



Agriculture and  
Agri-Food Canada

Agriculture et  
Agroalimentaire Canada

Canada

The background of the page features a scenic landscape. In the foreground, there is a dense forest of trees with green and yellow foliage. In the middle ground, a farm complex is visible, including several white and blue buildings, a large white silo, and a blue-roofed structure. Beyond the farm, a large body of water stretches across the horizon, with distant mountains under a clear sky.

# An Overview of the Canadian Agriculture and Agri-Food System 2014

# An Overview of the Canadian Agriculture and Agri-Food System

## Project Managers

Kathleen Kittson / Grace Chung / Julie Smith

## Project Team

Members of the Agri-Food Industry and Competitiveness Analysis Section. This publication comprises data and analysis provided by all three divisions of the Research and Analysis Directorate as well as contributions from other divisions and branches of Agriculture and Agri-Food Canada.

April 2014

Research and Analysis Directorate  
Strategic Policy Branch  
Agriculture and Agri-Food Canada

## NOTE TO READERS

This publication reflects the latest data available as of September 2013.  
Due to rounding, totals may not equal the sum of their components.

## IMPORTANT NOTICES

Copyright/Permission to Reproduce

Materials in this publication were produced and/or compiled by Agriculture and Agri-Food Canada for the purpose of providing Canadians with direct access to information about the programs and services offered by the Government of Canada.

The material in this publication is covered by the provisions of the Copyright Act, by Canadian laws, policies, regulations and international agreements. Such provisions serve to identify the information source and, in specific instances, to prohibit reproduction of materials without written permission.

## Non-commercial Reproduction

Information in this publication has been provided with the intent that it be readily available for personal and public non-commercial use and may be reproduced, in part or in whole and by any means, without charge or further permission from Agriculture and Agri-Food Canada. We ask only that: Users exercise due diligence in ensuring the accuracy of the materials reproduced; Agriculture and Agri-Food Canada be identified as the source department; and the reproduction is not represented as an official version of the materials reproduced, nor as having been made, in affiliation with or with the endorsement of Agriculture and Agri-Food Canada.

## Commercial Reproduction

Reproduction of multiple copies of this publication, in whole or in part, for the purposes of commercial redistribution is prohibited except with written permission from the Government of Canada's copyright administrator, Public Works and Government Services Canada (PWGSC). Through the permission granting process, PWGSC helps ensure individuals/organizations wishing to reproduce Government of Canada materials for commercial purposes have access to the most accurate, up-to-date versions. To obtain permission to reproduce materials in this publication for commercial purposes, please consult with PWGSC.

Public Works and Government Services Canada  
Publishing and Depository Services  
350 Albert Street, 4th Floor  
Ottawa, Ontario, CANADA  
K1A 0S5

copyright.droitdauteur@tpsgc-pwgsc.gc.ca

## Third-party Materials

Some of the materials and graphical elements found in this publication are subject to copyrights held by other organizations. This is particularly true of sites that are jointly operated by a Government of Canada institution and an external organization as part of a collaborative arrangement. In such cases, some restrictions on the reproduction of materials or graphical elements may apply and it may be necessary to seek permission from the rights holder prior to reproducing the material.

© Her Majesty the Queen in Right of Canada, 2014  
AAFC 10710E  
ISSN 1708-4164

Electronic versions of Research and Analysis Directorate publications are available on the Internet at <http://www.agr.gc.ca>  
Aussi disponible en français sous le titre : « Vue d'ensemble du système agricole et agroalimentaire canadien »

# TABLE OF CONTENTS

---

FORWARD.....9

HIGHLIGHTS.....11

SECTION A: GDP and Employment.....15

SECTION B: International Trade.....21

SECTION C: Primary Agriculture and Farm Inputs.....29

SECTION D: Post Farm Gate (Food and Beverage Processing and Food Retail).....51

SECTION E: Consumers.....69

SECTION F: Government Expenditures and Support.....79

GLOSSARY.....87

DATA SOURCES AND REFERENCES.....99



# LIST OF CHARTS

---

## SECTION A: GDP AND EMPLOYMENT

<b>A: GDP and Employment.....</b>	<b>15</b>
A.1 Agriculture and Agri-Food System's Contribution to GDP, 2012.....	16
A.2 Agriculture and Agri-Food System's Contribution to GDP, 2007-2012.....	16
A.3 Agriculture and Agri-Food System's Contribution to Employment, 2012.....	17
A.4 Agriculture and Agri-Food System's Contribution to Employment, 1997-2012.....	17
A.5 Agriculture and Agri-Food System's Contribution to Provincial GDP, 2012.....	18
A.6 Primary Agriculture and Food Processing GDP by Province, 2012.....	18
A.7 Agriculture and Agri-Food System's Share of Employment by Province, 2012.....	19
A.8 Employment in Primary Agriculture and Food Processing by Province, 2012.....	19

