$0.2 billion, or 81.7 percent), architectural, engineering, and other technical services (up \$0.8 billion, or 27.2 percent) and other miscellaneous services to business (up \$0.4 billion, or 8.6 percent). Conversely, imports fell in communication services (down \$0.2 billion, or 9.0 percent), other financial services (down \$0.3 billion, or 8.3 percent) and management services (down \$0.2 billion, or 4.3 percent).

Contributing most to the growth in the services trade surplus were the opposite shifts in exports and imports for management services, other financial services and

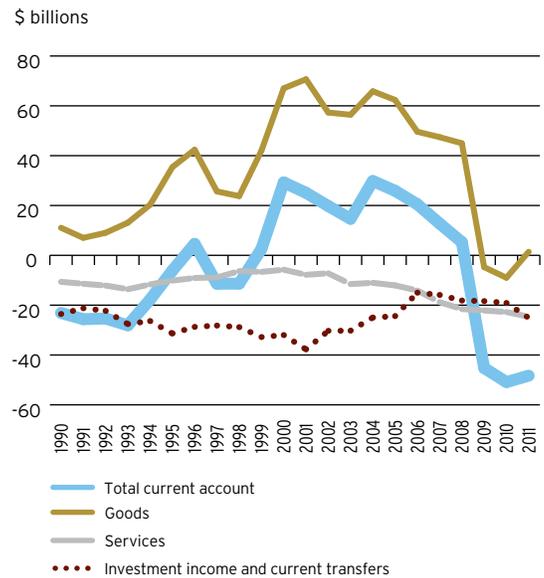
communication services. These contributed \$0.7 billion, \$0.6 billion and \$0.5 billion, respectively, to the surplus. An opposite effect was produced by an increase in imports and a drop in exports of architectural, engineering, and other technical services, resulting in a reduction of the trade surplus by \$0.8 billion in that category, thereby limiting the overall improvement in Canada's services trade balance.

The Current Account

The current account records the flow of all within-the-year transactions between Canada and its commercial partners. The goods trade is the dominant component of these transactions, with the services trade a distant second. As these two were discussed at length in this chapter, the other two components of the current account will be explained briefly in this section: investment income and current transfers. Receipts on those items can be thought of as exports and payments as imports.

Investment income flows consist of receipts and payments on direct investments, portfolio investments and other investments. This has usually been a deficit item for Canada, and 2011 was no exception. Receipts of Canadian investors grew \$4.8 billion, with direct investment receipts responsible for this increase; however, payments to foreign investors increased \$9.5 billion. This was largely due to direct investment payments, which grew \$8.8 billion; portfolio investment payments increased \$2.4 billion, while amounts paid to other investors dropped \$1.7 billion. The outcome of these movements was a \$4.6-billion increase in Canada's deficit in investment income flows. Overall, direct investment flows typically account for the greatest proportion of short-term financial

FIGURE 4-5
Components of Canada's Current Account, 1990-2011



flows in this category, and are largely evenly balanced between receipts and payments. Nearly all of Canada's deficit in investment income had its source in the portfolio investments deficit in 2011.

Current transfers are the smallest component of the current account, but the deficit associated with them widened considerably in 2011. The \$4.0-billion deficit was nearly 20 times as great as the 2003 level and twice the 2007 level. Receipts were down \$1.3 billion, with official transfers accounting for two thirds of the decline and the rest coming from private transfers. Transfer payments to foreigners did not move substantially, and therefore did not contribute significantly to the increase in the trade deficit for this item.

Taken as the sum of all of its components, Canada's **current account** deficit shrank by \$2.6 billion in 2011, as a result of a strong \$10.4-billion improvement in the goods trade balance. The deficit for every

other component of the current account widened, although not enough to overcome the strong performance of the goods trade. The services trade deficit widened by \$1.9 billion, investment income by \$4.6 billion and current transfers by \$1.3 billion. The resulting improvement was from a \$50.9-billion deficit in 2010 to a \$48.3-billion deficit in 2011, which marked the third straight current account deficit for Canada.

Key Developments in Canadian Merchandise Trade in 2011

The previous chapters have shown that Canada's economy and trade continued on their recovery path in 2011. Strong domestic demand, solid financial and fiscal fundamentals and the relative recovery in Canadian terms of trade have sustained strong growth in imports. On the other hand, the pickup in global economic activity—in particular, improving news from the U.S. economy in the second half of the year—has fuelled global demand for Canadian exports, thus further stimulating the domestic economy. The resulting double-digit growth in trade solidified Canada's continuing economic recovery from the global recession.

The present chapter takes a closer look at the developments in Canada's merchandise trade over the course of 2011. The use of Customs¹ data on merchandise trade allows us to analyze trade statistics in greater detail than in previous chapters—by destination country, commodity and province of origin. These are different from the balance of payments (BOP) data used in the previous chapter.¹

Total Canadian merchandise exports rose to \$447.8 billion in 2011, while merchandise imports increased to \$445.9 billion. Thus, after two years of deficits, Canada's merchandise trade balance is back to positive. Exports increased to every partner in Canada's top 20 export destinations. On the heels of a similar rise in 2010, this qualifies

as a sustained recovery of Canadian merchandise exports after the major downturn of 2009. Nevertheless, exports to most of Canada's OECD partners have not yet reached the pre-recessionary levels: notably to the United States, Japan, Germany, France and Italy. Meanwhile, imports of merchandise reached their highest level ever, driven mainly by increased purchases from the United States and China.

While the predominant portion of Canada's trade is conducted with very few partners, it is the exports that are particularly concentrated. The top 10 export destinations accounted for 89.7 percent of total merchandise exports (same as in 2010), while the top 20 comprised 94.4 percent. On the import side, the top 10 suppliers accounted for 79.0 percent of total Canadian merchandise imports (down from 80.6 percent in 2010), while the top 20 combined for 87.0 percent. Most of the difference between export and import concentration is due to the United States, which received \$109.2 billion more of Canada's merchandise exports than it supplied in imports in 2011. Canada's other significant merchandise trade surpluses are few: \$8.5 billion with the United Kingdom, \$2.6 billion with Hong Kong and \$2.2 billion with the Netherlands. Conversely, Canada's largest merchandise trade deficits

¹ Canadian trade statistics are provided in two basic forms: Customs basis and Balance of Payments basis. In Chapter Four, the analysis of trade with "major partners" used trade data prepared on the Balance of Payments basis. More detailed trade statistics—at the individual country levels and by detailed commodity—are available on a Customs basis only. As Chapter Five examines trade developments in detail, the data in this chapter are provided on a Customs basis. See endnote for details on Customs vs. BOP data.

are with China (\$31.3 billion), Mexico (\$19.1 billion), Germany (\$8.8 billion) and Algeria (\$5.2 billion).

There was little movement among the top 10 trading destinations for Canada. On the export side, the top five recipient countries remained the same. Germany dropped two ranks from sixth to eighth position as Korea and the Netherlands moved into the sixth and seventh positions, respectively. Brazil and Norway slipped out of the top 10 in 2011 after joining it in 2010, with France and Hong Kong replacing them in the ninth and tenth positions, respectively (see Figure 5-1). There was even more stability with regard to imports, with all of the top eight suppliers holding their positions. Algeria produced the only change, vaulting from 13th to 9th spot, pushing Italy and Taiwan down one rank each to the 10th and 11th positions, respectively (see Figure 5-2).

With regard to specific products influencing Canada's trade performance in 2011, an increasingly large role was played by crude oil which generated the largest surplus (over \$40 billion) and the largest overall change in trade balance last year (a gain of over \$12 billion). The list of other significant trade surpluses is headed by passenger cars, but is otherwise all resources - petroleum gases, coal, gold, potash, aluminum, wheat and wood pulp. It is worth noting that the role of petroleum gases, paper and non-crude oil in Canada's trade surplus fell dramatically since pre-recession times. These three commodities combined generated just over \$17 billion in trade surplus compared to a combined trade surplus of nearly \$46 billion

in 2008. On the other hand, manufactured products—including trucks, automotive parts, computers, telecom equipment and medicaments—were responsible for most of the trade deficits. Trade surplus commodities generally improved the overall balance last year while trade deficit commodities worsened it, save for the already mentioned exception of petroleum gases and non-crude oil, and that of electric generating sets.

Price and volume changes were more complex than in 2010 when resource values were recovering strongly across the board. While wheat, gold, coal and canola prices increased significantly, prices for petroleum gases and wood products actually fell. The oil price picture was more nuanced. Non-crude oil prices increased uniformly, but the average price of Canada's heavier crude oil exports priced at and below the WTI variety rates grew at only half the speed of Canada's crude oil import prices, which were priced at the Brent variety rates (see box on the divergence between WTI and Brent in 2011). This limited Canada's potential gains in the crude oil trade.

Traded volumes increased sizeably for potash, canola oil, nickel, and copper ores. Export volumes dropped for petroleum gases, but import volumes soared. Quantities of imported gold and silver also increased significantly. Crude oil exports gained in volume, while volumes of non-crude oil exports went down; the situation was reversed for import volumes.

The recovery of the automotive sector seems to have reached a plateau, with exports of passenger cars and motor vehicle

parts experiencing only a modest increase. The situation was similar in the wood and wood pulp sector. These sectors may experience further export gains if the economic recovery in the United States continues to pick up steam next year.

Coal and potash exports nearly tripled in the last five years and became considerably more important in the overall picture; this is also true for Canada's rapidly growing exports

of canola seeds and oil. Conversely, paper and newsprint so far failed to recover to pre-recession levels as the newspaper and advertising market continues to be depressed. On the import side, Canada significantly increased its reliance on imported non-crude oil (primarily from the United States) and telecom equipment (primarily from China), though these increases are primarily a matter of choice and not necessity.

Still on Top: Canada-United States Trade Relationship is the World's Largest

Canadians and Americans can together claim bragging rights for the world's largest bilateral merchandise trade relationship. No two countries in the world trade more than Canada and the United States—a claim that has held true for the past decade.

This box examines the ten largest bilateral merchandise trading relationships across the globe for the years 2002 and 2011. The data show the sum of the merchandise imports by pairs of countries. Imports are used because countries typically track goods entering their jurisdictions and assign imports according to country of origin as opposed to the country of last shipment. This approach avoids certain issues such as trans-shipments and under-reporting known to plague export statistics.

Canada-United States bilateral trade tops the list for both 2002 and 2011, indicating that these two countries share the largest trading relationship in the world

(Table 1). In 2011, the U.S.-China trade pair ranked second, the U.S.-Mexico pair ranked third, and the U.S.-Japan trade pair ranked ninth. Although the United States occupied four of the top ten spots in 2011, this was down from six spots in 2002, as the U.S.-Germany and U.S.-U.K. trade pairs fell out of the top ten.

China, which shared the second-biggest trade relationship with the United States, also partnered with four other countries for five of the top ten spots in 2011. The China-Japan pair ranked fourth, China-Korea ranked fifth, China-Hong Kong ranked seventh, and China-Germany ranked tenth. Both the China-Korea and China-Germany trade pairs were new entrants to the top ten rankings in 2011.

Germany occupied three of the top ten spots: Germany-Netherlands in sixth spot, Germany-France in eighth, and Germany-China in tenth.

TABLE 1
Top 10 Bilateral Merchandise Trade Relationships

2002		2011	
Trade Relationship	Total Trade (Billions \$)	Trade Relationship	Total Trade (Billions \$)
U.S.-Canada	\$546.8	U.S.-Canada	\$533.9
U.S.-Mexico	\$378.7	U.S.-China	\$511.8
U.S.-Japan	\$281.5	U.S.-Mexico	\$432.7
U.S.-China	\$239.4	China-Japan	\$374.3
China-Japan	\$181.1	China-South Korea	\$245.4
Germany-France	\$172.3	Germany-Netherlands	\$245.0
China-Hong Kong	\$155.6	China-Hong Kong	\$227.9
U.S.-Germany	\$144.9	Germany-France	\$225.7
Germany-Netherlands	\$141.4	U.S.-Japan	\$201.1
U.S.-U.K.	\$128.9	China-Germany	\$180.1

Japan was the final country with multiple entries in the top ten for 2011: it ranked fourth (with China) and ninth (with the United States).

Canada (first), Mexico (third), Korea (fifth), the Netherlands (sixth), and Hong Kong (eighth) all occupied one spot among the top ten in 2011.

The well-documented emergence of China as a force in world trade is also reflected in the rankings of the top ten bilateral trade relations. Comparing the number of top ten pairs involving China between 2002 and 2011, China has brought two new partnerships into the top ten—with Korea and Germany—while displacing the U.S.-Germany and the U.S.-U.K. pairs from the top ten. As of 2011, China appeared more than any other country in the top rankings, a reflection of China's growing influence as a trading powerhouse.

In terms of value of trade, the Canada-U.S. bilateral merchandise trade pair was the largest in 2002 by a very wide margin. At \$547 billion, bilateral merchandise trade between these two partners was \$168 billion above the closest contender: the \$379-billion U.S.-Mexico trade pair. Moreover, the value of Canada-U.S. trade was more than double (\$307 billion more) the \$239-billion value of U.S.-China trade. By 2011, the gap between the largest and the second-largest trade pairs had closed to \$22 billion as trade between the U.S. and China vaulted over that between the U.S. and Japan, and displaced the U.S.-Mexico trade pair as the world's second-largest trade relationship.

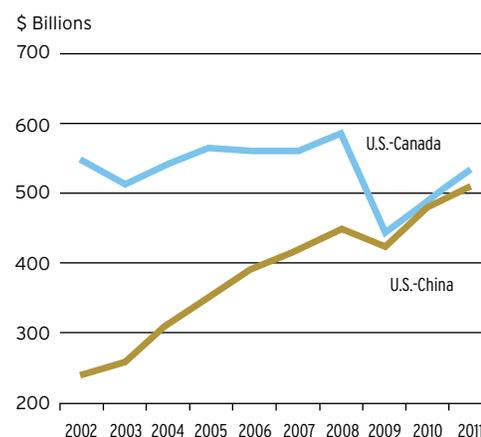
During the 2002-2011 period, U.S.-China bilateral trade grew at an average annual rate of 8.8 percent. In comparison, Canada-U.S. bilateral trade posted an

average annual rate of decline of 0.3 percent during the same period. Canada-U.S. trade was on a slight upward trajectory until 2009, when bilateral trade plunged 24.3 percent during the global economic downturn (Chart 1). Bilateral trade has rebounded somewhat in the ensuing years, but, at the end of 2011, had not yet recouped all of the losses sustained during the downturn.

In contrast, U.S.-China trade was on a faster trajectory over the early- to mid-2000s and experienced only a minor setback (down 5.4 percent) during the global recession. After this brief disruption, bilateral trade between these two countries more or less returned to trend starting in 2010; consequently, the U.S.-China trade pair may now be positioned to soon

CHART 1

Bilateral Merchandise Trade 2002-2011



supplant the U.S.-Canada pair as the world's largest bilateral merchandise trade relationship.

Trade by Top Ten Partners

Merchandise Exports

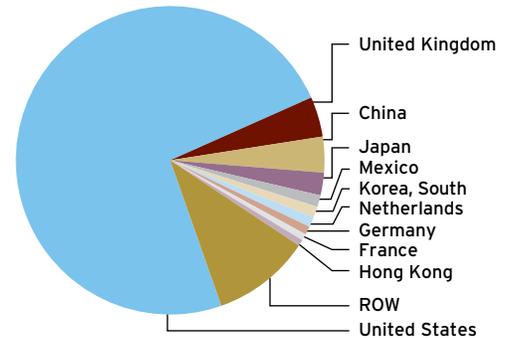
After rebounding 11.0 percent in 2010, Canadian merchandise exports to the world continued to climb in 2011, posting a \$48.5-billion increase (12.1 percent) to \$447.8 billion. This indicates that Canada's trade is on a consistent recovery path, in spite of continuing weakness in the U.S. economy. While total exports remain below their 2008 peak of \$483.5 billion, that record incorporates some resource prices that, in retrospect, may be qualified as inflated. The global recovery from the latest recession is nowhere near complete, with Canada's biggest trading partners in Europe, Japan and North America still experiencing

severe challenges to their economies. Consequently, exports to the United States, Japan, Mexico, Germany, Belgium, France and Italy have yet to recover to their pre-recession levels. Continued and sustained recovery in these economies holds further promise for Canadian merchandise trade recovery. On the other hand, exports to the United Kingdom, China, South Korea, the Netherlands, Hong Kong and Brazil have surpassed their 2008 levels already.

Collectively, Canada's top 10 export markets accounted for 89.7 percent of its merchandise exports in 2011, same as in 2010, but up from 89.1 percent in 2009. Moreover, the concentration of top 20 merchandise exports has grown from 93.3 percent in 2009 to 94.1

percent in 2010 and then to 94.4 percent in 2011. In 2010, Brazil and Norway were among the top 10 destinations for Canadian exports, with \$2.6 billion and \$2.5 billion in export values, respectively. This year, the expansion of exports to \$2.8 billion to both destinations was not enough for them to maintain their ranks, which slipped to 11th and 12th, respectively, as France and Hong Kong entered the top 10 Canadian export destinations.

FIGURE 5-1
Canada's Top 10 Export Destinations



Canadian Merchandise Export Diversification from 2002 to 2011

During the past decade, Canadian merchandise exports have expanded by \$51.3 billion, while exports to the United States—Canada’s largest export destination—decreased by \$15.3 billion. While Canadian exports are diversifying, the issue of trade diversification is a complex one that needs multiple lines of analysis. This box analyzes regional and product diversification of Canadian exports along multiple dimensions. First, this analysis looks at nominal values and shares of exports in seven economic regions from 2002 to 2011¹. Secondly, concentration ratios are employed as a common method of gauging the spread of exports allocated to Canada’s top export destinations. Next, the Herfindahl-Hirschman index (HHI) is used as a more formal measure of product concentration along the same seven economic regions. Finally, a version of the commonly-known

Gini coefficient of equality measures distribution across all products at the HS-02 level and across all economies.

Regional trends

The share of Canadian exports to the U.S. has fallen significantly during the past decade, declining from 87.1 percent in 2002 to 73.7 percent in 2011 (Table 1). Nonetheless, the U.S. continues to be the largest single export market for Canadian goods by a considerable margin— in second place is the United Kingdom, at 4.2 percent of Canadian merchandise exports.

Within the United States, there has been a considerable shift in the product mix of Canadian exports. Energy exports took over automobiles as the most important export, more than doubling its share to 31.6 percent of all Canadian exports to the U.S. in 2011. Automotive products

¹ As table 1 displays, the seven geographic regions are the United States, other Advanced Economies, developing Asia (Asia-Pacific), Latin America and the Caribbean (LAC), Emerging Europe, Middle East and North Africa (MENA), and Sub-Saharan Africa.

TABLE 1

Canadian Merchandise Exports by Major Region from 2002-2011

Partner Region	Nominal Value (Billions \$)			Share of Canadian Exports (%)		
	2002	2011	Change	2002	2011	Change
United States	\$345.4	\$330.1	-\$15.3	87.1	73.7	-13.4
Advanced Economies	\$34.2	\$66.9	\$32.7	8.6	14.9	6.3
Asia-Pacific	\$6.9	\$25.4	\$18.5	1.8	5.7	3.9
Latin America & Caribbean	\$6.1	\$14.1	\$8.0	1.5	3.1	1.6
Emerging Europe	\$0.9	\$4.4	\$3.5	0.2	1.0	0.8
Middle-East & North Africa	\$2.2	\$4.8	\$2.6	0.5	1.1	0.5
Sub-Saharan Africa	\$0.6	\$1.9	\$1.3	0.2	0.4	0.3
Total	\$396.3	\$447.6	\$51.3	100.00	100.00	--

posted the largest decline in share, dropping 9.0 percentage points. This is likely due to the massive restructuring that has taken place in the North American auto sector in combination with a weak consumer market. Furthermore, most U.S. sectors have lost ground in terms of their share of Canadian exports.² Overall, six out of nine major sectors posted declines in share while only energy, metals and minerals, and chemicals posted inclines.

Offsetting a sizeable portion of the decline in exports to the United States, Canadian exports to other Advanced Economies increased by \$32.7 billion from 2002 to 2011. This region now accounts for 15.0 percent of Canadian merchandise exports in 2011 compared to 8.6 percent in 2002. Product exports to these economies have concentrated in a few sectors over the last decade. Most notably, metals and

minerals exports more than doubled their share during the past decade to account for 41.8 percent of all exports to the region.

The value of Canadian exports to developing Asia more than tripled from 2002 to 2011, to reach \$25.4 billion in 2011. Likewise, the region's share in Canadian exports has more than tripled from 1.8 percent to 5.7 percent. This market is of particular importance because it represents an increasing portion of global gross domestic product. Agriculture and food products are the most important export to this region representing 22.5 percent of all exports in 2011. Meanwhile, metals and minerals exports posted the largest increase (up 12.1 percentage points) to account for the 22.0 percent of all exports to the region.

Latin America and the Caribbean (LAC) is the second-largest export market for Canadian products in the developing

² Major sectors are agriculture and food, chemicals, wood and paper, machinery and electrical, metals and minerals, energy, automotive, aerospace, and miscellaneous manufacturing.

TABLE 2
Concentration in Canadian Merchandise Exports

Concentration by Top Export Destinations (including the United States)	% of Total Canadian Merchandise Exports				
	2002	Share increase	2011	Share increase	2011-2002 Difference
Top 1	87.1	nil	73.7	nil	-13.4
Top 5	92.1	5.0	85.3	11.6	-6.9
Top 10	94.6	2.5	89.7	4.4	-4.9
Top 25	97.6	3.0	95.9	5.8	-2.2
Top 50	99.2	1.6	98.4	2.9	-0.8
Top 100	99.9	0.6	99.7	1.3	-0.1

world, accounting for 3.1 percent of total exports. The mix in exports to Latin America and the Caribbean (LAC) is more evenly distributed between primary and value-added products than most markets, and most sectors, with the exception of wood and paper, posted increases in their world shares.

The economies of Emerging Europe, MENA, and sub-Saharan Africa all posted strong growth in value of Canadian exports, yet they still represent a small percentage of total Canadian exports.

The concentration amongst Canada's top export destinations

We begin by examining changes in the concentration of Canadian merchandise exports to all individual trading partners, as measured by concentration ratios (Table 2). A concentration ratio measures the share of Canadian exports allocated to leading export markets and indicates whether exports go to a few large markets or many smaller markets. An increase in share implies greater concentration towards these markets.

In 2002, exports to Canada's top destination, the United States, accounted for 87.1 percent of all Canadian exports, while in 2011 this share had slipped to 73.7 percent. Moving down the list, the next four largest export markets accounted for a further 5.0 percent of exports in 2002, but an additional 11.6 percent of the export market in 2011. However, still the top five markets accounted for 6.9 percentage points less of overall markets than in 2002. Similarly, exports were less concentrated in comparing the top 10, top 25, top 50 and even top 100 export markets in 2011 compared to 2002. Canadian exports are significantly diversifying away from the United States, with the bulk of the shift accruing to the second-through tenth top export destinations.

A closer look: The HH index and Gini index used as measures of diversification

We now turn to a discussion of some specific indicators used to measure concentration and equality (or divergence from equality). More precisely, we will

TABLE 3

HHI by Sector (2002-2011)

Product Sector	HHI Score		Change
	2002	2011	
Metals & Minerals	0.60	0.31	-0.29
Wood & Paper	0.61	0.35	-0.26
Aerospace	0.50	0.25	-0.25
Misc. Manufacturing	0.83	0.61	-0.23
Machinery & Electrical	0.66	0.44	-0.22
Agri-food	0.42	0.21	-0.21
Chemicals	0.70	0.52	-0.17
Energy	0.92	0.80	-0.12
Automotive	0.94	0.91	-0.03

be applying Herfindahl-Hirschman Index (HHI) and Gini Index analysis to the question of diversification in Canadian merchandise exports.