## SECTION B: INTERNATIONAL TRADE

<b>B: International Trade.....</b>	<b>21</b>
B.1 World Agriculture and Agri-Food Exports by Country of Origin, 2012.....	22
B.2 World Agriculture and Agri-Food Imports by Country of Destination, 2012.....	22
B.3 Canadian Agriculture and Agri-Food Exports by Country of Destination, 2012.....	23
B.4 Canadian Agriculture and Agri-Food Exports by Country of Destination, 1988-2012.....	23
B.5 Canadian Agriculture and Agri-Food Imports by Country of Origin, 2012.....	24
B.6 Canadian Agriculture and Agri-Food Imports by Country of Origin, 1988-2012.....	24
B.7 Canadian Exports of Agriculture and Agri-Food Products, Primary and Processed, 1992-2012.....	25
B.8 Canadian Imports of Agriculture and Agri-Food Products, Primary and Processed, 1992-2012.....	25
B.9 Canadian Agriculture and Agri-Food Exports by Commodity, 2012.....	26
B.10 Canadian Agriculture and Agri-Food Exports by Commodity, 1988-2012.....	26
B.11 Canadian Agriculture and Agri-Food Imports by Commodity, 2012.....	27
B.12 Canadian Agriculture and Agri-Food Imports by Commodity, 1988-2012.....	27
B.13 Estimated Share of Agricultural Production that is Exported, Value Basis, 1997-2012.....	28
B.14 Export Shares of Primary Commodities and Processed Products, Quantity-Based, Average, 2010-2012.....	28

## SECTION C: PRIMARY AGRICULTURE AND FARM INPUTS

<b>C: Primary Agriculture and Farm Inputs.....</b>	<b>29</b>
C.1 Value of Agricultural Production by Industry, 2009.....	30
C.2 Number and Size of Farms in Canada, 1941-2011.....	31
C.3 Market Receipts by Commodity, 2002 and 2012.....	32

# LIST OF CHARTS

---

C.4	Regional Market Receipts by Commodity, 2012.....	32
C.5	Market Receipts by Commodity, 2007-2012.....	33
C.6	Canadian Corn, Wheat and Soybean Prices, Crop Years 1982-1983 to 2012-2013.....	34
C.7	Cattle Price Cycle, 1980-2012.....	34
C.8	Farm Cash Receipts, Direct Payments, Net Operating Expenses and Net Cash Income, 1992-2012.....	35
C.9	Net Value-Added in Agriculture, 2002-2012.....	36
C.10	Average Net Operating Income by Revenue Class, 2011.....	37
C.11	Average Net Operating Income of Farms, 2007-2011.....	37
C.12	Average Net Operating Income by Province, 2011.....	38
C.13	Average Net Operating Income by Farm Type, 2011.....	38
C.14	Average Farm Family Income by Farm Type, 2009.....	39
C.15	Distribution of Farms by Young Operators and Older Operators, 2009-2011.....	40
C.16	Average Total Net Worth of Farms by Province, 2009-2011.....	41
C.17	Average Assets, Liabilities and Net Worth by Farm Type, 2011.....	41
C.18	Average Debt-to-Asset Ratios for All Farms, 2001-2011.....	42
C.19	Average Debt-to-Asset Ratios by Farm Type, 2011.....	42
C.20	The Value Chain of Agriculture-Specific Input and Service Suppliers.....	43
C.21	Farm Net Operating Expenses and Depreciation, 2012.....	44
C.22	Farm Net Operating Expenses and Depreciation, 2002-2012.....	45
C.23	Farm Input Price Index, 2002-2012.....	45
C.24	Anhydrous Ammonia and Natural Gas Prices, 1997-2012.....	46
C.25	Total Rent and Farmland Value, 1971-2012.....	47
C.26	Rail and Trucking Rate Index, Western Canada, 2002-2003 to 2011-2012.....	48
C.27	Gross Output, Input and Total Factor Productivity Growth in Primary Agriculture, 1961-2006.....	49
C.28	Total Factor Productivity Growth Comparison: Canada, U.S. and Australia, 1961-2006.....	49
C.29	Real Private Sector R&D in Primary Agriculture, 1980-2012.....	50
C.30	Saskatchewan Pulse Growers R&D Expenditures and Check-Offs, 1984-2012.....	50

## SECTION D: FOOD AND BEVERAGE PROCESSING

<b>D:</b>	<b>Post Farm Gate (Food and Beverage Processing and Food Retail).....</b>	<b>51</b>
D.1	Food Processing Input Composition and Output Disposition, 2009.....	52
D.2	Distribution of Total Manufacturing GDP by Sector, 2012.....	53
D.3	Distribution of Total Manufacturing Employment by Sector, 2012.....	53
D.4	Distribution of Food and Beverage Processing Establishments by Province, 2012 .....	54
D.5	Distribution of Food and Beverage Processing Shipments by Sub-Industry, 2012.....	54
D.6	Food and Beverage Processing Shipments by Sub-Industry, 1992-2012.....	55
D.7	Food and Beverage Processing Employment by Sub-Industry, 1992-2012.....	55

# LIST OF CHARTS

---

D.8	Distribution of Food Processing Shipments and Number of Establishments by Employment Size, 2009.....	56
D.9	Concentration Ratios (CR4) in the Food and Beverage Processing Industry, 2009.....	56
D.10	Food and Beverage Processing Import and Export Intensities by Sub-Industry, 2012.....	57
D.11	Food and Beverage Processing Industry Shipments by Destination, 2012.....	57
D.12	Total Variable Input Costs in the Food and Beverage Processing Industry, 2011.....	58
D.13	Raw Materials Price Index for Select Commodities, 2002-2012.....	58
D.14	Average Weekly Earnings in Food and Beverage Processing and Total Manufacturing, 1991-2012.....	59
D.15	Profit Margins in Food and Soft Drink Processing and Total Manufacturing, 1999-2012.....	60
D.16	Debt-to-Equity Ratio in Food and Soft Drink Processing and Total Manufacturing, 1999-2012....	60
D.17	Real Private Sector R&D Expenditures in Food Processing, 1981-2012.....	61
D.18	Food and Beverage Industry R&D Expenditures as a Share of Value-Added, in Selected OECD Countries, 1990-2006.....	62
D.19	Total Factor Productivity Indices for the Canadian and U.S. Food, Beverage and Tobacco Industries, 1987-2006.....	62
D.20	Total Factor Productivity Indices for the Canadian Food, Beverage and Tobacco and Total Manufacturing Industries, 1987-2006.....	63
D.21	Stock of Inward FDI in the Canadian Food Processing Industry, by Country or Region of Origin, 2002-2012.....	64
D.22	Stock of Outward FDI in the Canadian Food Processing Industry, by Country or Region of Destination, 2002-2012.....	64
D.23	Number of Canadian Food Stores and Average Sales, 1990-2012.....	65
D.24	Distribution of Canadian Food Store Sales, Chains vs. Independents, by Region, 2012.....	65
D.25	Average Profit Margin Ratio for Food and Beverage Retailers, 1999-2012.....	66
D.26	Commercial Foodservice Sales and Number of Establishments, 1998-2012.....	66
D.27	Commercial Restaurant Bankruptcies, 1991-2011.....	67
D.28	Profit Margin Ratios for Foodservice and Drinking Establishments, 1999-2011.....	67

## SECTION E: CONSUMERS AND FOOD RETAILING

<b>E:</b>	<b>Consumers.....</b>	<b>69</b>
E.1	Agriculture and Agri-Food System, 2012.....	70
E.2	Distribution of Household Expenditures on Goods and Services, 2012.....	71
E.3	Real Household Expenditures on Food and Non-Alcoholic Beverages, 1981-2012.....	72
E.4	Household Expenditures on Food by Income Quintile in Canada and the U.S., 2011.....	72
E.5	Household Expenditures on Food and Non-Alcoholic Beverages in Selected OECD Countries, 1991-2011.....	73
E.6	Consumer Price Indices (CPI) for Food, Shelter, Energy and All Items, 1982-2012.....	74

# LIST OF CHARTS

---

E.7	Per Capita Availability of Beef, Pork and Poultry, 1990-2012.....	75
E.8	Consumer and Retail Level Food Loss and Waste by Commodity, 2010.....	75
E.9	World Food Commodity Price Indices, 1990-2012.....	76
E.10	Significance of the Country of Origin as a Food Attribute, 2011-2012.....	77
E.11	Significance of Food Origin by Age Group, 2011-2012.....	77

## SECTION F: GOVERNMENT EXPENDITURES

<b>F:</b>	<b>Government Expenditures and Support.....</b>	<b>79</b>
F.1	Total Government Expenditures in Support of the Agriculture and Agri-Food Sector, 1985-1986 to 2012-2013.....	80
F.2	Total Government Expenditures in Support of the Agriculture and Agri-Food Sector as a Share of Agriculture GDP, 1985-1986 to 2012-2013.....	80
F.3	Total Government Expenditures in the Agriculture and Agri-Food Sector as a Share of Sector GDP by Province, 2012-2013.....	81
F.4	Federal and Provincial Government Expenditures in Support of the Agriculture and Agri-Food Sector by Major Category, 2012-2013.....	82
F.5	Public R&D Spending to Support the Agriculture and Agri-Food Sector as a Share of Gross Farm Receipts, 1993-1997 to 2008-2012.....	83
F.6	Percent of Producer Support Estimates (PSE) in Selected Countries, 1986-2012.....	84
F.7	Composition of Support to Producers in Canada, 1986-2012.....	84
F.8	Composition of Support to Producers in the EU, 1986-2012.....	85
F.9	Composition of Support to Producers in the U.S., 1986-2012.....	85
F.10	Government Research Expenditures on Agriculture and Agri-Food, 1990-1991 to 2012-2013.....	86



# FOREWORD

---

This 2014 report provides an economic overview of the Canadian agriculture and agri-food system using the most recent data possible—in most cases, statistics dated 2012. It is meant to be a multi-purpose reference document that presents:

- the agriculture and agri-food system in the context of the Canadian economy and international markets; and
- a snapshot of the composition and performance of the agriculture and agri-food system as it evolves in response to challenges, opportunities and market developments.

The report begins with a look at the agriculture and agri-food system's relevance to the Canadian economy, as measured by its share of the Canadian gross domestic product (GDP) and number of jobs in Canada. It then reviews the sector's performance internationally, in terms of its share of agriculture and agri-food exports and imports against those of other countries. Next, it presents a snapshot of each segment of the agriculture and agri-food system: primary agriculture; food processing; consumer and food distribution; and government support to agriculture.

The report describes the Canadian agriculture and agri-food system as a modern, complex, integrated, and competitive supply chain of importance to the Canadian economy. It is a dynamic and resilient system that adapts constantly to changing consumer demands, technological advances and globalization.