The Herfindahl-Hirschman Index is a commonly accepted measure of concentration. It is calculated by squaring the share of each export destination and dividing by total exports. This index, which can range from $1/N$ to one (where N = the number of export markets), has been normalized for ease of interpretation. The normalized HHI ranges from zero to one—zero indicates perfect diversification across all seven geographic regions and one represents perfect concentration in one market. Table 3 displays the HHI score for all nine major sectors for 2002 and 2011 sorted by change in HHI score during this period³.

Metals and minerals exports (down 0.29 HHI points) diversified the most during the past decade. Table 3 also shows that agriculture and food exports (HHI= 0.21) are the most diversified aided by strong demand across all regions.

With an HHI index of 0.91, automotive products are almost completely concentrated in one region with approximately 96.0 percent of Canadian automotive exports going to the United States. Overall, all sectors diversified across the seven regions implying that Canadian exports are increasingly finding new markets for business.

Another measure used to address the degree of diversification of Canadian merchandise exports is the Gini index. The Gini index takes into account all countries (or all HS-2 products⁴) at once

3 The methodology for the normalized HHI is as follows: $H^* = \frac{\sum_i s_i^2 - 1/n}{1 - 1/n}$ where $\sum_i s_i^2 = \left(\frac{\sum_i x_i}{\sum_{i=1}^n x_i} \right)^2 \cdot \sum_i s_i^2$ is the sum of the squared value of all exports to destination i divided by the sum of total exports to all i regions. In the equation for H^* , n is the total number of destinations ($n=7$). Subtracting $(1/n)$ from the numerator and denominator normalizes the index.

4 HS-2 products refer to two digit product codes of the harmonized system. There are 98 products considered in total.

rather than analyzing across groups. The Gini coefficient ranges from zero to one; zero represents perfect or equal dispersion to all destinations (or all products) and one implies perfect concentration in one market (or HS-2 product). The size of the Gini coefficient is not as important as its change over time.

Given that there are 221 possible export destinations and merchandise exports to the U.S. in 2002 accounted for 87.1 percent of all Canadian exports, the Gini coefficient for country diversification in 2002 was very high, at 0.99. As previously noted, during the past ten years there has been a relative increase in exports to non-U.S. destinations. By 2011, the Gini coefficient had slipped to 0.97, providing support for increased diversification of Canadian exports.

We now examine the pattern of diversification once the United States is separated from the data. With the United States removed from the data, the Gini coefficient calculations were re-run. We find that there has been no significant diversification amongst non-U.S. economies. Without the United States, the Gini coefficient was 0.89 in 2002 and 0.90 in 2011. This further supports earlier conclusions from the concentration ratios that the bulk of the shift away from the United States has accrued to the next largest group of trading partners.

The Gini index can also be used to examine the trend towards diversification among all products at the HS-2 (chapter) level. The results show no significant diversification across products. When the U.S. is included, the Gini coefficient

decreased by only 0.002 points. This implies that there may be some diversification across products however not a significant amount. Excluding the United States, the Gini coefficient increased by 0.03 points signifying that Canadian product exports to non-U.S. destinations have become more concentrated.

Conclusions

The issue of export diversification is complex and involves several dimensions. With the United States losing share in Canadian merchandise exports, Other Advanced Economies and developing Asian economies are the beneficiaries of a diversification of exports along regional lines. In particular, many of Canada's top non-U.S. export destinations (i.e., the United Kingdom, China, and Japan) have significantly increased their shares of Canadian exports.

Our analysis suggests that some geographical diversification has taken place, but product diversification is not happening at the same scale. Export concentration ratio and Gini coefficient analysis confirms that Canadian exports are diversifying away from the United States, but not significantly amongst non-U.S. destinations. On the product side, all major sectors are diversifying across the seven geographic regions according to Herfindahl index. However, applying Gini index analysis to all HS-2 products demonstrates there is little product diversification, and, excluding the U.S. from the analysis, there is possibly greater concentration amongst exported products during the past decade.

The **United States** was again the leading destination for Canadian merchandise exports, though it lost over 1 percent of its share, accounting for 73.7 percent of total exports in 2011. Although the recovery has been sluggish in the United States, exports still increased by \$31 billion, or 10.4 percent. The economic picture south of the border has gradually improved since the debt ceiling crisis was resolved. The housing market has shown some signs of recovery, business investment has picked up and the employment picture has brightened. Nevertheless, the combination of high consumer debt, the fading of federal stimulus and the prospect of continued uncertainty in Europe may dampen the progress of U.S. economic recovery and may limit Canadian opportunities to expand exports to the United States.

The share of mineral fuels and oils in Canadian exports to the United States increased once again, to 31.6 percent, or \$104.3 billion. The \$16.6-billion increase in exports in this category was driven by the continued growth in oil prices, while export volumes were actually scaled back. This increase alone accounted for over half of the growth in Canada's merchandise exports to the United States in 2011, and over a third of the growth in its global exports. Crude petroleum was responsible for all of the export growth. Natural gas exports fell slightly and were balanced by a slight growth in exports of light and heavy oil.

Automotive exports to the United States recovered to the pre-recession level, itself a four-year low due to the extended crisis in this sector. The \$1.9-billion gain was mostly due to passenger vehicles (\$1.2 billion), with other categories posting modest increases.

Exports of precious metals and stones made another gain (\$1.6 billion), led by silver, where exports were five times as great as their pre-recession levels. Significant export gains also occurred in canola oil (up \$0.8 billion), potash (up \$0.5 billion), uranium (which doubled to \$0.8 billion) and nickel (which more than doubled to \$1.3 billion).

The **United Kingdom** continued to hold second place in 2011, with exports growing 14.8 percent over 2010 (or \$2.4 billion) to reach \$18.8 billion. The British share of all Canadian exports also went up slightly (to 4.2 percent). The gains were narrowly concentrated in the precious metals and stones category (up \$2.9 billion), nearly all of that increase coming from gold exports. Uranium exports increased sizeably (up \$0.2 billion) while aircraft exports lost \$1.0 billion out of \$1.4 billion in 2010.

China was third in the list of largest Canadian merchandise export destinations at \$16.8 billion, raising its share to 3.8 percent of all exports. Growth was \$3.6 billion, or 27.1 percent in 2011. China is now the top export destination for Canadian ores with a gain of \$1.3 billion last year, split between iron ore (up \$0.8 billion) and copper ore (up \$0.4 billion). Canadian wood industry exports to China have continued to recover. Wood pulp remained the top export commodity, gaining \$0.5 billion in value. The other significant gain of \$0.6 billion occurred in wood exports. For the first time, significant gold exports to China (\$150 million) were registered. Exports of aircraft and parts more than doubled, reaching \$0.3 billion.

Japan ranked fourth in 2011 with \$10.7 billion in merchandise exports, up \$1.5 billion from 2010 (or 16.0 percent). Canola seeds

and ores (mostly copper) contributed most of that increase (\$0.4 billion each), and mineral fuels and oils were not far behind (up \$0.3 billion). Japan is now Canada's top importer of canola seeds. The 71-percent growth (up \$249 million) in cereals exports was also notable.

Mexico was the fifth-ranked destination for Canadian merchandise exports, with \$5.5 billion in 2011. Growth on the year was \$0.5 billion, or 9.3 percent. For the second consecutive year, canola seeds exports grew significantly (by \$183 million) and are now Canada's top export commodity to Mexico. Exports of cereals expanded by \$112 million while exports of cars, meat and electrical machinery lost \$82 million, \$58 million and \$51 million in value, respectively. Some gains occurred in iron and steel, aluminum, aircraft, and mineral fuels and oil exports.

South Korea was sixth among top Canadian export destinations. Exports reached \$5.1 billion in 2011, a 37.4-percent increase (or \$1.4 billion) over the previous year. More than half of the increase was due to the growth in the exports of mineral fuels and oil (by \$783 million, all in coal). Cereals and meat exports more than doubled, adding \$261 million and \$134 million, respectively, to the total. Aircraft exports jumped \$149 million to \$166 million, their highest level since 2006; ores exports grew by \$60 million and wood products by \$58 million. Machinery exports dropped by \$129 million (nearly 50 percent), but are now more in line with historical performance; aluminum exports fell by \$70 million and electrical machinery exports by \$40 million.

The Netherlands improved its ranking to seventh in 2011 among the top destinations for Canadian merchandise exports, passing Germany. Exports grew 46.9 percent

(\$1.5 billion) to reach \$4.8 billion. Most of the increase was due to mineral fuels and oils, which rose by \$0.9 billion (all due to non-crude oil and coal). Canola seeds did well, gaining \$73 million in exports while canola oil exports gained \$69 million. Metals and ores also expanded: exports of ores increased by \$347 million (mostly iron ores), nickel exports rose by \$65 million and aluminum by \$56 million.

Germany was the slowest-growing of the top 10 destinations for Canadian merchandise exports, gaining only marginally in 2011 (0.5 percent), and as a result dropping two ranks to eighth place. While the volume of trade was valued at \$4.0 billion, the increase in exports amounted to only \$18 million. There were significant changes at the commodity level, however. Ores, one of Canada's top export commodities to Germany, nearly halved, losing \$406 million in value, with iron ores responsible for the decline. Aircraft exports compensated somewhat, growing by \$215 million, and exports of precious stones and metals also went up (by \$46 million). Canola oil exports increased by \$45 million, while canola seeds exports went down \$28 million. Meanwhile, machinery became the top export item to Germany, with a \$15-million growth.

France returned to 9th position in 2011, posting an impressive \$731-million export growth (31.1 percent) to reach \$3.1 billion. The increase in exports was broad-based: aircraft and parts gained \$244 million, mineral fuels and oil went up by \$208 million, ores (predominantly iron ores) increased by \$70 million, and machinery exports grew by \$40 million. Canola oil and seeds also improved, together adding about \$90 million to the export growth. Inorganic chemicals (predominantly uranium) nearly doubled, gaining \$42 million.

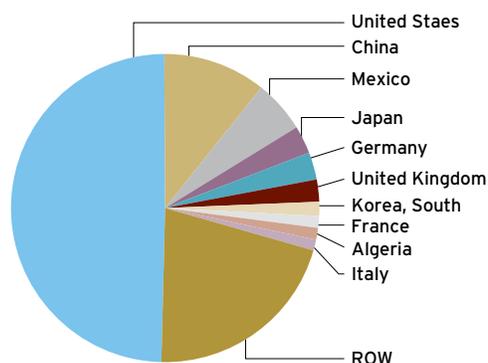
Hong Kong broke into the top 10 by growing 57.8 percent, the highest growth rate among the top 10. That translated into a \$1.1 billion-increase, to reach the value of \$3.0 billion, just ahead of Brazil and Norway. The increase was mostly due to higher exports of precious metals and stones, which gained \$854 million in value (all of which was gold). Aircraft exports gained \$163 million and electric machinery grew by \$46 million. Canola seed exports lost a third of their value (down \$48 million), and meat exports decreased as well (by \$25 million). A \$49-million gain in ores (iron), which were not exported in the previous year, also helped fuel the rise in exports to Hong Kong.

Merchandise Imports

Strong domestic demand in Canada was attested to by the 10.5-percent growth in Canadian merchandise imports, a rate almost identical to that of the previous year. This gain of \$42.2 billion brought imports in 2011 to the new record of \$446.0 billion. Only \$27.2 billion (64.5 percent) of that increase came from the top 10 sources, which collectively accounted for 79.0 percent of Canada's imports. The composition of Canada's top 10 merchandise sources was very stable, with only Algeria vaulting four places into ninth position. Taiwan slipped out of the top 10 despite gaining \$1.0 billion in imports. Unlike with exports, not all of Canada's top 10 sources recorded growth: imports from the United Kingdom and Japan lost 3.6 and 2.9 percent of value respectively.

For the first time since World War II, the **United States** accounted for less than half of Canada's imports (49.5 percent), as the long-standing trend of import diversification continues to run its course. Actual imports rose by \$17.5 billion to \$220.9 billion (up 8.6 percent). The growth was broad-based, with

FIGURE 5-2
Canada's Top 10 Import Sources



the most sizeable increases in mineral fuels and oil (\$4.3 billion or 34.2 percent), followed by more moderate growth in the top import categories: \$2.4 billion for vehicles, with tractors and motor vehicles parts leading, and \$2.3 billion for machinery (bulldozers, computers and pumps). These top three commodities collectively accounted for \$9.0 billion in growth—over half of the total increase. Increased imports of plastics, up \$663 million, precious stones and metals (mostly silver), up \$652 million, and articles of iron and steel, up \$643 million, were the next in importance. Smaller increases took place for raw iron and steel, precision instruments, pharmaceutical products, chemicals and rubber products. In relative terms, large import increases occurred in fertilizers (81.4 percent), coffee and tea (35.8 percent), beverages (34.7 percent) and railway stock (29.6 percent). On the negative side, imports of books and newspapers took a \$180-million hit; exports of toys, games and sports equipment decreased \$131 million and organic chemicals were down \$105 million.

China ranked second among Canadian merchandise import sources with a solid lead over third-ranked Mexico, despite losing some market share (down from 11.0 to

10.8 percent). Total merchandise imports from China reached \$48.2 billion in 2011, double their 2004 value. Growth was below overall import growth (8.1 percent, as compared to 10.4 percent) and amounted to \$3.6 billion. Illustrating China's movement up the value chain, nearly half of the import growth last year (\$1.7 billion) was in the electrical machinery category (mostly mobile phones). Growth in machinery imports contributed another \$701 million to the total, with laptops important drivers of that increase. Growth in imports of furniture, Canada's third-largest import category, was stagnant (down \$28 million or 1 percent) while imports of toys, games and sports equipment, fourth in the list, went down \$331 million. Sizeable growth also took place in imports of articles of iron and steel (\$335 million), apparel (\$217 million), rubber (\$181 million) and vehicles (\$137 million). Conversely, imports of organic chemicals contracted by \$109 million.

Mexico was ranked third in the top 10, with a stable 5.5-percent market share and total imports of \$24.6 billion. Growth was 11.1 percent (up \$2.5 billion) in 2011, slightly above overall import growth. Vehicles led the way with a \$611-million gain, mineral fuels and oil imports grew by \$475 million and electrical machinery gained \$386 million, while mechanical machinery advanced by \$257 million. Precious stones and metals gained \$209 million, with gold and silver contributing almost equally.

Japan retained fourth spot in the list despite losing \$391 million in imports, or 2.9 percent of its total. Imports from Japan contracted to \$13.1 billion in 2011 as Japan's weak economy and several natural disasters disrupted important supply chains. These events have translated into contractions of \$694 million in vehicles imports and \$161

million in electrical machinery imports. Partly mitigating these contractions was the strong growth of \$340 million in mechanical machinery imports and a \$59-million increase in aircraft imports.

Germany ranked fifth in the top 10 merchandise import sources, just behind Japan, with \$12.8 billion in imports. Growth was strong in 2011: 13.3 percent, or \$1.5 billion. A third of this (\$488 million) came from mechanical machinery imports; another third was split between imports of vehicles, which grew by \$276 million, precision instruments, which expanded by \$116 million, and precious stones and metals (predominantly silver), which gained \$111 million.

The **United Kingdom** ranked sixth but was the weakest-performing import source in the top 10 last year, with imports down 3.6 percent to \$10.3 billion in value. This amounted to a decrease of \$385 million. The overall decline can be attributed to the \$779-million contraction in imports of mineral fuels and oil (with crude oil down and non-crude oil up), and contributed to by a \$133-million decline in the imports of organic chemicals. This was partly offset by a broad-based but modest growth in other areas, chiefly in mechanical machinery imports (\$130 million), vehicles (\$69 million), precious stones and metals (\$68 million), precision instruments (\$54 million) and electrical machinery (\$45 million).

Korea retained seventh place in Canada's top 10 merchandise import sources contributing a total of \$6.6 billion. Import value grew 7.4 percent in 2011, amounting to \$458 million. Mechanical machinery contributed over two thirds of that increase, with laptops figuring prominently. Imports of precious stones and metals increased 20-fold, adding \$161 million, most of which was silver.

Imports of iron and steel products, iron and steel, and rubber also grew significantly. Overall growth was mitigated by a \$99-million contraction in imports of electrical machinery (largely electronic integrated circuits and mobile phones) and a \$44-million drop in imports of vehicles.

France, with \$5.5 billion in imports, was in the eighth position. 2011 brought a modest growth of 2.1 percent in its imports value, which resulted in a \$113 million increase. The overall growth, however, was the net result of significant upward and downward movements across a wide range of commodities. Increases in imports of mechanical machinery by \$99 million, electrical machinery by \$62 million, beverages by \$58 million and mineral fuels and oil by \$48 million, as well as a number of smaller commodity lines, were nearly offset by the \$175-million drop in aircraft imports and the \$144-million drop in pharmaceuticals.

Algeria, which ranked ninth, was a newest entry into the top 10, with imports into Canada valued at \$5.5 billion. Imports grew by \$1.9 billion in 2011, an impressive 53.3 percent, which was by far the largest gain among the top 10. Crude oil accounted for 99.9 percent of these imports.

Italy rounded out the top 10 in 2011 with \$5.1 billion in total import value. Growth amounted to \$441 million, or 9.5 percent. Half of that came from mechanical machinery and parts, while imports of pharmaceuticals, iron and steel, electrical machinery and beverages accounted for most

of the remainder. Import growth was slowed down by an \$88-million decrease in imports of mineral fuels and oil and a \$36-million decline in aircraft imports.

Merchandise Trade by Top Drivers

Canada's trade performance can be examined in greater detail using a commodity breakdown comprising over 1,200 items.² However, among these items, only a few account for a sufficient trade value to decisively influence Canada's trade balance. Table 5-1 lists the top 20 drivers of Canada's export and import performance in 2011 at the 4-digit HS level.

It is easier to understand the influence of Canada's top trade drivers by first considering trade balances at the 2-digit HS level. In 2011, 35 chapter-level commodities posted positive trade balances while 63 commodities posted negative balances, almost double the number of commodities posting positive balances. Given that the overall trade balance is \$1.9 billion, this means that, on average, commodities posting positive trade balances run higher individual surpluses than the individual deficits for the commodities with negative trade balances. This implies that the Canadian trade balance is mostly driven by several high-surplus items, which turn out to be mostly resources or resource-related commodities. The surplus generated in those areas covers the modest deficits in the rest of the traded items (except for machinery where deficits are large), which comprise mostly manufactured goods. Focusing on the 4-digit

² Canada's merchandise trade is most commonly reported using the Harmonized System (HS) of Trade Classification, an international system for codifying traded commodities. Within the HS system, trade is classified into 99 chapters, also known as the 2-digit HS level. Commodities in each chapter are further subdivided into 4-, 6- and 8- digit HS levels, with international comparisons possible down to the 6-digit HS level. This section examines those commodities, expressed at the 4-digit HS level that drove the change in Canada's trade balance during the past year.

TABLE 5-1

Canadian Merchandise Trade by Top Drivers (\$millions and %)

Commodity	2011 Exports \$	Export Growth %	2011 Imports \$	Import Growth %	Balance 2011 \$	← Balance 2011/2010 \$
TRADE SURPLUS PRODUCTS						
Large Exports and Large Imports						
Crude Oil	68,798.0	32.5	28,523.9	20.0	40,274.0	12,096.4
Passenger Cars	39,383.4	3.7	23,316.6	1.3	16,066.8	1,103.4
Oil (Not Crude)	17,576.9	18.4	16,431.1	68.7	1,145.7	-3,960.3
Subtotal	125,758.3	20.0	68,271.7	20.8	57,486.6	9,239.4
Large Exports and Small Imports						
Coal	8,010.7	33.8	961.3	-10.6	7,049.4	2,137.4
Potash	6,723.5	29.4	26.9	6.5	6,696.6	1,525.3
Copper Ores And Concentrates	3,250.9	64.7	534.8	-2.7	2,716.1	1,292.5
Canola Seeds	4,593.9	35.2	108.2	-2.9	4,485.7	1,198.0
Canola Oil	3,159.2	44.4	99.5	-55.6	3,059.7	1,095.9
Nickel, Unwrought	2,979.9	50.9	20.9	-54.9	2,959.0	1,031.0
Iron Ores & Concentrates	4,177.5	30.9	904.8	-1.3	3,272.7	998.8
Wheat And Meslin	5,678.9	21.6	21.8	71.6	5,657.1	998.7
Ferrous Waste & Scrap	2,148.0	38.0	478.6	15.2	1,669.4	528.0
Subtotal	40,772.6	35.0	3,156.7	-7.0	37,565.9	10,805.5
TRADE DEFICIT PRODUCTS						
Large Exports and Large Imports						
Petroleum Gases	16,479.4	-10.3	4,969.5	15.2	11,510.0	-2,541.5
Telephone Equipment & Parts	2,915.3	-8.5	9,181.4	21.7	-6,266.0	-1,909.0
Industrial Machinery, Various	1,188.3	19.3	2,205.7	71.8	-1,017.3	-730.2
Motor Vehicle Parts	9,276.7	2.4	19,217.1	4.7	-9,940.5	-647.2
Subtotal	29,859.8	-5.5	35,571.4	13.0	-5,713.9	-5,828.0
Small Exports and Large Imports						
Bulldozers, Graders, Scrapers Etc	117.5	-14.3	3,615.4	40.0	-3,497.8	-1,052.0
Computers	1,770.2	0.1	9,345.3	11.8	-7,575.1	-985.8
Tractors	405.6	25.5	3,470.7	32.2	-3,065.1	-762.9
Electric Generating Sets	139.4	47.6	1,127.9	-33.4	-988.4	611.5
Subtotal	2,432.8	4.7	17,559.2	15.1	-15,126.4	-2,189.1
20 Product Total	198,773.4	17.7	124,561.2	16.8	74,212.1	12,027.9
Total All Commodities	447,800.0	12.2	445,954.0	10.5	1,846.0	6,296.0

Source: Statistics Canada

commodities simply magnifies this picture, while promoting a better understanding the nature of the traded commodities.

The 20 drivers listed in Table 5.1 together accounted for 44.4 percent of Canada's exports and 27.9 percent of Canada's imports in 2011. Since trade drivers typically include better export performers, their combined positive contribution to the merchandise trade balance this year amounted to \$11.9 billion, nearly double the overall trade balance improvement. Of note is the fact that removing from consideration the top surplus-driving commodity, crude oil, nets out the trade balance impact of the remaining 19 items to zero. Twelve of the selected products impacted the trade balance positively for a combined total of \$24.6 billion and the other eight influenced it negatively for a total of \$12.7 billion. Growth in both exports and imports of these commodities was above average by virtue of the selection process.

For ease of interpretation, Table 5.1 divides these top drivers into two broad categories: twelve trade surplus commodities and eight trade deficit commodities. These are further subdivided into commodities where substantial trade flows in both directions and commodities where trade is essentially a one-way street.

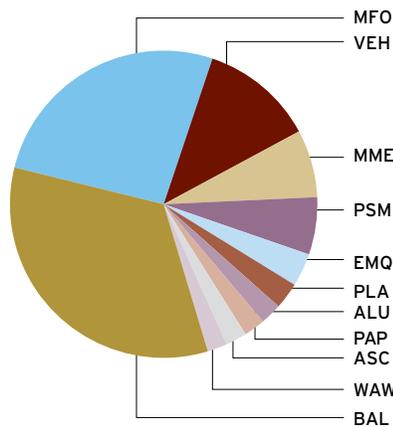
Trade surplus commodities that exhibited substantial two-way flows are limited to three—crude oil, passenger cars, and non-crude oil. As oil is traded back and forth primarily due to geographical and transportation costs considerations, only in the case of passenger vehicles are the two-way flows specific to the production process and represent the best example of intra-industry trade in Canada driven by economies of scale and preferences for variety. The modest \$1.1-billion gain in trade surplus generated in

passenger vehicles was due to a slightly higher growth in exports than in imports; though export prices weakened, volumes expanded more to generate growth. Meanwhile, trade in crude oil engineered a seismic \$12.1-billion shift in trade balance, single-handedly driving Canada's merchandise trade back into surplus. This occurred because the price of crude oil continued to go up in 2011, and this price effect was magnified by the expanding quantities exported and shrinking quantities imported. While non-crude oil prices also rose, the quantity effect worked in the opposite way—exports contracted slightly and imports expanded by over one third, which reduced the trade balance by \$4.0 billion. This negative effect muted the net effect of the big three surplus drivers; together, they combined for an increase of only \$9.2 billion to the trade surplus over the previous year, while carrying a \$57.5-billion surplus overall.