# HIGHLIGHTS

---

## IMPORTANCE OF THE SYSTEM TO THE CANADIAN ECONOMY

- The Canadian agriculture and agri-food system (AAFS) is a complex and integrated supply chain that includes input and service suppliers, primary producers, food and beverage processors, food retailers and wholesalers, and foodservice providers. The activities along this supply chain generate significant economic benefits at both the national and provincial levels.
- The AAFS's GDP has increased annually since 2007, the exception being during the economic recession of 2009. In 2012, the AAFS generated \$103.5 billion, accounting for 6.7% of Canada's GDP. Of this, the food retail and wholesale industry accounted for the largest share (1.8%), followed by the food, beverage and tobacco (FBT) processing industry (1.7%).
- Employment in most industries in the AAFS continued on an upward trend. In 2012, the AAFS provided one in eight jobs in Canada, employing over 2.1 million people. The foodservice industry was the largest employer in the AAFS, accounting for 5.2% of all Canadian jobs.

## GLOBAL CONTEXT

- The performance of industries within the agriculture and agri-food system depends on their ability to compete in both domestic and international markets over the long-term. Canada continues to remain relatively competitive globally.
- Canadian export sales grew by 8.1% in 2012. While the U.S. remains Canada's most important agriculture and agri-food export destination, Canadian exports to China increased by 84.2% in 2012 to reach \$5.0 billion, and accounted for much of the export growth in non-U.S. markets. With export sales of \$43.6 billion, Canada overtook Argentina to become the world's fifth-largest exporter, accounting for 3.5% of the total value of world agriculture and agri-food exports.
- While the U.S. continues to be Canada's most important trading partner, China surpassed Japan in 2012 to become Canada's second-largest agriculture and agri-food export destination. Of the total value of Canadian agriculture and agri-food exports, the U.S. accounted for 48.4% and China, 11.4%.
- With import sales of \$32.3 billion in 2012—an increase of 4.2% over the previous year—Canada remained the world's sixth-largest importer, accounting for 2.7% of the total value of world

# HIGHLIGHTS

---

agriculture and agri-food imports. The U.S. accounted for 61.2% of the value of all Canadian agriculture and agri-food imports.

- It is estimated that approximately half of the value of primary agriculture production in Canada is exported, as either primary commodities or processed food and beverage products. The processed foods industry is particularly export-dependent. Canadian exports of processed food products increased by 6.0% in 2012 to reach \$21.7 billion.

## COMPONENTS OF THE AGRICULTURE AND AGRI-FOOD SYSTEM

In response to challenges, opportunities and changing market conditions, the agriculture and agri-food system continues to transform and restructure itself.

### Primary Agriculture

- Farms in Canada continue to grow in size but decline in number. Over the past 70 years, the average farm size in Canada has almost quadrupled, while the number of farms in Canada has declined.
- Favourable market conditions enabled the sector to grow, and allowed a number of farms to diversify their production to include non-traditional crops. In particular, drought in the U.S. in the summer of 2012 drove up grain and oilseed prices. Grain and oilseed receipts increased by \$13.1 billion between 2002 and 2012, and accounted for the largest share (41.3%) of the total value of all farm market receipts in 2012. Overall, market receipts increased in value by 55.9% between 2002 and 2012; those from the sale of special crops more than doubled during that time. Receipts from red meat sales, however, decreased.
- Farm performance, as measured by farm income and net worth, continued to remain strong overall. Net cash income among Canadian farms in 2012 was \$13.3 billion—48.7% above the 2007-2011 average, and 17.6% over the 2011 net cash income. The net value added is estimated to have reached \$16.2 billion—46.4% higher than the 2002-2011 average, and 1.8% above the previous record high in 2008. Canada-wide, the average net worth per farm was \$1.7 million in 2011—an increase of 9.5% over 2010.
- The composition of farm operators is also changing. An increasing proportion of farms are being operated solely by young operators (those 18 to 39 years of age), despite an aging farmer population. These young farmers have an average of 11 years of farming experience.

# HIGHLIGHTS

---

## Food and Beverage Processing

- The food and beverage processing industry produces goods using both primary and processed products as inputs. Primary commodities accounted for about 46% of the total value of material inputs used by the food processing industry in 2009.
- The food and beverage processing industry is the largest of all manufacturing industries in Canada, accounting for the largest share (15.9%) of the total manufacturing sector's GDP in 2012. It also accounted for the largest share (16.7%) of the jobs in the manufacturing sector. The food and beverage processing industry continues to grow, and the value of its shipments more than doubled between 1992 and 2012.

## Consumers

- Canadians spent \$183.9 billion on food, beverages and tobacco products in 2012. This represented the second-largest household expenditure category, after shelter.
- In 2011, food accounted for 10.6% in Canada and 13.0% in the U.S. of all household expenditures.

## GOVERNMENT EXPENDITURES IN SUPPORT OF THE SECTOR

- Expressed in dollar terms, government expenditures (federal and provincial) in support of the AAFS are expected to increase to \$6.8 billion in 2012-2013. As a share of the agriculture GDP, government expenditures are estimated to be 22.1% in 2012-2013.
- Research and inspection expenditures and program payments at the federal level make up the largest portion of government expenditures in support of the agriculture and agri-food sector.
- Public investments in research and development (R&D) in the agriculture and agri-food sector represent a critical source of innovation and productivity growth. Such expenditures, of which the majority are incurred by the federal government, are estimated to rise to \$602 million in 2012-2013.



# SECTION A

## *GDP and Employment*

### **INTRODUCTION**

The Canadian agriculture and agri-food system (AAFS) is a complex and integrated supply chain whose constituents include input and service suppliers, agricultural producers, food and beverage processors, food retailers and wholesalers, and foodservice providers. The AAFS makes significant direct and indirect contributions to the gross domestic product (GDP) and employment in Canada.

The GDP of the AAFS has increased annually since 2007, the exception being during the economic recession of 2009. The food retail and foodservice industries have experienced the highest growth, while growth in the primary agriculture and food and beverage processing industries have been less consistent. In 2012, employment in most industries in the AAFS continued their upward trend.

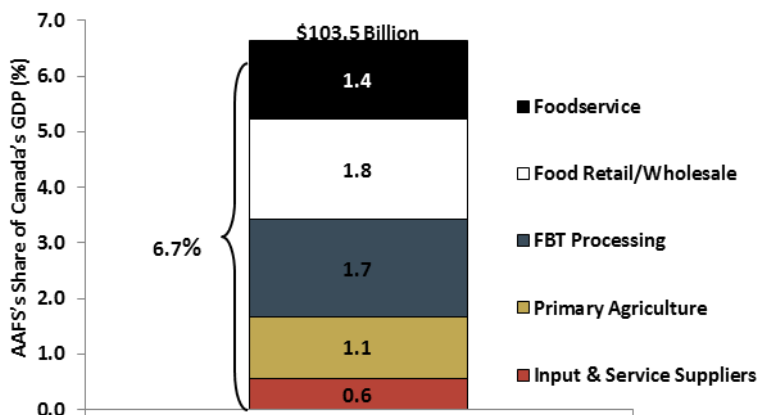
# The agriculture and agri-food system (AAFS) plays a significant role in the Canadian economy

In 2012, the AAFS generated \$103.5 billion of economic activity, accounting for 6.7% of Canada's gross domestic product (GDP). This represented a growth of 0.7% over the previous year.

Across sectors, the AAFS was the seventh-largest contributor to the Canadian GDP, following the sectors of finance, non-food manufacturing, mining, oil and gas extraction, health care, and public administration.

The food retail/wholesale industry accounted for the largest share of the AAFS's contribution to Canada's GDP, representing 1.8% with \$28.4 billion (chained 2007\$). It was followed by the food, beverage and tobacco (FBT) processing industry, worth 1.7% of the GDP with \$27.1 billion; the foodservice industry, worth 1.4% with \$21.9 billion; primary agriculture, worth 1.1% with \$17.3 billion; and the input and service suppliers, worth 0.6% of the GDP with \$8.6 billion.

Chart A.1  
Agriculture and Agri-Food System's Contribution to GDP, 2012



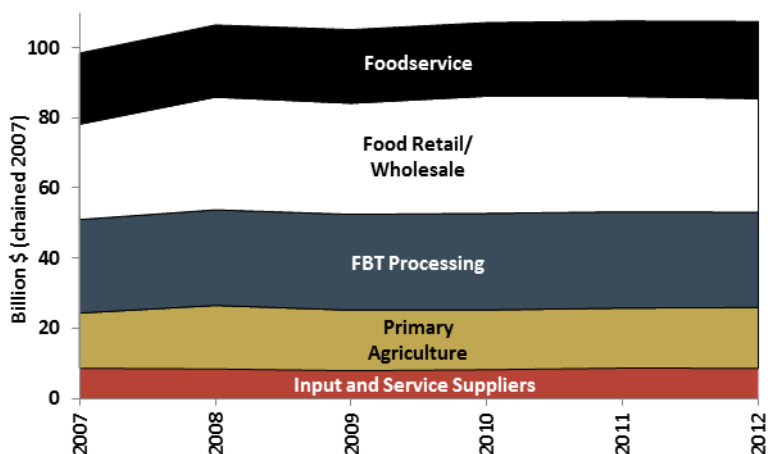
Source: Statistics Canada and AAFC calculations

Notes: 2012 data are preliminary.

Due to rounding, figures may not add up exactly.

Data were rebased (2007\$) in 2013 and cannot be compared to those in previous editions of this report.

Chart A.2  
Agriculture and Agri-Food System's Contribution to GDP, 2007-2012



Source: Statistics Canada and AAFC calculations

Note: 2007-2012 data are preliminary.



# The agriculture and agri-food system provides jobs to many Canadians

In 2012, the AAFS provided one in eight jobs in Canada, employing over 2.1 million people.

Primary agriculture accounted for 1.6% of all Canadian jobs in 2012, employing 281,600 people, while the FBT processing industry accounted for 1.7% of the jobs, employing 299,200 people.

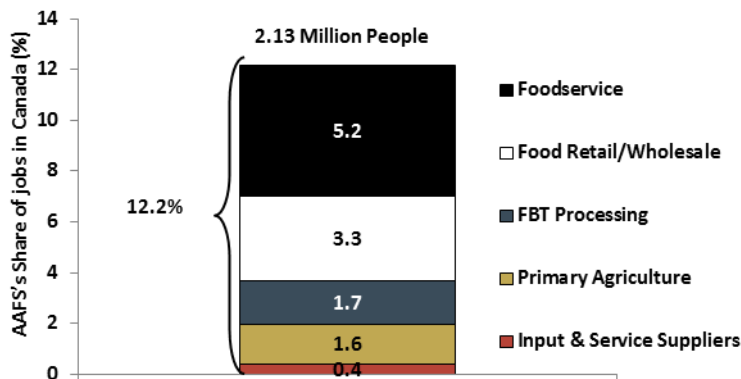
With 906,000 workers, the foodservice industry was the largest employer in the AAFS, accounting for 5.2% of all Canadian jobs in 2012. The food retail/wholesale industry followed with 577,900 workers, representing 3.3% of all Canadian jobs.