Export items for which imports flows are small are mainly composed of resources: coal, potash, nickel and canola oil are good examples. Most of the prices for these resources increased in 2011, helping to improve Canada's trade balance. Demand conditions also improved somewhat as the global recovery continued. All nine of these commodities increased their trade surpluses, by a combined \$10.8 billion to \$37.6 billion overall. Coal and potash were particularly strong, with trade surpluses growing by \$2.1 billion and \$1.5 billion, respectively.

On the other side of the balance sheet, the products in which strong two-way trade contributed to significant deficit shifts last year were telephone equipment and parts, various industrial machinery, motor vehicle parts and petroleum gases. The results for petroleum gases, traditionally a strong

FIGURE 5-3
Canada's Top 10 Export Commodities



MFO=Mineral fuels and oil; VEH=Vehicles and parts; MME=Mechanical machinery and equipment; PSM=Precious stones and metals; EMQ=Electrical machinery and equipment; PLA=Plastics and articles thereof; ALU=Aluminum and articles thereof; PAP=Paper, paperboard and articles thereof; ASC=Aircraft, spacecraft and parts; WAW=Wood and articles of wood; BAL=All other commodities

contributor to Canada's trade surplus, were atypical in 2011 because exports dropped over 10 percent while imports went up by 15 percent. Consequently, while the \$11.5-billion surplus generated by petroleum gases was still large, it was \$2.5 billion less than the previous year's. Imports of telephone equipment continued to grow strongly (over 20 percent) while exports contracted; this led to a widening of the deficit in this category by \$1.9 billion. Imports of various industrial machinery soared 71.8 percent, opening up a sizeable trade deficit for this item. Motor vehicle parts were the biggest deficit item of all, but modest growth in imports caused that deficit to expand only slightly, by \$647 million. The combined effect of the large two-way traded products was to add an extra \$5.8 billion to the deficit side of the balance sheet.

Products where Canada records large imports but small exports exerted little impact last year. Imports of bulldozers and

tractors expanded considerably, although tractor exports also grew, and increased imports of computers added another \$1 billion on the deficit side. However, a sharp decrease in imports of electric generating sets shaved the deficit on this item by \$612 million. Together, these four items widened the deficit by an extra \$2.2 billion to \$15.1 billion.

Merchandise Trade by Major Product Groups

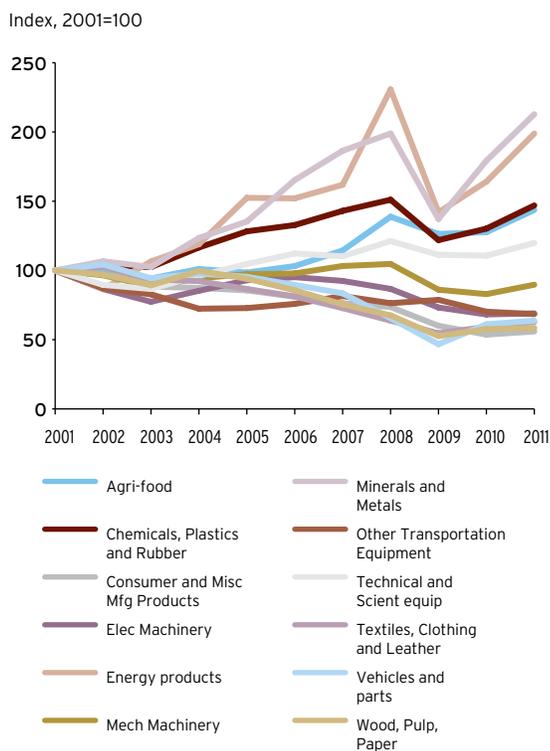
This section discusses Canada's 2011 trade performance by commodity groupings that are an aggregated version of the 2-digit level HS chapters. These major groups, 12 in all, are defined as follows: energy; vehicles and parts; mechanical machinery and appliances; electrical and electronic machinery; technical and scientific equipment; agricultural and agri-food products; metals and minerals; chemicals, plastics and rubber products; wood, pulp and paper; textiles, clothing and leather; consumer goods and miscellaneous manufactured products; and other transportation equipment. The first five of these groups are single 2-digit HS chapters, while each of the remaining seven combine several chapters. Together, they encompass all of Canada's merchandise trade by the 99 HS chapters.

Energy Products³

Canadian exports of energy products increased 21.2 percent, adding \$20.1 billion to the final tally of \$114.9 billion in 2011. For the second time (the first was in 2008), exports of energy products accounted for over a quarter of all Canadian merchandise exports. Increased volumes and prices of crude oil exports contributed equally to the increase. Imports of energy products

3 HS Chapter 27.

FIGURE 5-4
Evolution of Canadian merchandise exports by sector, 2001-2011



expanded even faster, by 29.4 percent (\$12.0 billion) to \$52.7 billion. However, the smaller volume of imports meant that the trade surplus in energy products expanded again this year, by \$8.1 billion, to reach \$62.2 billion overall. In practice, energy exports surplus covers Canada's deficit in many other import categories; for example, they roughly balance the combined deficit in both mechanical and electrical machinery groups.

The United States remains the principal destination for Canada's energy exports, accounting for 90.8 percent in 2011 with the value of \$104.4 billion. Growth was 19.0 percent last year. Roughly two thirds of energy exports to the United States are crude oil and the remainder is split evenly between

non-crude oil and petroleum gases (largely natural gas). Imports of energy products from the United States grew much faster last year (34.2 percent) but were much smaller overall (\$16.7 billion), thus netting out a trade surplus of \$87.7 billion, up \$12.4 billion over the previous year.

In 2011, significant growth in energy exports occurred to several destinations. Exports to South Korea grew 69.3 percent to \$1.9 billion; energy exports to the Netherlands grew 157.9 percent to reach \$1.5 billion. For the first time, significant energy exports went to Argentina (\$240 million compared to \$32 million in 2010) and India (\$75 million compared to \$2 million in 2010). France also resumed its energy purchases from Canada on a larger scale (\$238 million compared to \$30 million in 2010). Of note is the fact that Canada exports crude oil to only two destinations: the United States and China, and petroleum gases are only exported to the United States; thus exports to all other countries in this category represent items other than crude oil and gases. For example, all of the exports to South Korea and India were coal; all of the exports to Argentina were non-crude oil; and the exports to France and the Netherlands were split between coal and non-crude oil.

Canada's sources of imported energy products were more distributed geographically than its export destinations. Just over a third came from the United States, and the next ten source countries each contributed over \$1 billion in energy exports to Canada. Algeria was second only to the United States as a source of Canadian energy imports in 2011 with imports valued at \$5.5 billion (crude oil); imports from Norway were \$3.7 billion and imports from the United

Kingdom were \$2.8 billion, mostly crude oil. Other major suppliers included Saudi Arabia, Kazakhstan, Iraq, Angola, Nigeria and Mexico. Russia and Venezuela were in the top 20, but energy imports from these countries contracted last year to less than \$700 million each. Double-digit import growth was the case for all other suppliers with the exception of the United Kingdom, which supplied 21.7 percent less energy products. The energy trade deficit with all of the above-mentioned energy suppliers offset about a quarter of the energy surplus with the United States.

Compositionally, Canadian energy exports are dominated by crude oil⁴ (59.9 percent share of energy exports), followed by non-crude oil at 15.3 percent and petroleum gases at 14.3 percent, with coal as the only other significant export product at 7.0 percent of the total. On the import side, crude oil accounted for 54.1 percent of the total, non-crude for 31.2 percent and petroleum gases for 9.4 percent. As noted above, in 2011 Canada exported its crude oil only to the United States (\$68.4 billion, or 99.4 percent of the total) and China (\$407 million),⁵ but its import suppliers were considerably more varied: all of the energy product sources mentioned above mostly supplied crude oil. In addition, Equatorial Guinea, Brazil, Côte d'Ivoire and Azerbaijan were prominent in the top 20 crude suppliers, with imports from Côte d'Ivoire almost doubling. On the other hand, crude oil imports from Syria and Congo did not recur in 2011. Overall exports of crude oil grew 32.5 percent to \$68.8 billion, imports expanded 20.1 percent to \$28.5 billion, yielding a crude oil trade balance of \$40.3 billion,

up 42.9 percent from 2010. Notably, the rising prices of crude oil in 2011 affected Canadian exports and imports unequally. The heavier oil Canada exported appreciated less in price than the crude Canada imported, leading to an unfavourable shift for Canada's terms of trade for crude oil.

Canadian exports of non-crude oil⁶ were up \$2.7 billion in 2011, or 18.4 percent, to \$17.6 billion. About one half of the gains were accounted for by increased exports to the United States, which grew 9.7 percent (\$1.3 billion) to \$15.2 billion and an additional one quarter of the gains by increased exports to the Netherlands, which gained 163.9 percent (\$685 million) to reach \$1.1 billion. Following these two major export destinations, exports to Argentina and France jumped from their low 2010 levels to \$239 million and \$189 million, respectively. Netherlands Antilles rounded out the top five, receiving \$106 million in Canadian non-crude exports. Meanwhile, Canada's non-crude imports expanded tremendously (up 68.4 percent, or \$6.7 billion) to reach \$16.4 billion. Although the price effect contributed, most of the increase was due to the larger quantities imported. The United States was the top import source (52.0 percent of the total), with imports growing by \$3.8 billion, but imports from the Netherlands (up \$765 million), Finland (up \$475 million), Mexico (up \$428 million), the United Kingdom (up \$395 million), Singapore (up \$266 million), Norway (up \$291 million) and Venezuela (up \$286 million) also contributed significantly. With the exception of the United States and the United Kingdom, imports from each of

4 HS 2709.

5 Exports to Singapore (\$43 million) and Malaysia (\$39 million) were small in 2010; Canada did not export energy products to either country in 2011.

6 HS 2710.

the above non-crude oil suppliers to Canada more than doubled in value. This represents a significant diversification in sources of non-crude oil imports. The net effect of non-crude oil on the trade balance was still positive at \$1.2 billion, but significantly lower (by \$3.9 billion) than its \$5.1 billion contribution to the energy trade balance in 2010. This represented the largest negative change in trade balance among the 4-digit commodities.

Exports of petroleum gases⁷, destined exclusively for the United States, decreased both in price and in volume to end 10.3 percent lower in value at \$16.5 billion. Imports were subject to a price decrease as well, but a large expansion in import volumes propelled their value up 15.2 percent to \$5.0 billion. Of these imports, 90 percent came from the United States, with Qatar the other important supplier at 7.3 percent, or \$362 million. The resulting negative effect on the trade balance was \$2.5 billion, second in magnitude only to the effect of non-crude oil.

Exports of coal⁸ expanded 33.8 percent to \$8.0 billion in 2011 and were destined predominantly to Japan, South Korea, China and Brazil. Coal exports to the Netherlands, Taiwan and the United Kingdom more than doubled last year, while India imported a significant amount of Canadian coal (\$73 million) for the first time. Imports of coal were small (\$962 million) and came mostly from the United States. The net result was a trade balance of \$7.0 billion, up \$2.1 billion last year, the second-biggest positive shift after crude oil.

*Vehicles and Parts*⁹

After a strong recovery in 2010, growth in exports of vehicles and parts moderated in 2011 to 4.3 percent, or \$2.1 billion. Total exports were \$52.3 billion, while total imports reached \$63.6 billion after increasing 5.3 percent (\$3.2 billion). This moderate growth in imports and exports reflected, on one hand, the success of the restructuring in the North American automotive sector, and on the other hand, the uncertain state of the recovery in the United States, the main customer for Canada's automotive products. The trade deficit in vehicles and parts increased by a further \$1.1 billion to \$11.2 billion, reversing the modest improvement in the trade balance from the previous year.

The bulk (96.0 percent) of Canada's exports in this sector went to the United States, while nearly two thirds of Canada's imports came from that country. Mexico, Japan, Germany, South Korea and China were the other suppliers of vehicles and parts to Canada, with imports above \$1 billion each. These imports were predominantly passenger vehicles, although in the case of Mexico these were split almost evenly with trucks, and in the case of China imports consisted mostly of motor vehicle parts. Imports from Japan lost 12.1 percent in value last year and Japan's market share fell from 9.5 percent to 7.9 percent, while imports from China expanded 12.6 percent to reach \$1.2 billion. Imports from South Africa, at \$263 million, exceeded \$100 million for the first time.¹⁰

Historically, Canadian trade in vehicles and parts consisted of three large product categories: passenger cars, transportation

7 HS 2711.

8 HS 2701.

9 HS Chapter 87.

10 The largest import category from South Africa, at \$180 million, was armoured fighting vehicles (HS 8710). South Africa also was the largest import supplier to Canada for this category in 2011.

vehicles (i.e. trucks) and motor vehicle parts. With the automotive sector restructuring in North America over the past few years, Canadian truck exports have faded from prominence (just \$960 million in 2011). That left exports of passenger cars and parts accounting for over 90 percent of the automotive sector exports. Passenger car exports reached \$39.4 billion last year (75 percent of automotive exports), up \$1.4 billion or 3.7 percent. The United States accounted for most of that increase, but car exports to China also jumped (from \$13.0 million to \$60.2 million). Exports of parts and accessories grew 2.4 percent last year, gaining \$0.2 billion to end at \$9.3 billion for the year (18 percent of automotive exports). Exports to Mexico in this category fell by one quarter, losing \$97 million in value, but this was offset by the \$283-million increase in exports to the United States.

On the imports side, the share of the three main categories was distributed more evenly. Passenger cars accounted for 37 percent, parts and accessories for 30 percent and trucks for 19 percent of all imports. Passenger car imports grew only 1.3 percent, or \$297 million, to reach \$23.3 billion. An 18.0-percent fall in imports from Japan mitigated growth in the imports from the United States, Germany, Mexico and South Korea. Imports from Belgium (down 14.6 percent) and especially Sweden (down 34.9 percent) also contracted severely. Imports of parts and accessories increased by 4.7 percent (a \$0.9-billion gain) to \$19.2 billion. The increase was due to greater imports from the United States (up \$0.6 billion), Mexico (up \$0.3 billion) and China (up \$0.1 billion), while imports from South Korea fell \$0.2

billion. Truck imports grew 5.2 percent in 2011 to reach \$12.2 billion. The United States accounted for half of the \$0.6-billion gain, and the remaining half was due to the other suppliers, particularly to the doubled imports from Japan, the United Kingdom and Sweden. Additionally, tractor imports constituted 6 percent of the category and grew strongly in 2011, gaining \$0.8 billion, largely from the United States.

Mechanical Machinery and Appliances¹¹

Mechanical machinery and appliances (hereafter referred to as machinery) represents one of the largest single chapters in the HS classification system, one of the “Big 3” chapters that collectively account for over a third of all international trade. Global values of trade for each of the three—machinery, mineral fuels and electrical machinery and equipment—exceeded \$5 trillion in 2010. In Canada’s trade, it is the third-largest category (after mineral fuels and vehicles) and is extremely varied, comprising every piece of mechanical equipment from nuclear reactors to engines to pumps and valves.

Canada’s machinery exports resumed their growth in 2011, gaining \$2.4 billion, or 8.2 percent, for the total of \$31.1 billion. Total growth in exports to the United States was \$2.0 billion, ten times as great as the \$200-million gain in exports to China. Proportionally, however, the latter grew 31.3 percent, over three times the rate of the former at 9.9 percent. Double-digit growth also occurred in machinery exports to Australia (up \$47 million) and Japan (up \$55 million), while exports to Russia decreased by \$66 million. Turbojets and other gas turbines¹²

¹¹ HS Chapter 84.

¹² HS 8411.

(mainly aircraft engines) remained the main export sub-category, growing 4.5 percent (up \$183 million) to \$4.3 billion, but the greatest gains occurred in exports of machinery parts, which grew by \$408 million, and exports of pumps, which increased \$473 million. On the other hand, exports of piston engines decreased \$200 million.

Canada's machinery imports narrowly edged vehicles to become the largest import category in 2011 at \$63.6 billion on the strength of the 11.6-percent growth that added \$6.6 billion to the total. Growth of imports from the top three suppliers—United States, Mexico and China—was slightly below average, but still accounted for about half of the increase. Double-digit growth in machinery imports came from Taiwan (\$530 million), Germany (\$488 million), South Korea (\$351 million) and Japan (\$340 million). But the biggest relative gain went to the United Arab Emirates, which supplied \$717 million worth of machinery last year, up \$712 million from the \$5-million mark in 2010. This increase was due to a large contract for equipment for oil and gas production. Other sub-categories that experienced large increases were computers (up \$1.0 billion mainly due to laptops from Taiwan), bulldozers and scrapers (up \$1.0 billion from the United States and Japan) and pumps (up \$0.5 billion from the United States and China).

With imports rising more than exports, trade in machinery continued to generate Canada's biggest trade deficit of all categories, which grew \$4.3 billion (or 15.1 percent) to reach \$32.5 billion last year. Deficits have expanded with all of Canada's suppliers, particularly with China, Germany, South Korea and Taiwan (by \$0.5 billion each).

*Electrical and Electronic Machinery and Equipment*¹³

Exports of electrical and electronic products remained largely unchanged in 2011, adding just \$169 million (1.1 percent) to reach \$15.2 billion. The share of the United States in this total decreased from 70.0 percent to 68.5 percent as a result of the loss of \$112 million in exports. The next three among Canada's top export destinations—Mexico, the United Kingdom and China—also experienced export reductions. However, most of these losses were offset by Canada's exports to Hungary, which nearly tripled, gaining \$190 million (mostly in integrated electronic circuits) and propelling it to fifth spot on the list of Canada's top export destinations for electrical and electronic products. Hong Kong and France also experienced moderate gains, but these more than made up for a 28.7-percent export cut to South Korea. Among the sub-products comprising this category, 27 of 46 went up while 19 decreased. Loss of exports was substantial in the top category, telephone equipment, which was down \$270 million or 8.5 percent, and TV cameras and transmission equipment, down \$124 million or 10.0 percent from 2010. This was offset by the gains in electronic integrated circuits (up \$313 million), wire and cable, including optical (up \$129 million) and TV and radio parts (up \$86 million).

Imports of electrical and electronic products expanded more robustly at 5.5 percent to reach \$45.0 billion in 2011. The increase for the year constituted \$2.3 billion, nearly three quarters of which came from China (\$1.7 billion). Imports from Mexico grew \$387 million and from Taiwan \$288 million. Growth of imports from the United States was under 2

13 HS Chapter 85.

percent at \$266 million. Imports from Japan and Malaysia retreated \$161 million and \$167 million, respectively, while imports from Denmark lost over half their 2010 value, plunging from \$663 million to \$318 million. The biggest gain among sub-categories occurred for telephone equipment, which grew \$1.6 billion, or 21.7 percent, accounting for over two thirds of the overall gains. Cable and wire imports also increased, by \$539 million. Imports of electric generating sets lost 33.4 percent of their value (\$567 million) and turntables, records and cassette players plummeted 71.7 percent, or \$265 million, ending at \$105 million. Electronic integrated circuits, projectors, unrecorded media and TV cameras and transmission equipment all saw smaller losses in excess of \$100 million.

With growth in imports exceeding growth in exports once again, the trade balance for electrical and electronic products continued to push deeper into the red, with deficit growing by \$2.2 billion last year to \$29.8 billion.

*Technical and Scientific Equipment*¹⁴

Also known as precision instruments, the category of technical and scientific equipment comprises accurate high-technology devices used in sciences, research, medicine, photography and geology. Exports of this equipment gained 8.3 percent (\$448 million) in 2011 to reach \$5.9 billion. The United States led the gains with \$231 million, roughly proportional to its export share, and the remainder of the gains spread fairly evenly, with Germany up 15.1 percent, or \$26 million, Australia up 29.4 percent, or \$23 million, India up 40.2 percent, or \$20 million and Russia doubling to \$29 million standing out. Small

losses were observed in exports to the United Kingdom, the Netherlands and Taiwan. By sub-category, the most notable increases took place in liquid crystal devices and lasers (up \$136 million), surveying, meteorological and geophysical instruments (up \$85 million) and various measuring and checking instruments (up \$84 million).

Imports of technical and scientific equipment grew nearly as fast at 7.8 percent, but advanced \$907 million due to larger value (\$12.5 billion in 2011). The United States was the source for half of the imports and accounted for almost half of the increase at \$417 million. Of note was the broadly based \$116-million increase in imports from Germany; imports from China increased \$55 million, showing slower than average growth, while imports from the United Kingdom expanded by \$55 million, or 17.8 percent. Imports of medical, surgical and dental equipment expanded \$180 million; instruments for flow, level and pressure checking grew \$109 million and physical and chemical equipment imports expanded by \$102 million; most of other categories also experienced modest expansion.

While exports grew a little faster than imports, import values were larger, leading to the deterioration of the trade balance for technical and scientific equipment. As a result, the trade deficit widened by \$459 million in 2011 to reach \$6.6 billion.

*Agricultural and Agri-food Products*¹⁵

This category is one of the mainstays of Canadian exports and trade balance. Exports of agricultural and agri-food products expanded by 12.6 percent (\$4.9 billion) in 2011,

¹⁴ HS Chapter 90.

¹⁵ HS Chapters 1-24.

reaching their highest-ever level of \$44.1 billion. Rising grain and oil prices contributed substantially to this expansion, as Canada's primary exports in this category are cereals; oil seeds and miscellaneous grains; meat; and animal and vegetable oils (predominantly canola oil). These four commodities accounted for over three quarters of the total growth, with the first two gaining \$1.2 billion each (representing 21.5 and 20.5 percent growth respectively), exports of animal/vegetable oils grew by \$1.1 billion (42.8 percent) and meat exports expanded by \$318 million (7.2 percent). Most of the other export sub-categories expanded more moderately, the only significant decrease coming from live animal exports (down 15 percent, or \$253 million). The United States accounted for less than half of the total \$2.1-billion increase in exports; \$472 million more exports went to South Korea (up 86.8 percent); exports to Japan went up by \$671 million, or 20.8 percent; and exports to Mexico increased \$305 million (21.5 percent). Once-substantial agri-food exports to Iraq fell by two thirds last year, shrunk by a factor of eight since 2009 and stood at \$55 million in 2011.

Agri-food imports rose at a slightly slower pace of 10.7 percent (up \$3.2 billion) to reach \$33.1 billion last year. Beverages and spirits, the top import category, generated the most growth at \$571 million. Considerable increases also took place in imports of coffee, tea and spices (\$468 million), meat (\$327 million) and fruit and nuts (\$268 million). The United States remains Canada's major food supplier, accounting for 57.6 percent of Canada's imports, which expanded \$1.8 billion last year to reach \$19.1 billion. Other notable increases were in imports from Brazil

(up \$228 million) and China (up \$115 million) while smaller gains were spread across a wide range of import suppliers in what is the most geographically varied import category of all.

Buoyed by growing exports, Canada's \$9.2-billion trade surplus in this category in 2010 widened to \$11.0 billion in 2011. Japan was the top surplus partner at \$3.8 billion and generated the biggest surplus gain at \$671 million; Brazil was the top deficit partner at \$1.0 billion, adding \$322 million to this deficit last year.

*Metals and Minerals*¹⁶

As prices for resources and resource-related commodities continued to grow in 2011, global exporters of these items, including Canada, were able to benefit greatly. Canada's exports of metals and minerals grew 18.7 percent last year to \$75.3 billion, up \$11.9 billion. The leading commodity group was precious stones and metals,¹⁷ which has doubled since 2009 and in 2011 registered \$26.4 billion in exports—over a third of the total gain in this category. The \$5.6-billion export growth in this category was mostly due to increased exports of gold (\$3.0 billion) and silver (\$1.7 billion). Most of this growth was accounted for by price increases for precious metals. Exports of precious metals increased primarily to the United Kingdom, Canada's primary export destination for gold and silver (up \$2.9 billion); to the United States (up \$1.6 billion); and increased five-fold to Hong Kong to \$1.1 billion. Ores were the next most important growth item, with exports strengthening by \$2.7 billion to reach \$8.9 billion (up 43.8 percent), accounted for mostly by iron and copper ores. Exports to

¹⁶ HS Chapters 25, 26 and 68-83.

¹⁷ HS Chapter 71.

China, Japan, the Netherlands and Finland were on the rise this year, with gains of \$1.3 billion, \$0.4 billion, \$0.3 billion and \$0.3 billion, respectively, while exports to Germany fell \$0.4 billion.

Nickel exports were the third key item in this category, growing \$1.5 billion, or 30.0 percent, to \$6.6 billion. Notably, very little of that increase was due to price; almost all was attributable to dramatically expanded volumes of exports to several destinations. Shipments of nickel to the United States more than doubled, gaining \$736 million to reach \$1.3 billion. Other top export destinations, Norway and the United Kingdom, accounted for increases of \$157 million and \$183 million, respectively, while shipments to Taiwan gained 137.0 percent, or \$168 million. Canada's nickel exports made notable inroads into several other countries, like Spain (exports grew from \$13 million to \$33 million), Thailand (from \$7 million to \$26 million), Australia (from \$6 million to \$25 million) and Brazil (from \$4 million to \$20 million). If those increases can be sustained in the future, they would imply a significant step forward for the Canadian nickel industry.

In terms of destinations, the United States was chiefly responsible for the \$11.9-billion increase in exports (up \$3.8 billion), followed by the United Kingdom (up \$3.1 billion), China (up \$1.4 billion) and Hong Kong (up \$0.9 billion). The growth to the United States was based on silver, which gained \$1.6 billion,¹⁸ and nickel, which jumped \$0.7 billion, while gold exports to the United States decreased by \$0.7 billion. The \$2.8-billion gain in gold exports to the United Kingdom explained most of the increase in exports to that country, while China's status as the

premier importer of Canadian ores (both iron and copper) was strengthened by the \$1.3-billion growth in these items. Gold was also responsible for the tripling of exports to Hong Kong in this category.

Imports of metals and minerals grew \$8.2 billion to reach \$57.2 billion in 2011. This represented a 16.7-percent growth in imports—almost as fast as for exports. Almost half of that increase was due to gold (up \$2.5 billion) and silver (up \$1.5 billion). Iron and steel imports, and articles thereof, grew \$2.4 billion, with notable increases in imports of tubes and pipes. Imports of ores grew \$0.7 billion, with lead ores constituting over half of the increase. The United States accounted for one third of the import growth (up \$2.7 billion), centred on silver, iron and steel and articles thereof. Imports from Argentina grew \$0.8 billion (due to gold), from Peru \$0.7 billion (gold and lead ores), from China \$0.5 billion (largely articles of iron and steel) and from Mexico \$0.4 billion (silver, gold, articles of iron and steel). Increased imports from Poland (predominantly silver) deserve mention, having expanded tenfold in two years and gaining \$325 million in 2011.

Almost half of Canada's \$10.1-billion gold imports came from two countries: Peru (\$3.1 billion, up 22.0 percent) and Argentina (\$1.8 billion, up 67.5 percent). Eritrea and Turkey also became suppliers of gold to Canada last year, with new shipments of \$319 million and \$226 million, respectively.

Canada's trade balance in metals and minerals expanded to \$18.1 billion in 2011, up 25.7 percent from 2010 (a \$3.7-billion increase) and double the 2009 level.

¹⁸ 97 percent of Canadian silver exports are destined for the United States.

*Chemicals, Plastics and Rubber*¹⁹

Canada's exports of chemicals, plastics and rubber reached \$47.0 billion in 2011, up \$5.3 billion (12.9 percent). Fertilizers (largely potash) continued to account for the largest gain with \$1.8 billion of additional exports, followed by inorganic chemicals, which grew \$1.3 billion (primarily due to uranium, ammonia and rare-earth metal compounds), plastics, with a growth of \$1.1 billion, and organic chemicals, which gained \$0.8 billion. Exports of pharmaceutical products retreated \$0.3 billion as exports of human and animal blood decreased.

The United States accounted for 71.8 percent of the increase, gaining \$3.8 billion in broad-based exports, followed by China's gain of \$429 million. Exports also expanded to Indonesia (up \$242 million) and the United Kingdom (\$221 million).

Potash exports increased \$1.5 billion; with increasing prices favouring this expansion to \$6.7 billion, potash remained one of Canada's principal export strengths. Just over half (\$3.6 billion) of Canada's potash was shipped to the United States, while the other half was distributed among a variety of countries, such as Brazil, Indonesia, China, India and Malaysia. Strong growth among these top customers took place in 2011, while Vietnam, Philippines and Costa Rica more than doubled their potash purchases from Canada.

Imports of chemicals, plastics and rubber grew more slowly (6.5 percent, or \$3.6 billion), reaching \$58.8 billion in 2011. Over half came from the United States, which accounted for the biggest import increase at \$2.4 billion. Imports from China were a

distant second with a \$265-million increase. Imports from Ireland continued to plunge, down by \$276 million last year.

The increases in imports were led by rubber products, which grew \$1.1 billion (primarily tires and natural rubber), followed by plastics at \$0.9 billion. Imports of inorganic chemicals grew \$738 million, with uranium and aluminum compounds chiefly responsible. A large increase of \$482 million (61.2 percent) was registered in fertilizer imports, primarily nitrogenous and various mineral fertilizers from the United States.

Faster growth of exports over imports has once again helped reduce Canada's trade deficit in this category. The trade deficit for chemicals, plastics and rubber products was \$11.9 billion in 2011, down \$1.8 billion from \$13.7 billion in 2010.

*Wood, Pulp and Paper*²⁰

In 2010, this important cluster of Canadian industries arrested its long export decline and posted a gain for the first time in five years. In 2011, this group made another gain, but only barely. With only a 1.4 percent increase in value, exports grew a slight \$374 million to reach \$27.4 billion overall. Losses in the exports of paper and paperboard amounting to \$113 million and a decline of \$82 million in printed matter were outweighed by gains in wood exports (up \$326 million) and wood pulp (up \$243 million).

Analysis by destination shows that greatly increased exports to China (up \$1.1 billion, a 36.5-percent increase) compensated for the continuing weakness of the United States as a market for wood and paper exports (down \$728 million). Other movements were slight, with export increases to Indonesia (up

19 HS Chapters 28-40.

20 HS Chapters 44-49.

\$62 million), the United Kingdom (up \$50 million) and South Korea (up \$49 million) and declines to Italy (down \$47 million), Belgium (down \$47 million) and Saudi Arabia (down \$35 million). Wood and wood pulp were responsible for the increased exports to China; wood was the primary source of weakness in the exports to the United States.

Imports of wood, pulp and paper fell 3.6 percent last year, or \$465 million, to \$12.4 billion. The United States accounted for 73 percent of the decline with a drop of \$340 million—primarily paper, paper products and printed matter. Most of the other suppliers also decreased their shipments slightly, with the exception of Mexico, where Canadian imports increased \$34 million (up 49.2 percent). Compositionally, all categories reduced their import values, with wood sustaining the largest reduction at \$183 million, followed by printed matter at \$167 million.

With growing exports and decreasing imports, Canada's trade surplus in wood, pulp and paper products expanded \$0.8 billion (up 6.0 percent) to reach \$15.0 billion in 2011.

*Textiles, Clothing and Leather*²¹

Canada's exports of textiles, clothing and leather expanded again in 2011, gaining 5.8 percent, or \$254 million, for the total of \$4.6 billion. Increased exports to the United States (up \$122 million) and China (up \$104 million) accounted for almost 90 percent of the increase. No other notable changes by export destination occurred, with the exception of a contraction of \$23 million to Hong Kong. Increases in 14 of 19 major sub-categories were registered in 2011, with furskins and artificial fur leading (up \$71 million) followed by articles of leather (up \$43 million),

non-knitted or crocheted apparel articles (up \$33 million) and raw hides and leather (up \$26 million).

Canada's imports of textiles, clothing and leather rose 8.3 percent in 2011, up \$1.3 billion, to reach \$17.3 billion. Increases were spread widely between China (up \$448 million), Bangladesh (up \$219 million), Cambodia (up \$162 million), the United States (up \$137 million) and others. Most sub-categories experienced import gains as well, with the bulk of the gains concentrated in non-knitted or crocheted apparel articles (up \$412 million) and knitted or crocheted apparel articles (up \$386 million).

As exports rose only \$254 million and imports expanded \$1.3 billion, a significant widening in the trade deficit took place in this category. The deficit increased \$1.1 billion to reach \$12.7 billion in 2011.

*Consumer Goods and Miscellaneous Manufactured Products*²²

Exports of consumer goods and miscellaneous manufactured products expanded by 4.3 percent in 2011, or \$0.8 billion, and reached the mark of \$19.6 billion. Over three quarters of the increase was due to greater exports to the United States (up \$609 million); Germany (up \$111 million) and Japan (up \$94 million) accounted for most of the remainder. Germany in particular experienced fast growth with a 46.1-percent increase in Canadian exports. Exports to Italy fell \$76 million, however, and exports to Brazil declined by \$31 million.

Compositionally, the biggest increases occurred in the special provisions category (up \$630 million), which consists of unclassifiable exports (generally low-value

21 HS Chapters 41-43, 50-65.

22 HS Chapters 66, 67 and 91-99.

transaction or confidential commodities), repairs and goods of U.S. origin returning to the United States without transformation. Most of the increases for the rest of the year were due to the \$182-million expansion in furniture exports, primarily in seats and lamps. Furniture exports went predominantly to the United States, which accounted for over 92 percent of all exports. Arms and ammunition exports declined by \$39 million, which presented the only significant downward movement in this category.

Imports of consumer goods and miscellaneous manufactured products grew 3.4 percent in 2011 (\$0.7 billion), reaching \$21.6 billion. Imports from the United States increased \$645 million, while imports from China dropped \$324 million. Imports from Mexico, Austria and Cuba also expanded: by \$79 million, \$71 million and \$53 million, respectively.

Furniture remained the main import article in this category, gaining \$291 million (mostly an increase in imports from the United States), while imports of toys and games decreased by \$484 million, or over 10 percent of their total value. The decrease was mostly attributable to China, Canada's main supplier in this sub-category. A \$561-million growth in goods classified under special provisions ensured an overall increase, while arms and ammunition imports added \$145 million.

The trade balance in consumer goods and miscellaneous manufactured products was slightly improved in 2011, with Canada's trade deficit in this category narrowing \$91 million to \$2.0 billion.

*Other Transportation Equipment*²³

Non-motor vehicle transportation equipment, which includes aircraft, railway stock, ships and boats, is among Canada's important trade categories. In 2011, exports of other transportation equipment stood at \$10.5 billion, a six-year low, having lost \$267 million (2.5 percent). Despite a \$571-million increase in exports to the United States, a loss of \$1.0 billion (71.4 percent) in exports to the United Kingdom drove the overall decline. Furthermore, in spite of important increases in exports to France (up \$245 million), Germany (up \$216 million) and China (up \$195 million), an unusually broad-based decline in orders from a number of other countries occurred, including Ethiopia (down \$147 million), Saudi Arabia (down \$145 million), Switzerland (down \$134 million), Latvia (down \$133 million), and many others. Lower aircraft exports were the principal cause of declines to the United Kingdom, Ethiopia, Switzerland and Latvia, while railway stock was behind the fall in exports to Saudi Arabia. It should be noted that the large-contract nature of this industry's business creates significant year-to-year variations in trade numbers.

Among the sub-categories, exports decreased the most for aircraft (down \$223 million), mitigated by the strength of the aircraft shipments to the United States; exports of aircraft parts remained stable overall. Exports of railway stock dropped \$121 million, primarily in locomotives, while ship and boat exports gained \$77 million (chiefly yachts and pleasure vessels).

Imports of other transportation equipment expanded 8.2 percent (up \$614 million) in 2011 to \$8.1 billion. The bulk of the

23 HS Chapters 86, 88 and 89.

increase came from the United States with \$506 million more in imports across the board. Norway (up \$228 million, mostly ships) and China (up \$111 million, ships and railway stock) also made considerable contributions. On the other hand, imports from South Korea (down \$180 million) and France (down \$173 million) dropped sharply, while Canada's imports of ships from Chile fell from \$55 million in 2010 to zero in 2011.

Imports of aircraft and parts expanded only 2.2 percent, but given the size of this category the increase amounted to \$123 million. The bulk of the increase in imports of other transportation equipment came from the \$352-million jump (39.0 percent) in railway stock imports (parts and locomotives). Imports of ships and boats also increased, by \$140 million, mostly due to the increase in imports of transport vessels, while imports of yachts and pleasure vessels declined.

With a decline in exports and an increase in imports, Canada's trade surplus in other transportation equipment narrowed by \$881 million to \$2.3 billion in 2011.

Trade by the Provinces and Territories

In 2011, merchandise trade grew for all Canadian provinces and territories, both on the exports and imports side. **Alberta** experienced the largest export growth, gaining \$14.1 billion to reach \$93.4 billion in exports, an increase of 17.8 percent. The bulk of the growth occurred in mineral fuels and oil, specifically crude oil, exports of which gained \$12.7 billion. The gain was attributable equally to higher prices and higher export volumes. On the other hand, exports of petroleum gases shrunk by \$1.9 billion, mainly due to lower prices. Gains also took place in machinery exports, up \$854 million, canola seeds, up \$678 million, and

cereals, up \$582 million. Meanwhile, imports into Alberta grew much more rapidly than exports at 27.4 percent (\$5.3 billion) to \$24.5 billion, the highest recorded level. Increases were broad-based, but nearly half came from increased imports of mechanical machinery (up \$1.5 billion) and mineral fuels and oil (up \$1.1 billion). Increases in machinery centered on oil-related equipment: centrifuges, filtering machinery, bulldozers and scrapers, and pumps and valves. Mineral fuels imports comprised predominantly light petroleum oils. Other items of significance in Alberta's notable import expansion included articles of iron and steel (up \$510 million), electrical machinery (up \$471 million) and vehicles (up \$308 million).

Ontario was close behind Alberta in export expansion, posting a \$12.9-billion gain (7.7 percent) for the final tally of \$181.5 billion in exports. Together, these two provinces accounted for 55.8 percent of Canada's export growth. The principal driver behind Ontario's gains were exports of precious metals and stones, which grew \$5.2 billion—primarily gold and silver, coin and waste and scrap of precious metals. The other two significant commodities that increased their exports in 2011 were nickel, which grew by \$1.5 billion, and motor vehicles—primarily passenger cars—which expanded by \$1.4 billion. Exports of mechanical machinery, inorganic chemicals (uranium), mineral fuels and oil, and plastics also increased. The \$551-million contraction in aircraft exports was the only significant reduction in exports from Ontario last year. Imports expanded by \$19.8 billion (8.4 percent) in 2011, reaching \$255.0 billion, – considerably over half of Canada's total imports. The commodities that posted the most significant growth in imports were mineral fuels and oil imports (up \$4.9 billion), precious metals and stones

Table 5-2

Merchandise Trade by Province and Territory, 2011

(\$ millions and percent)	2011	Export	Export	2011	Import	Import
	Exports	Growth	Share	Imports	Growth	Share
	\$	%	%	\$	%	%
Ontario	181,510.0	7.7	40.5	254,971.0	8.4	57.2
Alberta	93,355.7	17.8	20.9	24,496.6	27.4	5.5
Quebec	63,557.8	7.4	14.2	74,538.6	10.0	16.7
British Columbia	33,199.6	14.2	7.4	40,373.7	8.7	9.1
Saskatchewan	29,772.7	25.4	6.7	9,405.8	16.0	2.1
New Brunswick	14,892.2	17.1	3.3	13,656.2	27.6	3.1
Newfoundland	12,120.4	31.3	2.7	3,645.1	1.9	0.8
Manitoba	11,967.5	16.1	2.7	16,204.0	17.6	3.6
Nova Scotia	4,464.2	3.6	1.0	8,326.0	3.0	1.9
Northwest Territories	2,083.8	0.7	0.5	0.9	332.1	0.0
PEI	754.6	5.5	0.2	62.2	51.3	0.0
Yukon Territory	112.9	14.5	0.0	105.0	10.8	0.0
Nunavut	8.2	33.5	0.0	168.5	101.1	0.0
TOTAL	447,800	12.2	100.0	445,954	10.5	100.0

Source: Office of the Chief Economist, DFAIT; with data from Statistics Canada.

(mostly gold, up \$3.4 billion), motor vehicles (mostly passenger vehicles and parts, up \$2.3 billion), electrical machinery (up \$1.9 billion) and mechanical machinery (up \$1.7 billion).

Saskatchewan was the third-ranked driver of export growth last year, posting a \$6.0-billion increase (25.4 percent) to a total of \$29.8 billion. Mineral fuels and oil grew \$2.2 billion, fertilizers (potash) expanded by \$1.5 billion, canola oil grew \$0.7 billion and cereals and canola seeds contributed another \$0.5 billion each. Imports grew \$1.4 billion (16.0 percent) to reach \$9.4 billion; machinery, oil, motor vehicles and non-potassic fertilizers accounted for much of the growth.

Quebec increased its exports by \$4.4 billion, or 7.4 percent, on the strength of higher exports of ores (\$787 million, mostly iron ores), aluminum (\$611 million), mineral fuels and oils (\$558 million) and motor vehicles (\$500 million); however, exports of pharmaceuticals dropped \$475 million. On the

import side, pharmaceuticals also dropped (by \$599 million), but a large increase in imports of mineral fuels and oil (\$2.1 billion) accompanied by increases in mechanical machinery and precious metals drove total imports up 10.0 percent (\$6.8 billion) in 2011.

British Columbia posted significant export growth: 14.2 percent (\$4.1 billion), almost \$2.0 billion of which was due to increased coal exports. Exports of wood, wood pulp and ores also contributed to the growth. Imports grew \$3.2 billion, driven by machinery (mechanical and electrical), non-crude oil, and motor vehicles.

Growing volumes, and especially prices, of crude oil added \$1.9 billion to **Newfoundland and Labrador's** exports, a significant contribution to the province's \$2.9-billion export gain, with iron ores accounting for most of the remainder. Rising oil prices also spurred **New Brunswick's** mineral fuels and oil exports to a \$2.0-billion gain (primarily

on the strength of non-crude oil exports), accounting for the bulk of the \$2.2-billion export growth for the year.

In 2011, **Manitoba** entered the business of exporting copper ore, which added \$601 million to the province's exports. A variety of mechanical machinery exports, including agricultural machinery and aircraft engines, added another \$245 million to the total \$1.7 billion in export growth. Tires remained the primary article exported from **Nova Scotia**, adding \$67 million in export value last year. Increased exports of fish and crustaceans added another \$99 million to the province's total \$155-million export gain. In **Prince Edward Island**, a \$35-million boost in potato exports and a \$29-million increase in exports of aircraft engines offset the decline in exports of vegetables and fish and ensured an expansion of \$39 million on the year. Exports of \$1.0 million worth of telephone equipment contributed to **Nunavut's** \$2.1-million boost in exports, while \$13 million in new shipments of zinc ores propelled the **Yukon Territory** to a \$14.3-million gain in exports last year.

i Data collected and presented on the Customs basis measures the change in the stock of material resources of the country resulting from the physical movement of merchandise, in this case, into or out of Canada. When goods are imported into or exported from Canada, declarations must be filed with the Canadian Border Services Agency (CBSA) detailing such information as description and value of goods, origin and port of clearance of commodities and mode of transport.

To obtain data on the Balance of Payments (BOP) basis, Customs basis information is adjusted to conform to the Canadian System of National Accounts concepts and definitions, so as to cover all economic transactions between residents and non-residents that involve merchandise trade.

The main differences are as follows: on a BOP basis, transactions are defined in terms of ownership change (i.e. BOP trade can sometimes occur completely within or completely outside of Canada). On a Customs basis, a transaction occurs when a good crosses the border. Other major differences involve the country of attribution for imports (BOP is country of shipment; Customs is country of origin) and valuation (most notably, freight for BOP purposes is moved out of merchandise trade and into transportation services). BOP adjustments to Customs data are frequently carried out at aggregate levels (both for commodity and country groupings), making the identification of a direct relationship of detailed Customs data to the BOP data difficult where possible at all.

Overview of Canada's Investment Performance

2011 was a year of increased activity in foreign direct investment, with a particular accent on corporate restructuring and acquisitions of resource interests across the world. Developed countries generated more investment activity than developing and emerging economies, but relatively little of that was invested in new productive activities. Cross-border mergers and acquisitions driven by streamlining and opportunities arising due to changes in exchange rates and valuations accounted for much of the global investment flows, although greenfield investment activity emanating from the developing countries remained strong.

Foreign direct investment into Canada rebounded strongly during 2011 for both stocks and flows. Inward flows posted stronger growth, driven by increased European investment. The rise in inward investment stocks was focused in the manufacturing sector.¹

Canadian direct investment abroad also grew strongly, with the focus on the finance and insurance sector and the mining and oil and gas extraction sector, both traditional areas of Canadian investment in foreign countries. Growth in flows in 2011 was

concentrated in the United States and European Union, while flows to other OECD countries and the rest of the world declined.

Canada's net direct investment asset position improved in 2011 as investment stock abroad grew faster than inward investment stock, partly due to the revaluation effect as the Canadian dollar depreciated during the year against the currencies of most of Canada's partner countries.

Global Foreign Direct Investment Flows

Global inflows of foreign direct investment (FDI) rose by 17 percent in 2011, in spite of the uncertainty prevailing in the global economy, expanding from US\$1,290 billion in 2010 to US\$1,509 billion in 2011.² This was above the pre-crisis average of US\$1,472 billion (observed during the 2005-2007 period), with FDI inflows on the rise to the developed, developing and transition economies.

FDI inflows into developing and transition economies reached a record high in 2011, amounting to \$755 billion, nearly 73 percent of which was greenfield investment. FDI inflows into developed countries as a group grew faster than the investment

1 Foreign direct investment (FDI) flows represent the yearly movements of capital across national borders, which is invested into domestic structures, equipment and organizations, but not in equity. FDI stock is the total accumulated worth of all such investment held abroad by a country's nationals. Due to constant changes in valuation and different methods of data collection, summing FDI flows does not provide accurate FDI stock information.

2 These data and all other data, assessments and forecasts of global FDI flows in this chapter come from the United Nations Conference on Trade and Development (UNCTAD). The *Global Investment Trends Monitor#8* contains data on global FDI inflows and *Global Investment Trends Monitor#9* discusses the global FDI outflows.