Employment in the AAFS grew between 1997 and 2012 by 15.3% with an average of about 1.1% annually. In comparison, employment across all sectors of the Canadian economy grew by 27.7% over the same period.

Employment by input and service suppliers and the primary agriculture industry increased in 2012 from the previous year by 2.7% and 0.6%, respectively.

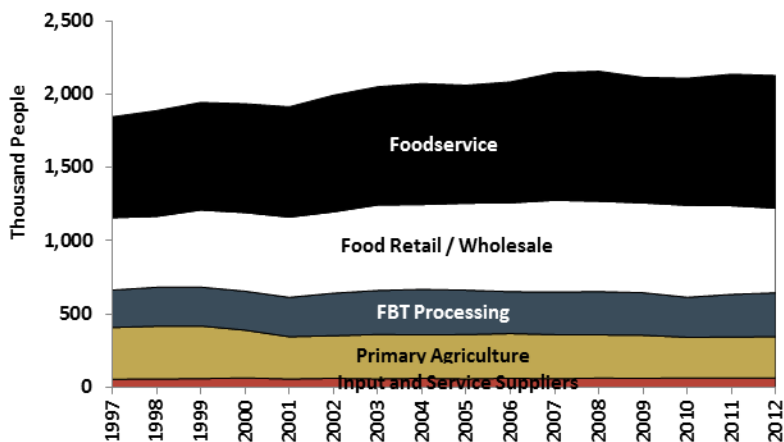
Employment by both the FBT processing and foodservice industries also increased, by 2.5% and 0.9%, respectively. Employment in the food retail/wholesale industry, however, declined by 4.6%.

Chart A.3  
Agriculture and Agri-Food System's Contribution to Employment, 2012



Source: Statistics Canada and AAFC calculations

Chart A.4  
Agriculture and Agri-Food System's Contribution to Employment, 1997-2012



Source: Statistics Canada and AAFC calculations

# The primary agriculture and food processing industries are important contributors to the economy in most provinces

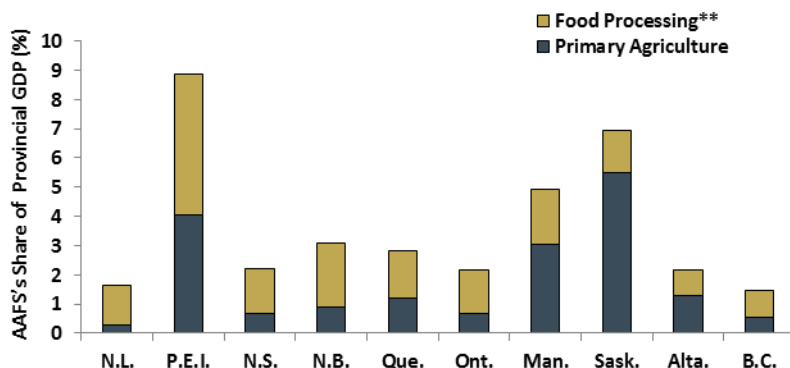
In 2012, the primary agriculture and food processing industries generated the most economic output in both Prince Edward Island and Saskatchewan, accounting for 8.9% and 7.0% of the GDP in those provinces, respectively.

Across the provinces, the primary agriculture and food processing industries accounted for varying shares of the provincial GDP. Except in the provinces of Prince Edward Island, Manitoba, Saskatchewan and Alberta, the food processing industry accounted for a larger share of the provincial GDP than did primary agriculture.

Of the GDP generated by the Canadian primary agriculture and food processing industries in 2012, more than half (54.5%) could be attributed to Ontario and Quebec.

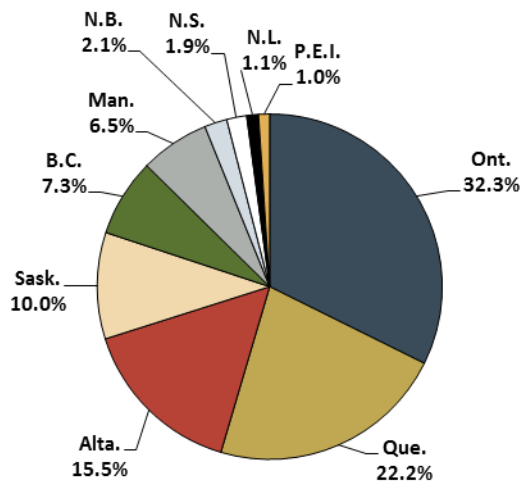
With 32.3%, Ontario boasted the largest share of the combined GDP of these two industries, while Quebec and Alberta accounted for 22.2% and 15.5%, respectively.

**Chart A.5**  
Agriculture and Agri-Food System's Contribution to Provincial GDP, 2012\*



Source: Statistics Canada  
Note: \*\* Excludes beverage and tobacco processing.  
\* 2012 data are preliminary.

**Chart A.6**  
Primary Agriculture and Food Processing GDP by Province, 2012



Source: Statistics Canada and AAFC calculations  
Note: Excludes beverage and tobacco processing.  
\* 2012 data are preliminary.

# The agriculture and agri-food system is a major employer in most provinces

In 2012, the AAFS (excluding input and service suppliers) accounted for the largest share of provincial employment in Prince Edward Island and Saskatchewan, with 18.1% and 15.2% of the jobs, respectively.

In most provinces, the foodservice industry provided the largest share of the jobs, followed by the food retail/wholesale industry.

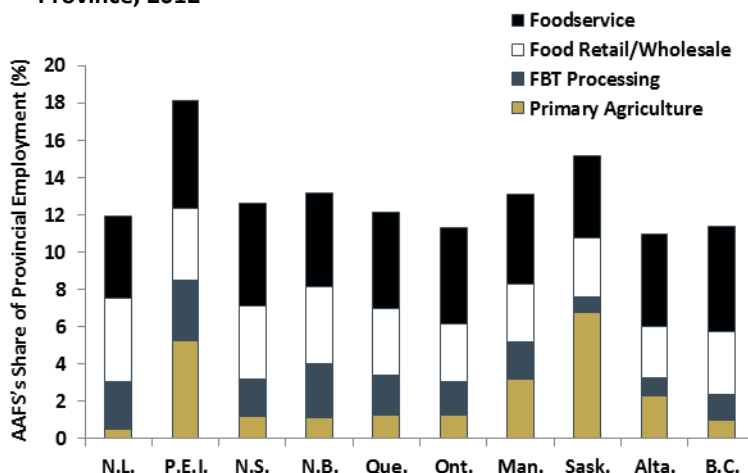
The exception was Saskatchewan, where primary agriculture accounted for the largest share (6.8%) of the jobs. In Prince Edward Island and Manitoba, primary agriculture was the second-largest employer (after foodservice).

## Ontario and Quebec account for most of the workforce in primary agriculture and food processing.

In 2012, Ontario accounted for 35.1% of the combined workforce of the primary agriculture and food processing industries, while Quebec and Alberta accounted for 22.9% and 12.4%, respectively.

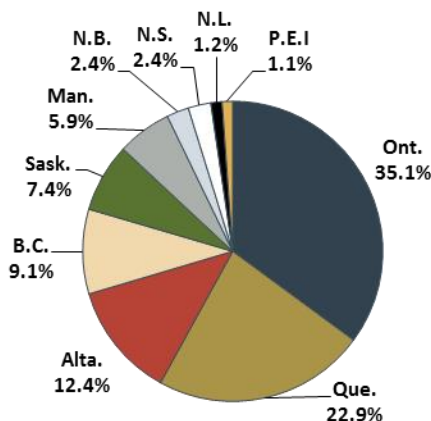
Employment across Canada in the primary agriculture and food processing industries increased by 1.8% from 2011 to 2012. Employment growth varied by province, with the largest increase seen in Nova Scotia (8.8%) and the largest decrease found in Newfoundland and Labrador (11.2%).

**Chart A.7**  
Agriculture and Agri-Food System's Share of Employment by Province, 2012\*



Source: Statistics Canada and AAFC calculations  
 Note: Provincial input & service suppliers have been excluded because of confidentiality with many of its component industries.  
 \*2012 data are preliminary.

**Chart A.8**  
Employment in Primary Agriculture and Food Processing by Province, 2012\*



Source: Statistics Canada and AAFC calculations  
 Note: Excludes beverage and tobacco processing.  
 \* 2012 data are preliminary.



# SECTION B

## *International Trade*

### **INTRODUCTION**

Canadian trade of agriculture and agri-food products continued to grow in 2012, due in part to higher import and export prices, as well as to higher export volumes. While the U.S. continues to be Canada's most important trading partner, China surpassed Japan in 2012 to become Canada's second-largest agriculture and agri-food export destination.

Note: Canadian import and export data in this chapter are current as of July 2013.

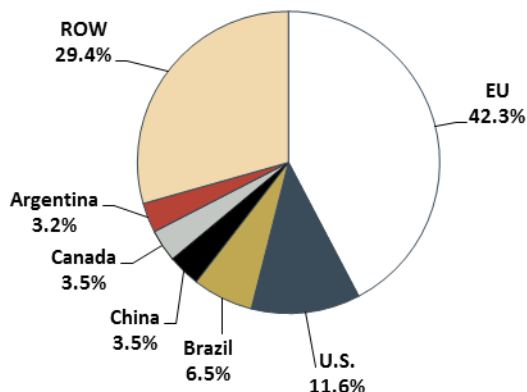
# Canada is an important player in the international trade of agriculture and agri-food products

Canada, with export sales of \$43.6 billion, accounted for 3.5% of the total value of world agriculture and agri-food exports in 2012.

Canada overtook Argentina in 2012 to become the world's fifth-largest exporter, following the EU, the U.S., Brazil, and China.

World agriculture and agri-food trade was valued at \$1.15 trillion in 2012, up from \$1.12 trillion in 2011.

**Chart B.1**  
World Agriculture and Agri-Food Exports by Country of Origin, 2012

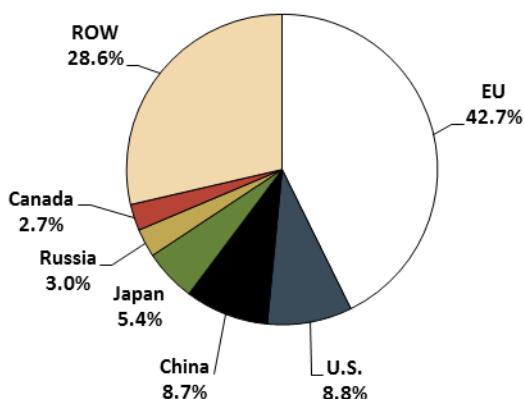


Source: Global Trade Atlas and AAFC calculations  
Notes: Excludes all seafood, fresh and processed.  
Includes intra-EU trade.