TABLE 6-1

Global FDI Flows by Region and Selected Countries (US\$ billions and %)

	FDI inflows				FDI outflows			
	2010	2011 ⁱ	Change (%)	Share (%)	2010	2011 ⁱ	Change (%)	Share (%)
World	1289.7	1508.6	17.0	100.0	1428.6	1664.2	16.5	100.0
Developed economies	635.6	753.2	18.5	49.9	984.5	1234.5	25.4	74.2
Canada	23.4	40.8	74.4	2.7	38.6	45.5	18.0	2.7
Europe	346.8	425.7	22.8	28.2	525.1	664.4	26.5	39.9
European Union	314.1	414.4	31.9	27.5	450.5	575.9	27.8	34.6
Austria	3.8	17.9	366.3	1.2	7.7	30.2	290.1	1.8
Belgium	72.0	41.1	-42.9	2.7	48.8	70.3	43.9	4.2
France	33.9	40.0	18.1	2.7	84.1	106.6	26.7	6.4
Germany	46.1	32.3	-30.0	2.1	104.9	50.5	-51.8	3.0
Ireland	26.3	53.0	101.3	3.5	17.8	-1.6	..	-0.1
Italy	9.2	33.1	261.0	2.2	32.6	67.7	107.4	4.1
Luxembourg	20.3	27.2	33.8	1.8	15.1	11.7	-22.5	0.7
Netherlands	-13.5	-5.3	..	..	50.0	22.4	-55.2	1.3
Spain	24.5	25.0	1.9	1.7	21.6	36.4	68.4	2.2
Sweden	-1.2	22.0	..	1.5	18.7	28.0	50.3	1.7
United Kingdom	51.8	77.1	49.0	5.1	31.0	103.0	232.3	6.2
United States	228.2	210.7	-7.7	14.0	328.9	383.8	16.7	23.1
Japan	-1.3	-1.3	..	..	56.3	115.6	105.5	6.9
Developing economies	583.9	663.7	13.7	44.0	382.5	356.5	-6.8	21.4
Africa	54.7	54.4	-0.7	3.6	5.0	2.1	-58.2	0.1
Egypt	6.4	0.5	-92.2	0.0	1.2	0.6	-46.8	0.0
South Africa	1.2	4.5	269.2	0.3	-0.1	-0.5	..	0.0
Latin America and the Caribbean	160.8	216.4	34.6	14.3	112.2	79.4	-29.3	4.8
Brazil	48.4	65.5	35.3	4.3	11.5	-9.3	..	-0.6
Colombia	6.8	14.4	113.4	1.0	6.5	8.3	27.5	0.5
Chile	15.1	17.6	16.4	1.2	8.7	7.3	-16.6	0.4
Mexico	19.6	17.9	-8.8	1.2	14.3	9.6	-32.8	0.6
Asia and Oceania	368.4	392.9	6.7	26.0	265.2	275.0	3.7	16.5
China	114.7	124.0	8.1	8.2	68.0	67.6	-0.6	4.1
Hong Kong	68.9	78.4	13.8	5.2	95.4	81.6	-14.4	4.9
India	24.6	34.0	37.9	2.3	14.6	14.8	0.9	0.9
Indonesia	13.3	19.7	48.2	1.3	2.7	7.7	189.8	0.5
Malaysia	9.1	11.6	27.6	0.8	13.3	14.8	10.8	0.9
Singapore	38.6	41.0	6.1	2.7	21.2	25.3	19.0	1.5
Thailand	5.8	7.7	33.1	0.5	5.1	10.8	110.8	0.6
Turkey	9.1	13.2	45.1	0.9	1.5	2.5	68.3	0.2
Emerging Europe and the CIS	70.2	91.7	30.6	6.1	61.6	73.1	18.7	4.4
Russia	41.2	50.8	23.4	3.4	52.5	67.3	28.1	4.0

Source: UNCTAD, Statistics Canada

i Preliminary estimates by UNCTAD

in developing and emerging countries. The 18.5-percent expansion amounted to US\$117.6 billion, bringing FDI inflows into developed countries to US\$753.2 billion in 2011. Green-field investment amounted to just over 30 percent of this amount, and net cross-border mergers and acquisitions (M&As) constituted just over half of the total. Notably, the primary source of funding for FDI inflows in developed countries became reinvested earnings, displacing equity flows; intra-company loans were also on the rise.

FDI inflows were quite stable during most of the year with a slight upward trend, but started slowing down in the fourth quarter with the general increase in uncertainty due to the flare-up of the eurozone crisis. A considerable rise in M&A activity, especially in developed and transition economies, underscored the ongoing corporate restructuring, particularly in Europe. These M&As took the form of large deals, with the extractive and pharmaceutical industries being the most affected. Uncertainty among investors and concerns about the future of the eurozone economy limited the number of green-field investment projects, whose total value fell for the third straight year.

Strong FDI inflows to developed nations that reversed a three-year decline were driven principally by **Europe**. FDI to this region increased 22.8 percent, reaching US\$425.7 billion and erasing most of the decline that took place in 2010. FDI inflows into Germany fell 30 percent, but considerable increases in FDI inflows occurred in Ireland (up US\$26.7 billion to US\$53.0 billion), the United Kingdom (up US\$25.3 billion to US\$77.1 billion), Italy (up US\$23.9 billion to US\$33.1 billion) and Sweden (up US\$23.2 billion to

US\$22.0 billion). Clearly, these increases were not a sign of booming economies but were primarily driven by corporate restructuring, stabilization and cost reduction. For example, Ireland's growth in incoming FDI flows was entirely due to equity and debt realignment in the financial sector. Other important factors behind the cross-border M&A activity that drove Europe's FDI inflows last year were the sale of non-core assets and opportunistic deals based on changing currency values and stock prices.

After the 2010 surge, investment inflows into the **United States** abated and were down 7.7 percent in 2011. FDI inflows into **Japan** remained at the near-zero level, registering a small divestment of US\$1.3 billion, the same as in 2010.

In 2011, FDI in developing economies grew the slowest of the three major regions, at 13.7 percent. In 2010, the main driver in this group was **Asia**, but this changed in 2011 when it experienced only a 6.7-percent growth in FDI inflows. Asia-bound FDI growth was particularly hampered by the 13.4-percent reduction of FDI inflows into West Asia. Turkey was the exception in that area, posting a 45.1-percent increase in FDI inflows. Excluding West Asia, the growth rate of FDI inflows into Asia was 11.4 percent. Growth in FDI was the fastest for the Association of Southeast Asian Nations (ASEAN), driven by large increases in Indonesia (up 48.2 percent), Malaysia (up 27.6 percent) and Thailand (up 33.1 percent). Inflows into South Asia rose by one third, with India growing 37.9 percent. Despite a slowdown in the last quarter of 2011, investment flows to China increased 8.1 percent on the year, mainly on investments into non-financial services.

FDI flows to **Latin America and the Caribbean** led the increase among the group of developing and transition economies, with a 34.6-percent growth, resulting in an increase in FDI inflows into this region from US\$160.8 billion to US\$216.4 billion. This occurred despite a 31.3-percent reduction in the region's cross-border M&A activity. Natural resources and growing domestic markets continued to be a strong attraction for investors in 2011. Investment into Colombia expanded 113.4 percent to US\$14.4 billion, and Brazil's inflows grew 35.3 percent to US\$65.5 billion. Significant investment also occurred in the region's offshore financial centres due to the global uncertainty. Meanwhile, FDI flows into Mexico declined by 8.8 percent to US\$17.9 billion.

Flows to **Africa** edged down in 2011, losing 0.7 percent to end at US\$54.4 billion. The region's prolonged decline in FDI inflows, which have been trending down since 2009, was fed by the turmoil in North Africa, where FDI into Egypt declined from US\$6.4 billion to US\$0.5 billion. Other countries of the Maghreb also experienced sharp declines in investment. Investment flows picked up robustly in West and Southern Africa, but declined in Central and East Africa in 2011. Investment into South Africa picked up from US\$1.2 billion to US\$4.5 billion; however, these increases failed to offset the overall decline.

Transition economies (**emerging Europe and the CIS**) did very well last year, posting a 30.6-percent increase in FDI inflows, which raised their total inflows from US\$70.2 billion in 2010 to US\$91.7

billion in 2011. That growth offset most of the investment declines sustained in 2009. The increase was driven by Russia, which accounted for over half of the region's inward investment flows. FDI inflows into Russia grew 23.4 percent to US\$50.8 billion, mainly due to large cross-border transactions related to the energy industry. Growth in local consumer markets and several new privatization actions also attracted investors.

Shifting the analysis from FDI recipients to FDI donors, the most recent preliminary estimates by UNCTAD reveal that global FDI outflows rose by 16.5 percent in 2011, from US\$1428.6 billion to US\$1664.2 billion. This increase brought the level of FDI outflows to above its pre-recession level, although the level was still 25 percent below the high attained in 2007.³

According to UNCTAD, the expansion of FDI outflows in 2011 was largely due to cross-border acquisitions and increased amounts of cash kept in foreign affiliates rather than direct investment in new projects through greenfield investment or expansion of existing foreign affiliates. The expansion of FDI outflows therefore did not result in a commensurate expansion of global productive capacity. Several multinational corporations (MNCs) based in developed countries have made strategic or opportunistic cross-border M&A investments in other developed countries as currency values, risk levels and other variables shifted in the uncertain economic climate of 2011.

FDI outflows from developed countries increased 25.4 percent in 2011, growing from US\$984.5 billion to US\$1234.5 billion,

3 Global inflows can differ from outflows for various reasons, including different methods of data collection between host and home countries, different data coverage of FDI flows (i.e. treatment of reinvested earnings), and different times used for recording FDI transactions. In addition, the fact that outflows exceed inflows suggests that part of flows recorded as outflows in home countries may not be necessarily recorded as inflows of FDI in host countries. - UNCTAD, *Global Investment Trends Monitor #6*, April 27 2011.

with their share of global investment flows increasing to nearly three quarters of the total. All major regions contributed to this growth. Outflows from **Europe** rose 26.5 percent to reach US\$664.4 billion. The United Kingdom drove that growth with a US\$72.0-billion increase in its FDI outflows, which more than tripled. Italy's outflows more than doubled to reach US\$67.7 billion. France, Belgium and Austria all increased their FDI outflows by more than US\$20 billion each compared to the previous year. Spain's banks continued to be active in their outward investment strategy, driving the country's FDI outflows up US\$14.8 billion (68.4 percent) to US\$36.4 billion. Germany—Europe's leader in foreign investment last year—scaled back its outward FDI activities by 51.8 percent to US\$50.5 billion. The Netherlands and Ireland also experienced reductions in their FDI outflows, the latter divesting US\$1.6 billion in 2011, while the former's outflows dropped 55.2 percent to finish the year at US\$22.4 billion. Corporate restructuring was responsible for most of the cross-border M&A activities of European MNCs.

Outward FDI from the **United States** grew 16.7 percent in 2011 to reach US\$383.8 billion, well above the pre-crisis average and not far from the 2007 high. The dominant portion of these flows (85 percent) was reinvested earnings of foreign affiliates of U.S. companies, with equity accounting for the rest of the total. Back in both 2004 and 2007, U.S. FDI was conducted almost equally through equity and reinvested earnings. Holding cash abroad in foreign affiliates allows U.S. companies to both invest internationally and minimize their domestic tax liabilities. **Japan's** FDI outflows more than doubled to US\$115.6 billion, buoyed by the stronger Japanese yen.

The growth in outward FDI from the developing economies that had been going on for the past several years was interrupted in 2011. Total FDI decreased from US\$382.5 billion in 2010 to US\$356.5 billion in 2011 (down 6.8 percent). As with the FDI inflows, FDI outflows from **Latin America and the Caribbean** were the principal influence on the total for the developing economies, dragging down the overall performance with a significant regional decline of 29.3 percent. This decline underscores the recent high volatility in the region's investment flows, as a 39-percent drop in 2009 was followed by a dramatic upward swing of 82 percent in 2010. That volatility is partly explained by the importance of the region's offshore financial centres in its investment picture—these generated four fifths of all FDI outflows in 2011. However, the region's large nations contributed the most to last year's decline. Brazil's FDI declined US\$20.8 billion, reaching negative US\$9.3 billion, as foreign affiliates of Brazilian companies repaid massive loans from their parent companies to take advantage of the high interest rates in Brazil. Mexico's FDI dropped by almost one third to US\$9.6 billion and Chile's decreased 16.6 percent to US\$7.3 billion. Colombia expanded its FDI outflows by 27.5 percent, reaching US\$8.3 billion for the year 2011.

Outward investment from **Asia** grew by a modest 3.7 percent in 2011: total FDI outflows were up US\$9.8 billion to reach US\$275.0 billion for the year. West Asia led with 41.1-percent FDI growth (amounting to US\$5.3 billion) to reach US\$18.1 billion. The bulk of the increase came from a number of oil-rich countries in the area, such as Kuwait, Bahrain, Qatar and the UAE, whose financial resources again expanded in tandem with the

strengthening oil price. Meanwhile, Turkey's outflows increased by US\$1.0 billion and Saudi Arabia's declined by US\$0.4 billion.

Southeast Asia's outward investment grew strongly at 36.2 percent. Indonesia's flows nearly tripled, having increased US\$5.0 billion, and Thailand's more than doubled, growing by US\$5.7 billion. Singapore's FDI outflows grew 19.0 percent, reaching US\$25.3 billion. East Asia's outward FDI declined 5.9 percent as China's flows remained constant but Hong Kong's decreased 14.4 percent to US\$81.6 billion. Outflows from India grew modestly (0.9 percent) in 2011. Greenfield investment by Asian MNCs remained at a similar level to 2010, with continued activity in developed countries such as Germany, while their cross-border M&A activities declined.

FDI outflows from **Africa**, which totalled only US\$5.0 billion in 2010, contracted severely in 2011 to US\$2.1 billion (down 58.2 percent). Turmoil in North Africa reduced outflows from such major regional investors as Egypt and Libya. South Africa's FDI flows experienced further divestment, going from negative US\$0.1 billion in 2010 to negative US\$0.5 billion in 2011.

Transition economies expanded their FDI outflows by 18.7 percent in 2011, raising their total from US\$61.6 billion to an estimated US\$73.1 billion, a record high. The year's activity centred on investment by Russian firms, predominantly resource-based but also in the banking and technology sectors. Russia's FDI grew 28.1 percent, from US\$52.5 billion to US\$67.3 billion, while that of the rest of the region declined by over a third to US\$5.8 billion.

According to UNCTAD, FDI prospects for 2012 were guarded as the continued downturn and uncertainty in Europe made investors cautious. Announcements of cross-border M&As fell sharply in early 2012, with greenfield investment sluggish. Nevertheless, prospects remain higher for the medium term in the hope that the eurozone crisis will be resolved.

Canadian Direct Investment Performance

Inward Investment

Inflows

Following sharp declines in FDI inflows into Canada in 2008 and 2009, followed by weak growth in 2010, a strong rebound took place in 2011. Inward FDI flows increased by over two thirds (up \$16.2 billion), growing from \$24.1 billion in 2010 to \$40.3 billion in 2011 (Table 6-2). While this increase was an improvement, it was still only about a third of the record 2007 level of \$123.1 billion. The bulk of the year's growth came from the increased net sales of existing Canadian interests to non-residents, which grew by over \$10 billion (gross sales grew by nearly \$15 billion while buy-backs from non-residents also increased by about \$5 billion). Long-term inflows to Canada-based subsidiaries of foreign firms declined compared to 2010 and constituted approximately half of the total inflows; long-term FDI outflows also increased. These were offset by the reversal in net short-term flows of FDI, from negative \$9.3 billion to positive \$2.3 billion, and increased holdings of reinvested earnings in foreign subsidiaries.

Over three quarters of the increase in FDI inflows into Canada in 2011 originated from European Union sources. Flows from

TABLE 6-2

FDI Inflows into Canada by Region
(\$ millions and %)

Source	2010 (\$)	2011 (\$)	Change (\$)	Growth (%)
World	24,119	40,345	16,226	67.3
US	17,312	19,047	1,735	10.0
EU	1,475	13,921	12,446	843.8
Japan	1,781	221	-1,560	-87.6
Other OECD	-3,128	446	3,574	-114.3
ROW	6,679	6,710	31	0.5

Source: Statistics Canada

the EU into Canada rose from \$1.5 billion to \$13.9 billion, a gain of \$12.4 billion. Two thirds of that increase represents the change in the stance of investors in the United Kingdom, who went from a divestment of \$2.0 billion in 2010 to an investment of \$6.5 billion in 2011, while the remaining third (\$3.9 billion) came from other EU countries. Investment flows from the United States grew 10.0 percent during the year and accounted for just under half of the total. The highlight of U.S. activity was the acquisition of Consolidated Thompson Iron Mines Ltd. by Cliffs Natural Resources Inc. for US\$4.4 billion. Investment from Japan retreated from \$1.8 billion in 2010 to just \$0.2 billion in 2011, but that was offset by the halt in divestment by other OECD countries, whose FDI inflows went from negative \$3.1 billion in 2010 to positive \$0.4 billion in 2011. Investment from the rest of the world (ROW) remained stable at \$6.7 billion.

By sector, 54 percent of FDI inflows were directed toward energy and metallic minerals, followed by machinery and transportation equipment (11 percent), finance and insurance (4 percent), service

and retailing (4 percent), and wood and paper (1 percent). The remaining 26 percent went to other industries.

Inward FDI Stock

In 2011, foreign investment stocks in Canada rose in tandem with FDI inflows, reaching \$607.5 billion. This represented an increase of 3.8 percent (up \$22.4 billion) over the 2010 level of \$585.1 billion. Nearly half of the increase came from additional holdings by European investors, which were up 5.7 percent (\$10.0 billion) to reach \$184.2 billion. The United States accounted for most of the remaining growth, with its FDI stock rising \$7.6 billion (up 2.4 percent) to reach \$326.1 billion, over half of the total.

North America's FDI stock in Canada rose \$8.0 billion, most of which came from the United States. Investment from Bahamas, Barbados and Bermuda did not change significantly during the year, remaining at roughly 0.5 percent of the total FDI in Canada. Mexico's FDI grew 13.1 percent on the year, reaching \$216 million.

The increase in **Europe's** FDI in Canada was led by Luxembourg, which increased its stock by \$4.4 billion (up 21.0 percent) to reach \$25.3 billion. The United Kingdom and the Netherland accounted for the rest of the increase, with their holdings rising by \$2.7 billion each. The Netherlands is the largest European investor in Canada, controlling \$56.3 billion worth of assets, while the United Kingdom is second, with \$38.9 billion. Fourth-place Switzerland holds \$20.0-billion worth of FDI in Canada following 4.0-percent growth in 2011. Germany's FDI holdings increased 15.6 percent to \$9.2 billion (up \$1.2 billion), while France was the only significant European investor to reduce its FDI stock in Canada (down 11.5 percent, or \$2.0 billion).

TABLE 6-3

Stock of Foreign Direct Investment into Canada
by Country and Region (\$ millions and %)

	2010 (\$)	2011 (\$)	Change (\$)	Growth (%)
All countries	585,107	607,497	22,390	3.8
North America	323,898	331,902	8,004	2.5
Bahamas	214	214	0	0.0
Barbados	816	889	73	8.9
Bermuda	2,075	2,096	21	1.0
Mexico	191	216	25	13.1
United States	318,412	326,055	7,643	2.4
South and Central America	17,421	18,785	1,364	7.8
Brazil	17,261	18,626	1,365	7.9
Europe	174,210	184,211	10,001	5.7
Belgium	3,561	4,017	456	12.8
Finland	1,224	1,255	31	2.5
France	17,315	15,319	-1,996	-11.5
Germany	7,951	9,190	1,239	15.6
Ireland	2,079	2,023	-56	-2.7
Italy	1,205	1,660	455	37.8
Luxembourg	20,876	25,260	4,384	21.0
Netherlands	53,596	56,282	2,686	5.0
Sweden	2,400	3,054	654	27.3
Switzerland	19,205	19,971	766	4.0
United Kingdom	36,213	38,943	2,730	7.5
Africa	2,864	3,290	426	14.9
South Africa	x	1,519	..	..
Asia/Oceania	66,714	69,310	2,596	3.9
Australia	5,787	5,617	-170	-2.9
India	4,364	4,396	32	0.7
Japan	12,567	12,789	222	1.8
China	11,701	10,905	-796	-6.8
South Korea	5,075	6,078	1,003	19.8

Data: Statistics Canada

TABLE 6-4

Stock of Foreign Direct Investment into Canada by Major Sector
(\$ millions and %)

	2010	2011	Change	Growth
	(\$)	(\$)	(\$)	(%)
Total, all industries	585,107	607,497	22,390	3.8
Agriculture, forestry, fishing and hunting	1,253	1,289	36	2.9
Mining and oil and gas extraction	112,021	115,929	3,908	3.5
Utilities	5,380	5,330	-50	-0.9
Construction	3,359	3,384	25	0.7
Manufacturing	177,391	192,707	15,316	8.6
Wholesale trade	37,911	37,641	-270	-0.7
Retail trade	18,536	19,222	686	3.7
Transportation and warehousing	3,980	3,563	-417	-10.5
Information and cultural industries	8,673	8,755	82	0.9
Finance and insurance	77,782	78,478	696	0.9
Real estate and rental and leasing	5,009	5,678	669	13.4
Professional, scientific and technical services	12,238	14,096	1,858	15.2
Management of companies and enterprises	110,427	109,743	-684	-0.6
Accommodation and food services	4,221	4,254	33	0.8
All other industries	6,925	7,429	504	7.3
Information and communication technologies	19,793	19,942	149	0.8

Data: Statistics Canada

In **South and Central America**, Brazil was the main holder of FDI stock in Canada, accounting for over 99 percent of the region's investment in Canada in 2011. Brazil's total investment rose 7.9 percent (up \$1.4 billion) to reach \$18.6 billion.

Investment stock from **Asia and Oceania** increased 3.9 percent (up \$2.6 billion), reaching \$69.3 billion in 2011. Much of the increase came from South Korea whose stock grew 19.8 percent (up \$1.0 billion), offsetting the decline in investment held by China (down 6.8 percent, or \$0.8 billion). A small rise in Japan's investment (up \$0.2 billion)

offset a small decline in Australia's holdings (down \$0.2 billion). Lastly, investment from **Africa** grew 14.9 percent (up \$0.4 billion) to reach \$3.3 billion in 2011.

Over two thirds (\$15.3 billion) of the \$22.4-billion increase in FDI stock in Canada in 2011 went into the manufacturing sector—an 8.6-percent increase that more than offset the decline sustained in 2010. FDI stock in manufacturing reached \$192.7 billion in 2011, accounting for 31.7 percent of the whole FDI stock in Canada. The other sector of major interest to foreign investors was mining, oil and gas extraction, where FDI stock rose

\$3.9 billion (up 3.5 percent) to reach \$115.9 billion. Investment positions in other goods sectors were stable in 2011.

Professional, scientific and technical services accounted for the largest FDI stock increase among all services sectors, advancing \$1.9 billion (up 15.2 percent) to reach \$14.1 billion. Growth also occurred in retail trade (up \$0.7 billion); finance and insurance (up \$0.7 billion); and real estate and rental and leasing (up \$0.7 billion). Declines took place in FDI stocks in management of companies and enterprises (down \$0.7 billion); transportation and warehousing (down \$0.4 billion); and wholesale trade (down \$0.3 billion).

Outward Investment

Outflows

Canadian direct investment outflows rose 13.8 percent in 2011 (up \$5.5 billion)—reversing declines of the two previous years—to reach \$45.2 billion. Major increases in investment flows to the European Union and the United States were responsible. Outflows to the EU grew \$11.0 billion, changing a divestment flow of \$6.1 billion in 2010 into an investment flow of \$4.9 billion in 2011. Although investment flows to the United

Kingdom dried up—going from \$3.1 billion to negative \$0.2 billion—higher investment flows to other EU countries more than compensated.

Increases in investment in the United States amounted to \$10.4 billion (up 79.2 percent), with FDI outflows reaching \$23.6 billion. Two major deals in the financial sector contributed to the increase: the US\$6.3-billion purchase of Chrysler Financial Corp. by Toronto Dominion Bank and the US\$4.1-billion purchase of Marshall and Ilsley Corp. by the Bank of Montreal.

Investment flows to the other OECD economies declined significantly in 2011, posting a \$9.5-billion decrease overall. Likewise, investment flows to the ROW countries were on the decline, contracting by \$6.7 billion. Investment flows to Japan went from a neutral position to \$0.3 billion in 2011.

A more detailed view of Canada's investment outflows shows that acquisitions of direct investment interest abroad declined by \$4.5 billion, and sales of Canadian interest abroad to non-residents shaved another \$5.9 billion off the total FDI outflows. Furthermore, even long-term outflows to foreign-based subsidiaries of Canadian firms fell by \$8.5 billion. Offsetting these trends was a large decrease in long-term inflows of Canadian direct investment and a rise in reinvested earnings kept at foreign-based Canadian subsidiaries, as well as in net short-term flows of Canadian direct investment abroad.

By sector, the largest outflow of Canadian direct investment abroad was directed toward finance and insurance, which constituted 53 percent of the total—a decline from 68 percent in 2010. Some 16 percent of outflows went toward energy and

TABLE 6-5
FDI Outflows from Canada by Region
(\$ millions and %)

Source	2010 (\$)	2011 (\$)	Change (\$)	Growth (%)
World	39,749	45,215	5,466	13.8
US	13,163	23,584	10,421	79.2
EU	-6,101	4,868	10,969	-
Japan	6	268	262	4366.7
Other OECD	11,738	2,273	-9,465	-80.6
ROW	20,943	14,222	-6,721	-32.1

Source: Statistics Canada

TABLE 6-6

Stock of Canadian Direct Investment Abroad by Country and Region
(\$ millions and %)

	2010 (\$)	2011 (\$)	Change (\$)	Growth (%)
All countries	639,911	684,496	44,585	7.0
North America	363,711	395,648	31,937	8.8
Barbados	49,354	53,297	3,943	8.0
Bermuda	11,234	13,231	1,997	17.8
British Virgin Islands	3,494	3,718	224	6.4
Cayman Islands	23,992	25,803	1,811	7.5
Mexico	4,905	4,237	-668	-13.6
United States	253,417	276,145	22,728	9.0
South and Central America	36,253	37,849	1,596	4.4
Argentina	2,742	2,745	3	0.1
Brazil	10,374	9,793	-581	-5.6
Chile	12,038	12,137	99	0.8
Colombia	906	1,685	779	86.0
Peru	6,793	7,682	889	13.1
Venezuela	960	687	-273	-28.4
Europe	176,826	181,885	5,059	2.9
Belgium	1,390	2,747	1,357	97.6
Cyprus	3,277	3,398	121	3.7
France	4,591	4,963	372	8.1
Germany	8,489	9,242	753	8.9
Hungary	12,912	11,799	-1,113	-8.6
Ireland	22,620	23,473	853	3.8
Italy	434	523	89	20.5
Luxembourg	13,500	13,793	293	2.2
Netherlands	10,146	9,915	-231	-2.3
Russian Federation	588	538	-50	-8.5
Switzerland	4,570	5,938	1,368	29.9
United Kingdom	82,806	83,322	516	0.6
Africa	4,228	3,054	-1,174	-27.8
South Africa	2,239	1,438	-801	-35.8
Asia/Oceania	58,889	66,065	7,176	12.2
Australia	22,013	25,316	3,303	15.0
People's Republic of China	4,073	4,463	390	9.6
Hong Kong	7,050	8,143	1,093	15.5
India	676	587	-89	-13.2
Indonesia	3,181	3,651	470	14.8
Japan	7,573	8,431	858	11.3
Kazakhstan	3,461	4,198	737	21.3
Mongolia	1,280	1,331	51	4.0
Singapore	2,263	2,205	-58	-2.6
South Korea	373	365	-8	-2.1

Data: Statistics Canada

metallic minerals, 10 percent toward services and retailing, 3 percent toward wood and paper and just 1 percent toward machinery and transportation equipment. All other industries combined accounted for the remaining 18 percent of investment in 2011.

Outward FDI Stock

Stock of Canada's FDI abroad increased in 2011, tracking the rise in investment outflows, to reach \$684.5 billion. This represented an increase of 7.0 percent (up \$44.6 billion) over the 2010 level of \$639.9 billion. Combined with the change in inward FDI stock, Canada's net direct investment asset position expanded to \$77.0 billion in 2011.

While change in stocks of FDI is obviously influenced by net additions and subtractions derived from flows, the change in currency valuation also plays an important—and sometimes decisive—role. Canadian direct investment abroad is usually denominated in the currency of the foreign country where the investment is located. This means that when the Canadian dollar is appreciating relative to the local currency, the value of Canadian-held investment abroad in Canadian dollars decreases, and vice versa. Foreign direct investment in Canada is directly recorded in Canadian dollars hence the fluctuation of the Canadian dollar has no impact on the recorded value.

In terms of start-to-end of year valuation, the Canadian dollar depreciated 2.2 percent against the US dollar, 1.8 percent against the British pound and 7.2 percent against the Japanese yen. It appreciated 1.0 percent against the euro. This created a positive valuation effect for the Canadian dollar in most cases, increasing the value of most of Canada's foreign investment holdings. However, several large deals also added to Canada's stock of foreign investment abroad.

While the shares of total Canadian direct investment in the United States and the United Kingdom had been declining for several years, in 2011, the United States' share edged up to 40.3 percent, and the United Kingdom's share edged down to 12.2 percent. The share of Canadian direct investment in the EU declined slightly in both 2010 and 2011 to reach 26.6 percent in 2011.

Canadian direct investment stock in **North America** increased by \$31.9 billion, or 8.8 percent, to reach \$395.6 billion in 2011. Most of that increase took place in the United States; flows to that destination increased \$22.7 billion to reach \$276.1 billion. However, there were other significant increases in Canadian direct investment stock in that region—notably in Barbados (up \$3.9 billion), Bermuda (up \$2.0 billion) and Cayman Islands (up \$1.8 billion). These three destinations combined held a total of \$92.3-billion worth of Canadian investment in 2011. Total Canadian direct investment in Mexico declined by \$0.7 billion to \$4.2 billion.

Canadian direct investment in **Asia and Oceania** rose 12.2 percent in 2011 (up \$7.2 billion) to reach \$66.1 billion. The largest increase took place in Australia, where the purchase of Equinox Minerals Ltd. by Barrick Gold Corp.—a deal worth \$7.4 billion—contributed to a \$3.3-billion rise in Canada's position (up 15.0 percent), which reached \$25.3 billion. Other notable increases in Canadian investment in Asia included Hong Kong (up \$1.1 billion, or 15.5 percent), Japan (up \$0.9 billion, or 11.3 percent) and Kazakhstan (up \$0.7 billion, or 21.3 percent). Investment in Indonesia and China also grew, by \$0.5 billion and \$0.4 billion, respectively.

Europe accounted for 26.6 percent of Canadian direct investment abroad, with stocks increasing 2.9 percent (up \$5.1

TABLE 6-7

Stock of Canadian Direct Investment Abroad by Major Sector
(\$ millions and %)

	2010 (\$)	2011 (\$)	Change (\$)	Growth (%)
Total, all industries	639,911	684,496	44,585	7.0
Agriculture, forestry, fishing and hunting	6,024	8,116	2,092	34.7
Mining and oil and gas extraction	121,358	128,512	7,154	5.9
Utilities	15,560	16,359	799	5.1
Construction	1,772	752	-1,020	-57.6
Manufacturing	68,071	76,931	8,860	13.0
Wholesale trade	9,431	10,585	1,154	12.2
Retail trade	7,152	6,751	-401	-5.6
Transportation and warehousing	20,769	22,339	1,570	7.6
Information and cultural industries	27,720	28,349	629	2.3
Finance and insurance	236,891	271,751	34,860	14.7
Real estate and rental and leasing	13,198	14,648	1,450	11.0
Professional, scientific and technical services	7,707	8,663	956	12.4
Management of companies and enterprises	96,282	82,454	-13,828	-14.4
Accommodation and food services	2,651	2,388	-263	-9.9
All other industries	5,325	5,898	573	10.8
Information and communication technologies	10,509	13,377	2,868	27.3

Data: Statistics Canada

billion) to end up at \$181.9 billion for the year. Canadian investment in Belgium doubled (up \$1.4 billion) and investment in Switzerland increased 29.9 percent (up \$1.4 billion). Other notable increases were directed to Ireland (up \$0.9 billion, or 3.8 percent), Germany (up \$0.8 billion, or 8.9 percent) and the United Kingdom (up \$0.5 billion, or 0.6 percent). The latter remained by far the largest destination for Canada's direct investment in Europe, with a stock of \$83.3 billion.

Canada's investment stock in **South and Central America** grew \$1.6 billion in 2011, or 4.4 percent. Robust growth in investment in Peru (up \$0.9 billion, or 13.1 percent)

and Colombia (up \$0.8 billion, or 86.0 percent) offset the declines in Brazil (down \$0.6 billion, or 5.6 percent) and Venezuela (down \$0.3 billion, or 28.4 percent).

Investment stock in **Africa** declined from \$4.2 billion in 2010 to \$3.1 billion in 2011, a loss of \$1.2 billion, or 27.8 percent. Most of the decline occurred in South Africa, where Canada's investment stock went from \$2.2 billion to \$1.4 billion—a \$0.8-billion loss.

Investment in goods-producing industries rebounded from the declines in 2010 to gain \$17.9 billion in 2011. By major sector, over half of the gain in investment went to the manufacturing sector, where the total

stock rose \$8.9 billion to reach \$76.9 billion—a 13.0-percent increase. The largest sector for Canadian investment in goods—the mining and oil and gas extraction sector—underwent a major increase, gaining \$7.2 billion, or 5.9 percent, to reach \$128.5 billion in total. Investment in agriculture, forestry, fishing and hunting grew \$2.1 billion, more than offsetting a loss of \$1.0 billion in construction. Service-producing industries gained \$29.6 billion in 2011, with the biggest gain of \$34.9 billion occurring in finance and insurance (up 14.7 percent). Canadian banks have been active in that area through several major deals, as indicated earlier. Finance and

insurance stock held by Canadians in foreign countries reached \$271.8 billion, nearly 40 percent of all Canadian direct investment abroad. Other areas of growth included information and communication technologies (up \$2.9 billion, or 27.3 percent), transportation and warehousing (up \$1.6 billion, or 7.6 percent), real estate and rental and leasing (up \$1.5 billion, or 11.0 percent) and wholesale trade (up \$1.2 billion, or 12.2 percent). A sharp decline in holdings in the management of companies and enterprises sector subtracted \$13.8 billion in assets from the investment stock, a decline amounted to 14.4 percent of investment in that sector.

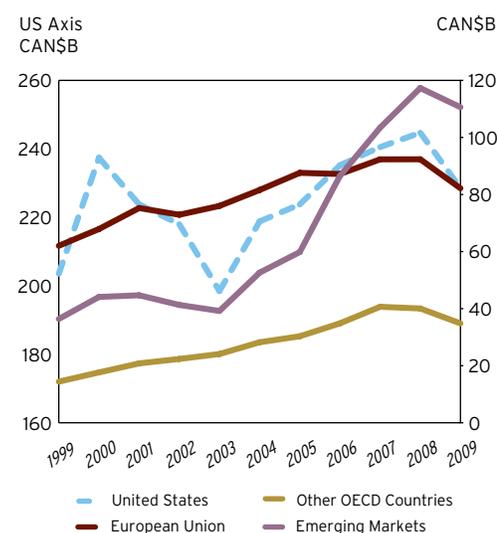
Canadian Foreign Affiliates

Setting up foreign affiliates (FAs) presents Canadian businesses with another mechanism for entering foreign markets.¹ In 2009,² sales by Canadian FAs exceeded export revenues for the first time on record.³ Although this result was primarily due to FA sales falling by less than exports in the aftermath of the global economic recession, nonetheless, Canadian FA sales have been growing at a faster rate than Canadian exports for some time. When broken down by region, FA sales in emerging markets have been growing the fastest over the past decade, outpacing FA sales in the United States and the EU. The decline in total FA sales between 2008 and 2009 was entirely due to slackening in sales of goods, as services sales continued to grow.

By Region

Following five years of growth, the sales of goods and services by Canadian FAs declined 7.7 percent to \$456 billion in 2009, the height of the economic downturn. Lower sales revenues in the United States and in the EU accounted for most of the \$38-billion decline, although in percentage terms sales fell most among the other OECD countries.⁴ Sales revenues declined the least in emerging markets⁵, following a rapid advance among that group that began in 2003. FA sales trends mimic the global increase in engagement

Canadian Foreign Sales Trends (1999-2009)



with emerging economies during the past decade, and clearly reflect the relative strength shown by many emerging markets in the fallout of the global recession. As with exports, Canadian companies with FAs are diversifying their international relationships. Current trends will likely continue as the emerging economies develop further.

The employment trend in Canadian FAs roughly tracked sales in 2009, in that FA employment decreased in all regions except in the emerging economies. Indeed, while about 1 million people were employed by Canadian FAs worldwide, 248,000 jobs were located in emerging

1 In line with international practice, the data only cover majority-owned FAs and exclude depository institutions and foreign branches of Canadian firms. Even if Canadian ownership of an FA is less than 100 percent, the data represent 100 percent of the sales and employment figures.

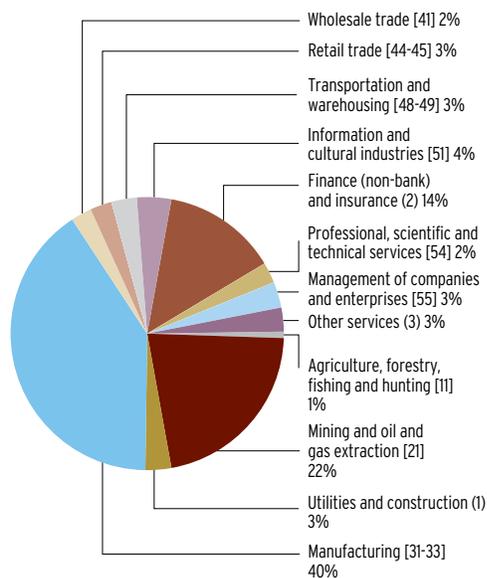
2 The most recent year for which data are available.

3 Note that some duplication of data may occur whenever FA sales and exports are double counted.

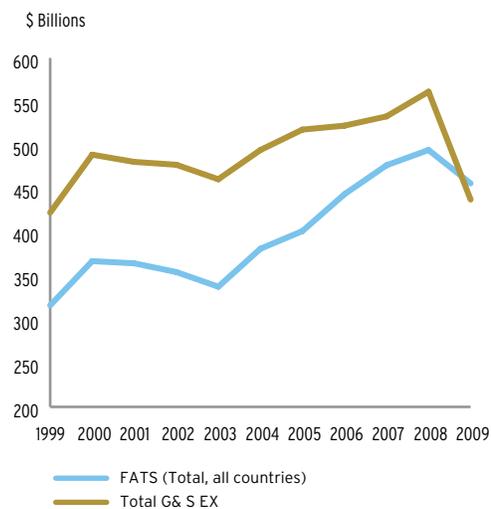
4 Other OECD countries include: Australia, Chile, Iceland, Israel, Japan, Mexico, New Zealand, Norway, South Korea, Switzerland and Turkey.

5 This country group consists of all countries not included in the other groups. As most developed nations are excluded from this group, it will be referred to as emerging markets in this text.

Foreign Affiliate Sales, 2009



Foreign Affiliate Sales vs Exports



economies—an all-time high. Tracking the corresponding downward trend in sales, employment in Canadian FAs located in other OECD countries fell 11.7 percent. Canadian FAs located in the United States experienced the smallest decrease in employment (down 2.1 percent). In 2009, most employees of Canadian FAs were located in the United States, although the U.S. share of total Canadian FA employment has been decreasing since 2006.

By Sector

The decline in sales by Canada's FAs can be attributed solely to fewer sales of goods, as FA sales of services increased 5 percent in 2009. The financial sector led the advance, with sales increasing by 13 percent to reach a record of \$62 billion in 2009. Goods sales were down by 13 percent, reflecting reduced global demand

and lower commodity prices, with the greatest reduction in sales posted in the mining and oil and gas extraction sector. Overall, the distribution of sales across industries changed little from previous years, with manufacturing, mining and oil and gas extraction, and finance (non-bank) and insurance remaining the sectors with the highest FA sales.

Although FA employment in services-related sectors advanced, the advance was offset by the even greater decrease in FA employment in goods-producing sectors so that overall employment in Canada's FAs fell. The employment decline was greatest in the mining and oil and gas extraction sector (down 18,000). Significant increases in employment in information and cultural industries (up 10,000), as well as in wholesale trade and management of companies

and enterprises (up 2,000 each) propelled the upward trend in FA employment in the services-related sectors.

FA Sales versus Exports

Growth in FA sales substantially outpaced growth in exports between 1999 and 2009. In 2009, for the first time on record, FA sales exceeded exports of goods and services—FA sales stood at \$456 billion and exports at \$438 billion. Although both

measures were down from the previous year, the fall in exports was significantly greater in the wake of the global economic downturn. The greatest margin in between FA sales and exports was seen in the emerging markets and in the EU where the ratio of FA sales to exports was 2.05 and 1.88, respectively, whereas in the United States and among the other OECD countries the ratios were much lower.

International Trade and Its Benefits to Canada

Canada depends heavily on trade to sustain incomes and living standards of Canadians and the prosperity of the nation. Consider that, in 2011, Canada's exports and imports of goods and services were approximately \$1.1 trillion in total—which is, on average, about \$31,600 for every person in Canada, or \$3 billion each and every day—and that the overall size of Canada's economy, as measured by its gross domestic product (GDP), was \$1.7 trillion last year. Thus, the share of trade in the economy was about 63.3 percent in 2011. Indeed, the share of trade in the economy has risen over the decades, in particular during the 1990s when it climbed nearly 34 percentage points following the elimination of most of the trade-dampening tariff barriers between Canada and two of its most important trading partners—the United States and Mexico.

But statistics only partially highlight the importance of international trade to Canada and Canadians. Economic models and theories can also be used to ask the question of what is the benefit of international trade to Canada. The answer to the question is, however, multi-dimensional and not entirely computable. From one vantage, the trade data suggest, as a first order of approximation, that one in five jobs in Canada depend on exports, either directly or indirectly.¹ Yet this is simply an accounting of how much spending in the economy is accounted for

by exports. Taken from another perspective, this vastly understates how dependent Canada is, and Canadians are, on trade. The structure and the organization of the entire economy are crucially dependent on trade and integration with regional and global trading networks.

The purpose of this special feature is to delve deeper into the benefits that trade brings to an economy and/or its citizenry. The focus is on Canada and, where possible, we bring forward evidence that pertains to, or can be applied to, Canada. The theoretical aspects of the analysis have been confined to a few broad sections. We have tried to keep these portions as short and non-technical as possible, perhaps too general for the more technical reader. However, the key message about the benefits of trade is intended for the average Canadian—who may never have realized how much trade improves the quality of the Canadian way of life.

The Importance of Trade

Many of the benefits of exports to Canadians are straightforward. Exports allow Canadians to sell their goods and services in exchange for foreign goods and services. They also help to support jobs in Canada, directly to those producing the goods and services, and indirectly to those providing supporting activities to the producers of Canadian exports. Other benefits are less

¹ See the box *Trade, output, and jobs in Canada* on page 44 of this report.

tangible. For example, exports mean added production beyond that produced for the domestic market, which allows for economies of scale in production and lower average costs for producers, in turn lowering prices for consumers. Competing in export markets also means seeking out efficiencies and being innovative in all aspects of business. Rather than trying to produce many products, firms tend to focus on and specialize in products or services where they have an advantage. This drives up their productivity, allows firms to pay higher wages, and helps to increase the prosperity of the nation. Firms that rise to the challenges of the export marketplace increase their production volumes and become larger. They develop wider and deeper client bases and are better able to withstand downturns and softer market conditions in a region, thus becoming more secure and stable employers. For governments, larger and more-efficient firms are more profitable and thus pay more in taxes, providing additional revenues to the public coffer. These benefits, while indisputably real, are difficult to capture empirically.

The level of income in a nation is a reflection of the efficiency with which the resources of that nation are combined to produce goods and services and the relative value of the price of the nation's goods and services that are exported compared to those imported (i.e. the terms of trade). As a small economy, Canada produces only a fraction of the goods and services it consumes and imports the rest. In a world devoid of international trade, it would be unrealistic to think that a country like Canada could make the necessary investments to produce the range of products and services it presently enjoys. In other words, Canadians' access to

a broad variety of foreign-made machinery, computers, and communications technologies, and to travel and entertainment services, for example, reflects Canada's ability to sell Canadian-made goods and services in international markets.

Indeed, it would be very difficult to imagine a world without international trade for the average Canadian. The typical Canadian starts the day by awakening to the sounds of a clock radio. Inside that radio, the alarm mechanism is controlled by a microchip. That microchip, and indeed the entire clock radio, was most likely imported. Even the bed linen, whether cotton or polyester, is made of fibres that are likely imported. When the typical Canadian sits down to scan the day's headlines while eating breakfast, the glass of orange juice or cup of coffee or tea on table are imported goods: the oranges, tea, and coffee originate from other parts of the world. And the headline news, about fiscal austerity in Europe or a natural disaster somewhere in the world, is a service imported into Canada from an international newswire.

Many of the cars the typical Canadian encounters on the daily commute have direct or indirect foreign connections. Roughly one third of new cars in Canada are built overseas, another third are transplants built in North America by foreign-owned manufacturers such as Toyota or Honda, and the remaining third are North American "big 3" cars² containing subcomponents sourced from countries around the world.

The typical Canadian's cell phone and computer were likely manufactured in another country as well, with the subcomponents, such as microprocessors and RAM,

2 Statistics Canada Cat. No. 11-621.

produced and/or assembled in still other countries. The operating software and many of the software programs on these devices are also likely of non-Canadian origin. Likewise, many commonly used food products, ranging from spices and out-of-season fruits and vegetables to nuts and chocolate, and even many appliances in Canadian kitchens, are also imported. International trade enriches the lives of everyday Canadians in so many ways and through so many direct and indirect channels that it would be virtually impossible to disentangle its effects or to precisely measure the innumerable benefits and conveniences it brings.

But imports also have other effects on the economy beyond providing variety and choice for consumers. Imports provide inputs to producers and competition for Canadian producers. They provide jobs directly to people in the transportation, wholesale, and retail sectors and indirectly to many others whose activities support those involved in importing; the bankers, for example, who arrange for the exchange of currencies and transfer of payments.

Specialization, Comparative Advantage, and Gains from Trade

Economic theory has one central explanation for the process of wealth creation resulting from trade: let people do what they do best or, in one word, specialization. Throughout economic history, mankind has gradually increased its economic well-being through specialization. The division of labour, specialization, and the international exchange of goods and services have been key to

improving economic conditions. As specialization increased, so has productivity and total output, leading to a larger economic pie to be divided among the population.

There are many instinctive reasons that make specialization more efficient. First, the specialist acquires more expertise and performs better over time. Second, specializing avoids the costs of switching between different activities. Third, specialization avoids the need to provide everyone with a different set of tools for all activities. Finally, economic agents can choose occupations that they enjoy more and thus be better at it.

Trade among nations further accentuates the importance of specialization by allowing the gains from specialization to be extended to a wider area.

In the context of international trade, economists have developed the concept of comparative advantage, in which one party is better than the other at producing all goods and services, but by a different margin. The concept of comparative advantage was first articulated by David Ricardo in 1817, using an example involving England and Portugal and two goods (cloth and wine). Ricardo showed that even when one of the two countries has an absolute advantage in producing both goods (i.e. it can produce more output with one unit of labour in both sectors) there is scope for mutually beneficial trade if both countries specialize according to their pattern of comparative advantage.³ More precisely, it is said that a country has a comparative advantage in the production of good X if it is relatively more productive in the production of that good.

3 One shortcoming of the simplified two-goods, two-country Ricardian model is that it fails to represent the real world in which multiple goods are traded among multiple countries. In models with more realistic assumptions, such as trade barriers, traded intermediate inputs, and large numbers of both countries and goods, the Ricardian model only predicts trade under strong simplifying assumptions, but comparative advantage continues to predict and explain gains from trade.

It is differences between the relative prices between countries (as reflected in costs of labour to produce the goods) that underpin the incentive to engage in trade.⁴ The divergence between self-sufficiency and free trade prices only partially explains the gains from trade. A more complete explanation of those gains should also take into account the underlying factors that give rise to different prices, thereby creating the conditions for mutually beneficial trade. These factors are the ones that lie behind the sources of comparative advantage. They include such things as differences in technology and differences in natural endowments. In addition, there are other gains from trade that are not linked to differences between countries. In particular, countries trade to achieve economies of scale in production or to have access to a broader variety of goods. Moreover, if the opening-up of trade reduces or eliminates monopoly power or enhances productivity, there will be gains from trade beyond the usual ones. Finally, trade may have positive growth effects.

Differences in technology

As already mentioned, differences between countries are one of the main reasons why they engage in trade. The Ricardian model and its extensions point to technological differences as the source of comparative advantage. This was illustrated in Ricardo's example of England and Portugal by using labour as the only factor of production,⁵ so

that differences in technology show up as differences in the amount of output that can be obtained from one unit of labour. These differences allowed each country to exploit its comparative advantage and expand the size of the economic pie.

Differences in resources endowments

Given that the Ricardian model assumes labour as the only factor of production, differences in labour productivity thus provide the only possible source of comparative advantage between countries in that model. Clearly, however, differences in labour productivity are not the only source of comparative advantage. Differences in resource endowments also play a role. For example, countries that are relatively better endowed with fertile land than others are more likely to export agricultural products.

The idea that international trade is driven by differences in relative factor endowments between countries forms the core of the Heckscher-Ohlin trade model. Because this model focuses on another source of comparative advantage—factor endowments, it provides an additional explanation of trading patterns. The model rests on the theory that a country has a production bias toward, and hence tends to export, the good that intensively uses the factor with which it is relatively well endowed. However, the gains from trade in the Heckscher-Ohlin framework are fundamentally similar to those in

4 The gains from trade rest on the premise that if a country can trade at any price ratio other than its domestic prices, it will be better off than by producing everything itself (i.e. being self-sufficient—which economists call a state of “autarky”). There are three fundamental axioms about gains from trade: i) free trade is better than self-sufficiency; ii) restricted trade (i.e. trade restricted by trade barriers) is better than self-sufficiency; and, iii) for a small economy (i.e. one too small to influence world prices) free trade is better than restricted trade.

5 That labour is the only factor of production is specific to the Ricardian model. Most of the other conditions, such as perfect competition, no trade costs, constant returns to scale, fixed endowments, and international immobility of factors, are standard in traditional trade models.

the Ricardian model: that is, they are gains from specialization that arise because of differences between countries.

Empirical results

While the concepts of comparative advantage and gains from trade appear straightforward, the benefits of trade are difficult to capture empirically. This is because there is considerable difficulty in translating the theories of Ricardo and Heckscher-Ohlin into forms that are testable by empirical research. Thus, very little is known about the empirical magnitudes of gains from international trade, and the mechanisms that generate these gains. In particular, limited evidence is available on how much specialization contributes to an economy's overall prosperity.

The example of trade liberalization in Japan in 1858 provides one of the few cases in which a country moved from economic isolation (or self-sufficiency) to open trade. Using this example, Bernhofen and Brown (2005) estimate the size of gains from trade resulting from comparative advantage on national income. They found evidence that Japan's trading pattern after opening up was governed by the law of comparative advantage and estimated the gains in real income from trade resulting from comparative advantage at 8 to 9 per cent of GDP.

The Jeffersonian trade embargo that cut off the United States from shipping between December 1807 and March 1809 provides a second test case. Here, the welfare cost to the United States of the nearly complete embargo on its international trade was estimated to be 5 percent of GDP. This cost, however, does not represent the total gains from trade because trade had already been restricted prior to the embargo (Irwin 2002).

The literature on testing and estimating Heckscher-Ohlin models is both voluminous and complex. Moreover, according to a 2008 review by the World Trade Organization most of the empirical work that attempted to test or estimate Heckscher-Ohlin models used inappropriate methods and is therefore largely irrelevant. In recent years, however, empirical work has been more about accounting for global trade flows than about testing hypotheses related to trade theories. Nonetheless, studies using appropriate methods have shown that if technological differences and home bias are included in the model and if the assumption of an integrated world is relaxed, there appears to be a substantial effect of relative factor abundance on the commodity composition of trade.

The "New" Trade Theory

The trade flow literature has highlighted the fact that traditional approaches, which attribute trade to differences between countries, have difficulties in explaining the existence and degree of trade in similar products within the same industry (i.e., what economists call "intra-industry trade") and of trade between similar countries (in terms of technology or resources). To explain these phenomena, a "new" trade theory was needed. The best known approach is Krugman's monopolistic competition model which provides a framework to explain these phenomena (Krugman 1979). The Krugman model employs two basic assumptions, both of which can be readily observed in the real world: "increasing returns to scale" and consumers' "love of variety". With increasing returns to scale (also called economies of scale), firms that double their inputs more than double their

output.⁶ Since goods can increasingly be produced more cheaply (i.e. more output for the same cost), producing at a larger scale becomes economically efficient. The reason why, at the extreme, economies do not rest on a single firm producing a single product is because consumers prefer to choose from different varieties for each product they buy rather than buy the same one each time. This is Krugman’s “love of variety”.⁷ Consumers’ love of variety favours the existence of many small firms, each producing a somewhat differentiated product, while the exploitation of economies of scale makes it worthwhile to organize production in larger firms.

Under this approach, each firm produces a product “variety” that is “differentiated” from the varieties produced by other firms. Thus, each firm has some leeway to set prices without fear that consumers will immediately switch to a competitor for the sake of a small difference in prices. However, while these varieties are not exactly the same, they are substitutes for one another, and each firm continues to face competition from other producers in the industry. So what happens if two countries, each with identical industry technologies and factor endowments, open up to trade? According to traditional models on country differences, no trade would occur. In contrast, with differentiated goods and increasing returns to scale, trade opening enables firms to serve a larger market (and reduce their average costs) and gives consumers access to an increased range

of product varieties. However, as consumers can choose among more varieties, they also become more sensitive to price. Hence, each firm can produce a larger quantity than before the trade opening (selling to both domestic and foreign markets), but each must sell their product at lower prices.

The gains from trade in such a scenario are threefold. Firms produce larger quantities and better exploit their economies of scale (“scale effect”). Consumers in both countries can choose from a wider variety of products in a given industry (“love-of-variety” effect). At the same time, in an integrated market, consumers pay lower prices (also known as a “precompetitive effect”). Because of these gains, it makes sense that similar countries trade with each other and export and import different varieties of the same good. However, while the “new” trade theory provides a framework explanation of why similar countries may find it beneficial to trade with each other, the usefulness of the theory can only be determined by the actual evidence of the predicted gains from liberalization. We thus turn to the economic literature for evidence on the various effects (e.g. scale, variety, and price), including the evidence for Canada.

Economies of scale results

According to “new” trade theory, firms are able to expand production within the domestic economy and enjoy lower costs through economies of scale by specializing in a variety for which they have a competitive

6 This assumption may seem unrealistic; however, such situations are quite common. To start a business (or maintain operations), firms typically incur fixed costs, i.e. they pay for certain goods or services independently of how much they ultimately produce. Such costs typically include the rental or purchase of the production facilities (plant) and machinery and equipment and hiring staff. Firms also incur variable costs that rise in proportion to the level of output. For example, a worker can only produce a certain number of units per hour and any increase in production requires the hiring of additional workers at the set wage rate. Marginal costs, i.e. the costs of producing an additional unit of output, are therefore constant, but when the overall level of output rises, the fixed costs are distributed over a greater number of units, and the firm’s average costs of production therefore decline.

7 Using the simple hamburger as an example, consumers prefer to choose from a selection of hamburgers across several restaurants to having only one type of hamburger available from one restaurant, with the restaurants competing against each other in hamburger features (i.e. toppings, single patty-multiple patty, etc.) and prices.

advantage, thereby creating the conditions for intra-industry trade between countries. By engaging in international trade, firms can further expand production by offering their differentiated products to consumers in other countries, thereby lowering average costs and prices. This “economies of scale” hypothesis has been tested in the economics literature, and the evidence is mixed.

Following the conclusion of the Canada-U.S. Free Trade Agreement (CUSFTA), almost all Canadian manufacturing industries exhibited substantial rationalization between 1988 and 1994. Head and Ries (1999) analyzed the impact of the CUSFTA on the size and scale of operations for 230 Canadian industries at the 4-digit SITC level. Trade liberalization was expected to have two opposing effects on the size of Canadian industries. On the one hand, a positive effect on the size of Canadian firms was expected as a result of the lowering of U.S. tariffs, due to enhanced opportunities to expand production by initiating or increasing exports to the U.S. market. In this respect, the study found that the average U.S. tariff reduction of 2.8 percent caused a 4.6-percent scale increase among Canadian industries. On the other hand, an opposing negative effect due to increased U.S. penetration of the Canadian market was also expected. The study found that the average 5.4-percent reduction in Canadian tariffs caused a 6.1-percent scale decline in Canadian industries. Thus, the evidence on balance did not support an increase in the size and scale of Canadian industries as a result of Canada-U.S. trade liberalization, nor did it constitute a factor to explain the observed gains from economies of scale and specialization in many Canadian industries during the period following the introduction of the CUSFTA.

Baldwin and Gu (2006) analysed the impact of trade liberalization (the Canada-US FTA and NAFTA) on exporters and non-exporters in Canadian manufacturing industries. The analysis incorporated plant scale and production-run length both essential to achieving benefits from economies of scale—as well as product diversification. The principal conclusions suggested that trade liberalization in the form of tariff cuts reduced product diversification and reduced plant scale of non-exporters, but had little effect on their production-run length. In contrast, exporting firms reduced their product diversification and increased production-run length and plant scale when compared to non-exporters, taking advantage of the tariff cuts for further expansion.

The economies of scale benefits may thus be overstated. The likely explanation is that economies of scale at the plant level for most manufacturing firms tend to be small relative to the size of the market because most plants have already attained their minimum efficient scale. Average costs therefore seem to be relatively unaffected by changes in output; in other words, a large increase in a firm’s output does not lead to lower costs, and a large reduction in output does not lead to higher costs. When faced with competition from imports, many firms are forced to reduce output but production costs rarely rise significantly.

Variety effects

The explanation for trade based on product differentiation suggests that many varieties of a product exist because producers attempt to distinguish their varieties from those of their competitors in order to win brand loyalty from consumers, or because consumers demand a

wide spectrum of varieties. Although countries without substantial cost differences are not specialized at the industry level in international trade, they are, nonetheless, specialized at the product level within the same industry, which results in intra-industry trade.

With the opening of trade, each country increases its exports of varieties to other countries; at the same time, each faces increased competition from foreign varieties produced from abroad. As a result, a country undergoing free trade is expected to produce fewer domestic varieties due to foreign competition, but will receive a broader range of available varieties via imports. Moreover, there is a price effect associated with trade liberalization and increased competition, which lowers the price for each variety. Consequently, the sum of the varieties under freer trade would exceed the number of varieties available before the opening of trade (Feenstra, 2003).

Hillberry and McDaniel (2002) used detailed U.S. trade data to examine the extent to which the increase in NAFTA trade was associated with trade in new varieties. Their study decomposed the growth in U.S. trade with its NAFTA partners over the period 1992-2002 into price, volume, and variety effects. The variety effects are measured by the change in trade values due to trade in more or fewer goods using the Harmonized Tariff (HS) Schedule. During the 1993-2001 period, they found a 35-percent increase in U.S. exports to Canada and a 69-percent increase in Canadian exports to the United States. Of the measured 35 percentage point increase in U.S. exports to Canada, only 3.4 points represented trade in new goods. In other words, Canadian imports from the United States would have risen by 3.4 percentage points holding the prices and quantities

of other pre-existing trade constant, due to new varieties. This represents a gain to consumers in Canada.

Chen (2006) used data on trademarks to quantitatively estimate the impact of the CUSFTA on the variety of goods available. He found that not only did the annual variety of products available to Canadians increase by 60 percent, but because of the size difference and positive relation between the size of the market and the number of varieties available in that market, Canada benefited more than the United States in terms of the number of new products available as a result of trade. The smaller Canadian economy gained access to some three times as many new U.S. varieties than U.S. consumers received from Canada.

Price effects

A number of studies have examined the effect of foreign competition on pricing decisions by firms and concluded that trade liberalization has indeed reduced mark-ups of price over costs, although disentangling the price effect from other relevant factors has proven difficult. Badinger (2007) examined the effects on price-over-cost mark-ups using data across 18 sectors in 10 EU member states in relation to the creation of the European Union (EU) single market. After taking cyclical and technological factors into account, the study found that mark-ups in manufacturing declined by 31 per cent following integration while services mark-ups increased slightly. Badinger argued that the comparatively weak state of the single market for services and the persistence of anti-competitive strategies in certain services sectors might explain why services mark-ups did not behave as expected.

The WTO (2008) reported on several case studies that found significant price impacts arising from trade liberalization for several developing countries. For example, India posted important decreases in price-cost margins for most industries in response to a range of liberalization measures undertaken in 1991 (Krishna and Mitra 1998). Similar results were obtained for Côte d'Ivoire following the implementation of a comprehensive trade reform in 1985 (Harrison 1990). The relationship between the exposure to trade and price-cost margins at both the industry and plant levels was also examined across several developing countries—in particular, Chile, Colombia, Mexico, Morocco, and Turkey—and findings suggested that the price effects of increased import penetration were particularly strong in highly concentrated industries where firms had a degree of market power prior to trade opening (Roberts and Tybout 1991).

The trade literature therefore provides overwhelming evidence that trade liberalization fosters increased intra-industry competition. Exporting firms expand their production to serve a larger market, but given that most firms operate at an efficient plant size where output can be shifted considerably with minimal impact on costs, evidence of pronounced economies of scale is weak. Consumers, however, gain access to an increased range of product varieties following trade liberalization. Moreover, as competition in differentiated but substitutable products becomes more heated, prices fall.

The “New” New Trade Theory

The new trade theory, however, has one major drawback: it is based on the assumption of a representative firm. This contradicts the evidence generated by micro-level datasets

covering firms and plants, which shows that differences among firms are crucial to understanding world trade.

Equally important, the predictions arising out of the new trade theory did not coincide with some features of trade in the real world. In particular, exporting industries do not export to all countries as implied by their theoretical cost advantage and import-competing industries sometimes experienced productivity gains following trade liberalization, despite smaller scales of production. The analysis thus shifted from the industry level to the firm level in order to better understand trade flows (e.g., Melitz 2003).

Melitz showed that differences between firms were an additional source of comparative advantage: although, on average, no firm within a specific sector might be productive enough to export, given the dispersion of firm productivities, there might still be some firms left which would be productive enough to do so. This insight was important as it explained why countries might export (or import) in sectors where they may have a comparative disadvantage (advantage). Another major insight was that trade liberalization not only led to resource reallocations between sectors but also to allocative efficiency gains within sectors as resources are reallocated from lower-efficiency firms to higher-efficiency firms (Melitz 2003). These insights laid the foundation for the “new” new trade theory.

Under “new” new trade theory, comparative advantage can be determined at a very low level of aggregation—even within the firm at the component or task level. Such an approach can thus help us understand the increasingly granular nature of international trade and the emergence of global value chains.

Gains from Trade to Canada

The discussion thus far has addressed the broad benefits that trade brings to an economy, covering the key economic concepts, models, and theories. Clearly, many aspects of trade are intertwined. For example, liberalized trade brings about increased competition in domestic and foreign markets, increases product variety and puts downward pressure on prices. It also induces firms to specialize and produce more, but in fewer product lines, and use their particular talents, resources, and factor endowments most efficiently to their benefit. These effects, in turn, lead to supplementary benefits such as greater productivity, higher wages, and increasing prosperity. The following sections address some of these supplemental benefits of trade in the Canadian context.

Trade and specialization in Canada

Trade in international markets is driven by the search for goods and services produced elsewhere at a relatively lower price than the opportunity cost to produce them at home. In exchange for the comparatively low priced international goods, Canada supplies goods in which it specializes. The outcome is an international division of labour that produces economic welfare gains from increased specialization. Canada stands to increase growth, firms to increase output, workers to receive higher wages, and consumers to access higher quality products at reduced prices.

Canadians have the opportunity to gain from specialization in two forms: a one-time shift in resources from less to more efficient sectors or firms, and in an ongoing form as workers, firms, and the nation as a whole focus their efforts on what they do best—

and become increasingly better at doing it. One-time shifts can be understood as welfare-enhancing structural changes. Here gains derive from the movement of resources from a less to a more efficient sector. However, moving forward, while a country may specialize by moving its factors of production into more efficient sectors, it is natural that, with practice, their ability to produce the goods in which they specialize would improve with time. This type of adaptation, or learning by doing, is suggestive of the second form of specialization—ongoing or dynamic specialization. Gains in this case come from increased productivity (output per hour) through a “learning by doing” process in the same sector.

While most easily understood at the industry level (for example, the auto industry), specialization can occur at finer levels as well, such as at the firm level or plant level. Nonetheless its impact can be felt throughout the economy. Research has identified the link between specialization and trade liberalization at the plant level in Canada. Baldwin et al. (2001) found a strong relation between the export intensity of plants in manufacturing industries and their specialization following a period of increased trade liberalization in the late 1980s and implementation of the CUSFTA. The average nominal tariff (customs duties paid divided by imports) decreased from 6.5 percent in 1973 (as part of the Kennedy Round) to 1.1 percent in 1996, over which time the export intensity increased, for example, from 31 percent in 1990 to 47 percent in 1997. Likewise, commodity specialization at the plant level increased sharply with the implementation of the CUSFTA. About 30 percent of Canadian manufacturing firms that operated continuously from the early

1980s to the early 1990s reduced the diversity of their output. Within this group of firms, between 1983 and 1993 some 38 percent more firms switched from multiple-plant to single-plant firms than switched from single-plant to multiple-plant firms, further suggesting a move toward increased specialization.

Furthermore, given that Canada comprises many diverse regions, it was not surprising that the impact of increased trade liberalization and specialization yielded different impacts across the country. Brown (2008) has shown that the impact of trade liberalization on specialization was found to be greater in regions outside of urban areas and outside of Canada's industrial centres of Ontario and Quebec. As in the case for Canada as a whole, plants with higher export intensities in these regions were found to have increased levels of specialization in the industries under investigation.

The key benefit from specialization lies in the fact that as plants specialize they become increasingly productive, either through a one-time shift in resources or through an ongoing process of learning or exploitation of scale economies. As specialization has been shown to increase at the plant-level in tandem with trade liberalization, so too has plant-level labour productivity. Trefler (2004) found that 14 percent of export-oriented industries increased productivity following the implementation of the CUSFTA; and furthermore, productivity improvements across industries were shown to grow at a compound annual rate of 1.9 percent. As a whole, labour productivity in Canadian manufacturing rose about

6 percent with the implementation of the CUSFTA—strong support for the welfare-improving nature of specialization.

Along with labour productivity, output and wage growth were also shown to increase with the implementation of the CUSFTA (Trefler 2004). On the other hand, while export-market participation in Canada is linked to higher plant specialization and productivity growth, employment growth was found to be lower in exporting firms, likely a reflection of exporters employing a more skilled, more productive workforce and operating less labour-intensive plants.

The impact of specialization on Canada's trade has also been analyzed using computable general equilibrium (CGE) models, which have the capacity to assess the gains from trade on a per-agreement basis. Typically, CGE models estimate the economic welfare gains from FTAs under the assumption of perfect competition.⁸ As such, these models are best understood as estimates of the potential economic impacts of the FTA under investigation. Nonetheless, while a number of assumptions are made in the model, the results most likely understate the gains in output and economic welfare for a given amount of trade expansion. More specifically, under the assumptions made, the removal of tariffs has less of an effect on domestic prices, as the industries are already perfectly competitive, which is not the case in reality. Therefore, although the analysis does not separate out specialization in particular from gains overall, general economic gains are estimated—of which specialization is deemed to be one component. All of the four most recent joint

8 These models, popular for estimating the economic welfare gains from FTAs, usually assume a perfectly competitive market structure, that is, all industries in the domestic economy are price takers and their individual production cannot affect supply enough to influence prices. Under this assumption, the removal of tariffs produces a smaller effect on domestic prices as the industry is already competitive. Therefore, gains in trade often arise through other channels, such as increased exports.

studies released by DFAIT⁹ have shown that Canada stands to gain by eliminating tariffs and increasing trade liberalization.

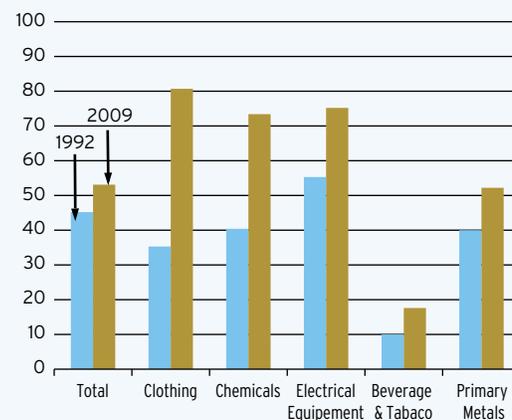
A discussion of the positive impacts of specialization must also take into account the effects of technology on specialization. Indeed, countries specializing in the export of goods with higher technological contents experience elevated growth rates. By exporting products with higher technological intensity, countries have typically experienced higher growth rates (Lee 2011). Industries defined as having high technological content include aircraft, pharmaceuticals, and electronics. In this regard, Canada, with its highly educated workforce, is well positioned for higher growth, provided it focuses on producing innovative, technology-intensive exports.

Trade and domestic competition in Canada

An often overlooked aspect of open trade is the added competition imports create in the domestic market. If not for imports, domestic producers would have a higher degree of market power. This lack of competition could allow them to set higher prices, give them less incentive to innovate, and result in lower quality goods and services being supplied to the market place. Imports thus become an important source of added competition, requiring domestic firms to compete with companies from around the world. Foreign exporting companies are usually world-class producers, offering leading-edge, high-quality, or innovative goods and services, while others offer lower-cost goods from countries with more abundant labour. The very presence of foreign competitors compels domestic firms to seek out efficiencies and cost savings and to offer higher-quality goods at the same

FIGURE 1

Imports as a Share of the Total Canadian Domestic Market* for Selected Manufacturing Industries



* Domestic market = domestic shipments + total imports - domestic exports
Source: Office of the Chief Economist, DFAIT
Data: Statistics Canada

or lower prices. This, in turn, makes domestic firms leaner, more efficient, and more competitive, thus benefiting consumers. Although additional competition may force some domestic firms to exit the marketplace, this is more than offset from the productivity growth as more efficient producers take over, and the resulting gains are passed on to consumers.

In reality, Canadian firms do face increasing competition from imports. As a percentage of the total domestic manufacturing market, imports have risen from 45 percent in 1992 to 53 percent in 2009 (latest data available). In some manufacturing sectors, such as clothing, chemicals and electrical equipment, this trend has been even more pronounced, while in others, such as beverages and tobacco, import penetration is less striking. Research indicates that the increased influence of imports has raised the competitiveness of Canadian manufacturers.

9 In alphabetical order, the joint studies were conducted with China, the European Union, India, and Japan.

The impact of increased competition in Canada can be seen following the implementation of the CUSFTA and NAFTA. Increased competition from imports caused the number of firms in the domestic economy to decrease as smaller and less efficient firms closed, allowing more efficient firms to expand and become even more productive. In the six years following the CUSFTA, the number of manufacturing plants declined by 21 percent while output per plant in Canada increased by 34 percent. This reduction in number of firms was found to be largely induced by the reduction in tariffs (Head and Reis 1999).

The notion that increased imports from trade liberalization results in the closing of some domestic firms may at first appear to be a negative outcome. But it is important to realize that this is one of the main mechanisms by which increased competition makes the domestic market more efficient: firms that were compelled to shut down did so because they could not compete with the quality or price of foreign imports, while those domestic firms that remained were more efficient and better able to face the increased competition from abroad. In this way, imports cause a reallocation of domestic resources to more efficient uses. Plant turnover (closing of some companies and opening of others) contributed between 15 percent to 20 percent of manufacturing productivity growth during the 1988-1997 period (Baldwin and Gu 2002).

Not only does competition force out less productive plants, but the surviving firms are also compelled to become even more productive in domestic economy. Baldwin and Gu (2009) looked at 7,000 Canadian manufacturing plants for the period 1984 to 1990 and found that plants in industries with the largest tariff changes also experienced the

largest increases in product-run length, and increased plant size. This was due both to increased competition from imports and from gains in exporting accruing from greater access to the U.S. market.

Studies from other countries support these findings. For example, Liu (2010) showed that greater import competition in the United States led multi-product firms to drop peripheral products and focus on core production. Gibson and Harris (1996) investigated the effect of trade liberalization on manufacturing in New Zealand and found that liberalization caused smaller-sized, higher-cost plants to close, while low-cost specialized plants were more likely to survive. In Chile, Pavcnik (2000) showed that the trade liberalization undertaken in that country in the late 1970s and early 1980s resulted in plant level productivity improvements that were mainly due to the reshuffling of resources and output from less to more efficient producers.

CGE models can also be used to show the impact of imports on competition. For example, Cox and Harris (1985) show that by incorporating scale economies, imperfect competition, and capital mobility into these models, the estimated gains from trade to Canada under the CUSFTA increase by a significant factor (in the order of 8 to 10 percent of GNP) through rationalization of industries, greater production runs, lower price-cost mark-ups, and increases in factor productivity.

Imports also encourage innovation in an economy, first, by obliging domestic producers to innovate to improve their products and production processes in order to compete with foreign goods and services; and second, the imports themselves produce spill-over

effects by introducing foreign technology and ideas into the domestic marketplace to consumers and producers alike. Unfortunately there is little empirical evidence on the impact of imports in Canada in this regard, but there are some international studies that quantify the spill-over effect. One such study examined the impact of Chinese imports on a sample of 200,000 European firms and found that competition from Chinese imports led to technology upgrading within firms as well as resource reallocation to technologically intensive plants. Between 15 to 20 percent of technology upgrading in the EU between 2000 and 2007 was attributed to competition from Chinese imports (Bloom et al. 2009). A link between imports and innovation was also found in Mexican plants. Teshima (2008) documents that sectors affected by greater tariff reductions were induced to increase R&D expenditures. However, in that case, R&D expenditures were more likely to go toward upgrading processes as opposed to products, suggesting that competition from imports generated greater incentives to increase production cost efficiencies rather than to create new products or increase product quality.

Trade and productivity in Canada

Productivity performance is central to economic growth, competitiveness, and standards of living. This section examines two avenues by which opening trade has contributed to improvements in Canadian productivity: improvements in allocative efficiencies¹⁰ and improvements in productivity efficiencies.¹¹

Open economies tend to grow faster than closed economies because reduced barriers to trade improve productivity performance and support capital accumulation. For example, a recent study based on results from 14 OECD countries and 15 manufacturing sectors found that an increase in openness by one percentage point increased productivity in manufacturing by an average 0.6 percent (Badinger and Breuss 2008).

One of the best-known examples of open trade leading to improved productivity performance is the North American Auto Pact of 1965. Prior to the signing of the Auto Pact, the Canadian automotive industry produced most car models for Canadian consumers and the U.S. automotive industry did likewise for U.S. consumers. Since the Canadian auto market was much smaller than the U.S. market, the Canadian auto sector was at a substantial disadvantage in terms of scale of production in the Canadian market, and productivity in the sector was about 30 percent below that of the U.S. auto sector. The establishment of a free trade area for automotive products under the Auto Pact allowed manufacturers to consolidate the production of car models in one partner country, and export those models to consumers in the other partner country. This rationalization of production resulted in the reduction of the number of car models assembled in Canada. However, by concentrating resources into fewer models, total Canadian auto production actually increased while average costs for auto production decreased. Canadian

10 Allocative efficiencies refer to gains arising from reallocation of resources (labour and capital) across countries, industries, firms and varieties to the production of goods and services that a firm or a country can produce most efficiently to meet consumer demand.

11 Productive efficiencies occur when a country, an industry or a firm uses all of its resources efficiently, producing most output from least input.

auto products became much more competitive compared to the pre-Auto Pact era and exports of Canadian auto products to the United States surged. Moreover, a few years after the inception of the Auto Pact, Canada's productivity gap with U.S. auto industry had virtually disappeared (Wonnacott and Wonnacott 1982).

Other examples of gains in efficiency arising from increased intra-industry trade include empirical research into the effects arising from the implementation of the CUSFTA conducted by Baldwin, Beckstead and Caves (2001), Baldwin, Caves, and Gu (2005), and Baldwin and Gu (2006), who documented a dramatic reduction in the number of manufacturing products produced in Canada following the implementation of the CUSFTA in 1989. In particular, Baldwin, Caves, and Gu (2005) report that the decrease in the number of products produced in Canada was accompanied by substantial increases in production runs for individual products.

Moreover, because of productivity differences between firms, when trade barriers are removed (or reduced), more productive firms tend to thrive and expand, while less productive firms contract or possibly exit. This generates another type of allocative efficiency gain known as the “reallocation” effect. In essence, market share is reallocated from less efficient firms to more efficient firms—with the result that overall efficiency in the industry improves.

Using firm-level data, Lileeva and Trefler (2010) examined the significance of this “reallocation” effect in raising Canada's overall manufacturing productivity in the wake of the Canada- U.S. FTA. Analysing plant-level exports between 1984 and 1996, they found that as the United States lowered its

tariffs against imports from Canada under the CUSFTA, Canadian exporters grew by exporting to the U.S., thereby raising overall productivity. A market share-shift analysis showed that this raised average manufacturing productivity by 4.1 percent.

At the same time, corresponding Canadian tariff cuts pressured some Canadian firms to contract and even exit in the face of foreign competition. This selection effect also generated overall productivity gains in the Canadian manufacturing sector since the contracting and exiting plants were substantially less efficient than the average Canadian firms. Trefler (2004) estimated that this selection effect increased overall Canadian manufacturing productivity by an estimated 4.3 percent.

Thus, the allocative efficiency gains via reallocation and the selection effects induced by the CUSFTA combined to generate a productivity gain of 8.4 percent (i.e. 4.3 percent plus 4.1 percent) for Canadian manufacturing.

Beyond those gains associated with differences in efficiency between firms, gains also arise from within individual firms themselves. As exporting firms become larger because of open trade, it becomes attractive for some firms to invest in innovation and technology, skills and knowledge, thereby raising their profits and productivity. The development of new products and processes, and adapting these to foreign markets, also involves substantial fixed costs, so only the larger, integrated markets can support the sales volumes needed to justify incurring the high fixed costs of innovation and investment. While adapting to local conditions in foreign markets is often a dynamic and time-consuming learning process, it is by learning through exporting that many exporting firms improve their productivity.

TABLE 1:
The Effect of the CUSFTA on Canadian Manufacturing Productivity

Allocative efficiency gains (between firms)	
Growth of most productive exporters	4.1
Contraction and exit of least productive exporters	4.3
Productive efficiency gains (within firms)	
New exporters invest in raising productivity	3.5
Existing exporters invest in raising productivity	1.4
Improved access to U.S. intermediate inputs	0.5
Total	13.8

Sources: Treffer (2004) and Lileeva and Treffer (2010)

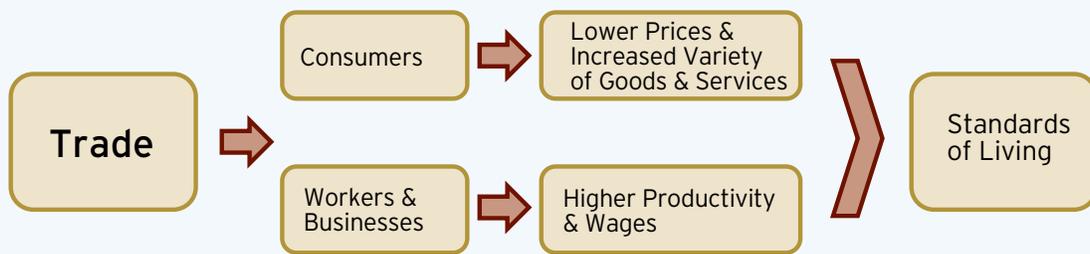
For evidence on within-firm productivity gains, Lileeva and Treffer (2010) divided 5,000 firms that had not exported prior to the CUSFTA into two groups: those that started exporting in the CUSFTA implementation period and those that did not. The study found that the CUSFTA raised the productivity of new exporters by 15.3 percent, and furthermore that these new exporters accounted for 23 percent of Canadian manufacturing output, and were therefore responsible for raising Canada’s overall manufacturing productivity by 3.5 percent (i.e. 15.3 percent multiplied by 0.23). In addition to these new

exporters, existing exporters, or firms that had already been exporting to the United States prior to the CUSFTA, also responded to improved market access by increasing their exports: this contributed to an overall 1.4-percent productivity growth for Canadian manufacturing. Finally, productivity gains came from increased imports of intermediate inputs imported from the United States under the CUSFTA, which contributed an additional 0.5-percent increase in total productivity to Canada’s manufacturing industry.

The gain from the CUSFTA on overall Canadian manufacturing productivity is therefore 13.8 percent—the sum of the allocative gains (between firms) and the productive gains (within firms)—a remarkable trade-related achievement (See Table 1).

Trade and prosperity in Canada

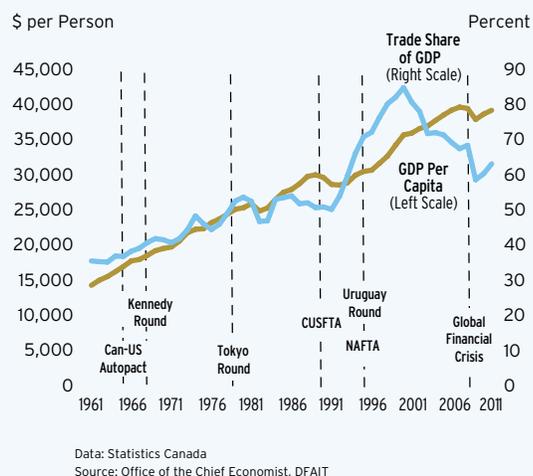
Trade and prosperity go hand-in-hand. Trade allows consumers to buy products and services to which they would not otherwise have access. It is as a result of international trade that Canadians are able to eat fresh fruit and vegetables in the winter, have access to coffee and chocolate, and to the choice of more than 300 models of cars¹² and 197 models of cell phone¹³. Because of trade, almost everything that Canadians consume daily is cheaper than it otherwise would be, stretching Canadian incomes even further.



¹² *Consumer Reports* magazine estimates that 34 brands and 305 models of automobile are available in Canada.

¹³ Office of the Chief Economist, DFAIT.

FIGURE 2
Trade and Standards of Living in Canada



Through higher wages, trade puts more money in the pockets of Canadians to spend on necessities like food, shelter, and government services like education and healthcare or on discretionary items like flat-screen TVs and the occasional vacation. Because trade encourages companies and workers to specialize in what they do best, to innovate, and to grow large by serving global markets, the productivity of firms improves, which in turn drives up wages for workers and increases Canada's prosperity. The end result is increased standards of living.

It is hardly coincidental that the Canadian standard of living and Canada's openness to international trade (both exports and imports) are closely linked. Each incremental opening to international trade has been linked to further improvements in the Canadian standards of living (see Figure 2). This relationship between trade and improved standards of living has been formally tested in a large project on understanding economic growth undertaken by the OECD. Using the

data from 21 advanced countries over nearly 30 years, the OECD reported that, controlling for other factors, every 10-percentage point increase in trade exposure (as measured by trade share of GDP) contributes a 4-percent increase in GDP per capita. Employing a different methodology than that used in the OECD, Frankel and Romer (1999) found further evidence supporting the link between international trade and economic growth for developing countries in particular. Here, a 1-percent rise in trade share produced a rise in per capita incomes of between 0.8 and 2.0-percent. This finding suggests that openness to trade is a key factor in economic development.

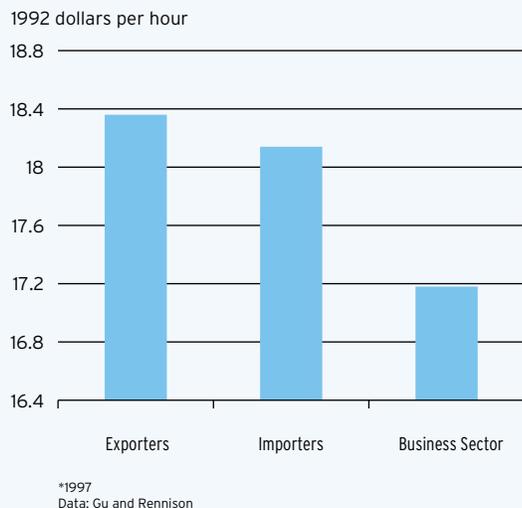
Trade and wages

Trade has a significant impact on workers through its effect on wages. While some firms may shrink or exit when faced with the additional competition that trade brings, others will meet the challenge. Research shows that the latter will be the most productive firms. In addition, as these firms grow and expand abroad they will become even more productive and innovative, allowing them to pay higher wages while also increasing their employment. This was the case in Canada following the implementation of both the Canada-U.S. Free Trade Agreement and NAFTA. Gu and Rennison (2006), for example, find a significant and growing wage premium in traded sectors (both exports and imports) compared to the economy overall once the public sector is removed from consideration.

Because exporting firms are more productive, they are thought to pay their employees higher wages. Indeed, Bernard

14 Ross Perot, the independent U.S. presidential candidate in 1992, coined the term.

FIGURE 3
Real Wage Rates*



and Jensen (1999) estimated that U.S. exporters pay, on average, wages that were 9.3 percent higher than those paid by non-exporters. Similarly, a 25-percent export wage premium was found by Arnold and Hussinger (2005) for German manufacturers. However, other factors, such as manufacturing plant size, capital intensity, degree of foreign-control, and multi-unit firm status, as well as certain individual worker characteristics, are also factors positively associated with higher wages. A recent paper by Breau and Brown (2011) performed plant-level regressions controlling for such factors. Canadian exporters paid wages that were, on average, about 14 percent higher than those paid by non-exporters; however, this wage premium fell to slightly over 6 percent, once plant characteristics were taken into account and was further reduced to slightly under 6 percent once controls for individual worker characteristics were included.

Conclusions

International trade is driven by the search for goods and services produced at relatively lower prices than the opportunity cost to produce them domestically. As trade is liberalized, competition for markets heats up. Except for those firms (and their employees) that are the least productive, the increased competition is beneficial. Competition from imports prevents firms that hold power in domestic markets from over-charging, or under-producing, for the market. More importantly, competition from imports causes domestic firms to realign their resources, to drop less-profitable lines of production, and to specialize in one variety (or on a “differentiated” product) for which the firm has a comparative advantage. The outcome is an international division of labour and increased economic welfare.

This was the case following the CUS-FTA and NAFTA. Economic evidence suggests that increased competition from imports induced a number of smaller and less-efficient firms to close and allowed more efficient firms to expand. At the plant level, Canadian plant sizes increased and production runs lengthened due to gains accruing from greater exports to the United States.

Moreover, following both agreements, Canadian consumers were introduced to a greater variety of products than before. One estimate found that the agreements increased the annual variety of products available to Canadians by 60 percent, which was about three times as great as the new varieties introduced into the United States from Canada. A separate study found that roughly 10 percent of the increase in U.S. exports to Canada represented trade in new goods.

As firms narrow production lines, concentrate on differentiated products, extend production-run lengths and face new entrants in their markets, they are induced to compete in prices as well. Evidence suggests that trade liberalization also brought about reduced mark-ups over costs—to the benefit of consumers.

Liberalized trade is also expected to have an impact on productivity levels. Between 1984 and 1996, following the CUS-FTA, Canadian manufacturing productivity rose by an estimated 13.8 percent. The expansion of exports and realignment from less-efficient to more-efficient producers following that agreement accounted for about 60 percent of the overall increase in productivity, or 8.4 percentage points. Better access to intermediate products combined with increased productivity from new and existing exporters contributed the remaining 5.4 percentage points in improvement of productivity.

Empirical evidence strongly supports the observation that firms that export pay higher wages. Higher wages (wage premiums) are induced by increased productivity, and Canadian exporters are indeed productive, paying wage premiums compared to non-exporters.

Overall, an open trade policy leads to higher wages for employees, lower prices and greater variety for consumers, and greater productivity in business operations through less costly inputs and more efficient and longer production runs. The increased level of competition also creates an environment in which firms are facing incentives to innovate and control costs—to the benefit of all Canadians.

Bibliography

- Arnold, J.M. and K. Hussinger (2005), "Export Behaviour and Firm Productivity in German Manufacturing: A Firm-Level Analysis," *Review of World Economics*, 141-2: 219-243.
- Badinger, Harald (2007), "Has the EU's Single Market Programme Fostered Competition? Testing for a Decrease in Mark-up Ratios in EU Industries," *Oxford Bulletin of Economics and Statistics*, 69, 4: 497-519.
- Badinger, Harald and Fritz Breuss (2008), "Trade and Productivity: An Industry Perspective," *Empirica*, Springer, vol. 35 (2): 213-231.
- Baldwin, John R., Desmond Beckstead, and Richard Caves (2001), "Changes in the Diversification of Canadian Manufacturing Firms (1973-1997): A Move to Specialization," *Statistics Canada*, No. 11F0019 No. 179, 2001.
- Baldwin, John R., Richard Caves, and Wulong Gu (2005), *Responses to Trade Liberalization: Changes in Product Diversification in Foreign- and Domestic-controlled Plants*. Economic Analysis (EA) Research Paper Series. Catalogue No. 11 F0027MIE2005031. Ottawa: Statistics Canada.
- Baldwin, John R. and Wulong Gu (2002), "Plant Turnover and Productivity Growth in Canadian Manufacturing," *Industrial and Corporate Change*, Vol. 15, Issue 3, June: 417-465.
- Baldwin, John R. and Wulong Gu (2006), "The Impact of Trade on Plant Scale, Production-Run Length and Diversification", *Statistics Canada, Economic Analysis Research Paper Series*.
- Baldwin, John R. and Wulong Gu (2009), "The Impact of Trade on Plant Scale, Product -run length and Diversification," *Producer Dynamics: new evidence from Micro Data*, NBER chapter 15.
- Bernard, Andrew B. and J. Bradford Jensen (1999), "Exceptional Exporter Performance: Cause, Effect, or Both?" *Journal of International Economics*, 47, 1: 1-25.
- Bernhofen, Daniel M. and John C. Brown (2005), "An Empirical Assessment of the Comparative Advantage Gains from Trade: Evidence from Japan," *American Economic Review*, 95, 1: 208-225.
- Bloom, Nicholas, Mirko Draca, and John Van Reenen (2009), "Trade Induced Technical Change? The Impact of Chinese Imports on Innovation, Diffusion and Productivity," NBER Working Paper No.16717, Cambridge, MA.
- Breau, Sébastien and W. Mark Brown (2011), "Global Links: Exporting, Foreign Direct Investment, and Wages: Evidence from the Canadian Manufacturing Sector," *The Canadian Economy in Transition Series*, Statistics Canada Catalogue No. 11-622 - No. 021, August 2011.
- Brown, W. Mark (2008), "Trade and the Industrial Specialization of Canadian Manufacturing Regions 1974-1999," *International Regional Science Review*, 31, 2: 138-158.
- Chen, Shenjie (2006), "The Variety Effects of Trade Liberalization," in *NAFTA@10*, John Curtis and Aaron Sydor Editors, Foreign Affairs and International Trade Canada, 2006: 43-72.

- Cox, David and Richard Harris (1985), "Trade Liberalization and Industrial Organization: Some Estimates for Canada," *Journal of Political Economy*, Vol. 93, No. 1, Feb: 115-145.
- Feenstra, Robert C. (2003), *Advanced International Trade: Theory and Evidence*, Princeton University Press, Chapter 5.
- Frankel, Jeffrey A. and David Romer (1999), "Does Trade Cause Growth?" *American Economic Review*, Vol. 89, No. 3, June 1999.
- Gibson, John and Richard Harris (1996), "Trade Liberalisation and Plant Exit in New Zealand Manufacturing," *The Review of Economics and Statistics*, Vol. 78, No. 3, pp.521-529.
- Gu, Wulong and Lori Rennison (2006), "The Effect of Trade on Productivity Growth and the Demand for Skilled Workers in Canada," in NAFTA@10, John Curtis and Aaron Sydor Editors, Foreign Affairs and International Trade Canada, 2006: 105-124.
- Harrison, Ann E. (1990), "Productivity, Imperfect Competition and Trade Liberalization in Côte d'Ivoire," *Policy Research Working Paper No 451*, The World Bank, Washington, D.C.
- Head, Keith and John Ries (1999), "Rationalization Effects of Tariff Reductions," *Journal of International Economics*, 47, 2: 295-320.
- Hillberry, H. Russell and Christine A. McDaniel (2002), "A Decomposition of North American Trade Growth Since NAFTA", *International Economic Review*, May/June 2002, U.S. International Trade Commission.
- Irwin, Douglas A. (2002), "The Welfare Costs of Autarky: Evidence from the Jeffersonian Trade Embargo, 1807-1809," *NBER Working Paper No. 8692*, Cambridge, MA.
- Krishna, Pravin and Devashish Mitra (1998), "Trade Liberalization, Market Discipline and Productivity Growth: New Evidence from India," *Journal of Development Economics*, 34, 1-2: 115-136.
- Krugman, Paul (1979), "Increasing Returns, Monopolistic Competition, and International Trade," *Journal of International Economics* 9, 4: 469-479.
- Lee, Jim (2011), "Export Specialization and Economic Growth Around the World," *Economic Systems*, 35: 45-63.
- Lileeva, Alla and Daniel Trefler (2010), "Improved Access to Foreign Markets Raises Plant-Level Productivity ... for Some Plants," *The Quarterly Journal of Economics*, CXXV, 3: 1051-1099.
- Lui, Runjuan (2010), "Import Competition and Firm Refocusing," *Canadian Journal of Economics*, Vol. 43, No. 2, May: 440-466.
- Melitz, Marc J (2003), "The Impact of Trade on Intra-industry Reallocations and Aggregate Industry Productivity," *Econometrica*, Vol. 71, No. 6, November: 1695-1725.
- Pavcnik (2000), "Trade Liberalization, Exit, and Productivity Improvements: Evidence from Chilean Plants," *NBER Working Paper No. 7852*, Cambridge, MA.
- Roberts, Mark J. and James R. Tybout (1997), "The Decision to Export in Colombia: An Empirical Model of Entry with Sunk Costs," *American Economic Review*, 87: 545-564.
- Teshima, Kensuke (2008), "Import Competition and Innovation at the Plant Level: Evidence from Mexico," Columbia University Mimeo.
- Trefler, Daniel, "The Long and Short of the Canada-U.S. Free Trade Agreement," *The American Economic Review*, Vol. 94 No. 4, September 2004.
- Wonnacott, Paul and Ronald J. Wonnacott (1982), "Free Trade Between the United States and Canada: Fifteen Years Later," *Canadian Public Policy VIII* (Supplement): 412-427.
- World Trade Organization (WTO) (2008), "Trade in a Globalizing World", Chapter II in *World Trade Report 2008 – Trade in a Globalizing World*, Geneva.