With \$32.3 billion of imports, Canada accounted for 2.7% of the total value of world agriculture and agri-food imports in 2012.

Canada remained the world's sixth-largest importer in 2012, following the EU, the U.S., China, Japan and Russia.

**Chart B.2**  
World Agriculture and Agri-Food Imports by Country of Destination, 2012



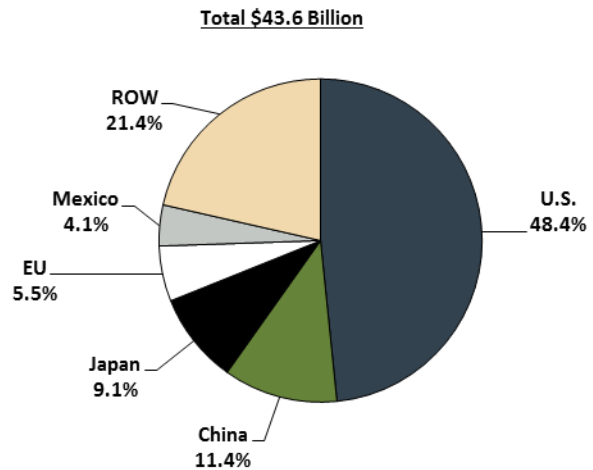
Source: Global Trade Atlas and AAFC calculations  
Notes: Excludes all seafood, fresh and processed.  
Includes intra-EU trade.

# While the U.S. remains Canada’s top agriculture and agri-food export destination, exports to China are expanding

In 2012 the U.S. accounted for 48.4% of the value of all Canadian agriculture and agri-food exports.

China accounted for 11.4% of the total value of all Canadian agriculture and agri-food exports, up from 6.7% in 2011. Collectively, Japan, the EU and Mexico accounted for 18.7% of the value of Canadian exports. The remaining 21.4% of export sales was accounted for by 156 other countries.

**Chart B.3**  
Canadian Agriculture and Agri-Food Exports by Country of Destination, 2012



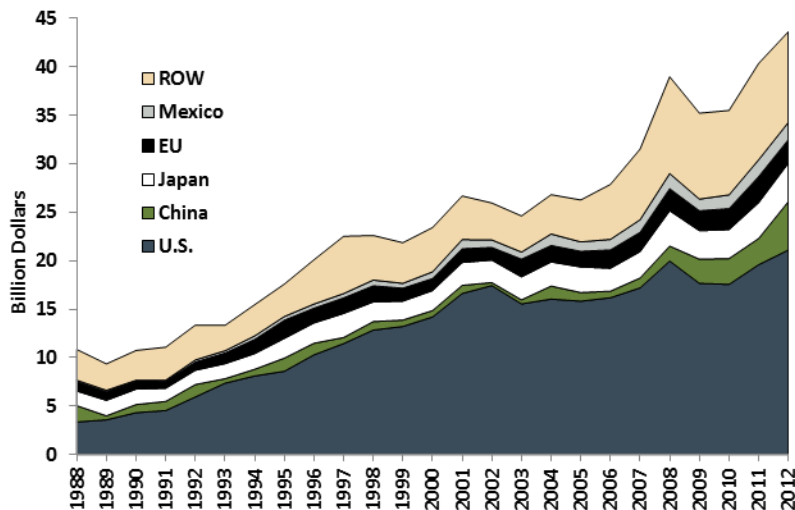
Source: Statistics Canada and AAFC calculations

Canadian export sales grew by 8.1% in 2012 due to increased exports to both the U.S. and other foreign markets.

The value of Canadian exports to the U.S. grew by 7.7% from 2011 to 2012, to reach \$21.1 billion. Exports to non-U.S. markets increased by 8.4% over the same period, reaching \$22.5 billion.

A surge in Canadian exports to China, which increased by 84.2% in 2012 to \$5.0 billion, accounted for much of the growth seen in overall export sales.

**Chart B.4**  
Canadian Agriculture and Agri-Food Exports by Country of Destination, 1988-2012



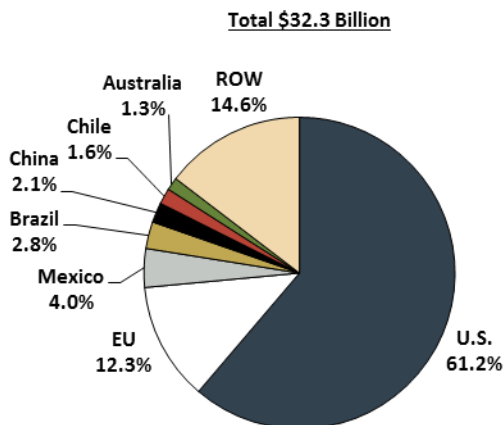
Source: Statistics Canada and AAFC calculations

# The U.S. remains Canada's primary source of agriculture and agri-food imports

The U.S. accounted for 61.2% of the value of Canadian agriculture and agri-food imports in 2012.

Collectively, the EU, Mexico, Brazil, China, Chile and Australia accounted for roughly one-quarter of the value of Canadian imports; the rest of the world accounted for the remaining 14.6%.

Chart B.5  
Canadian Agriculture and Agri-Food Imports by Country of Origin, 2012



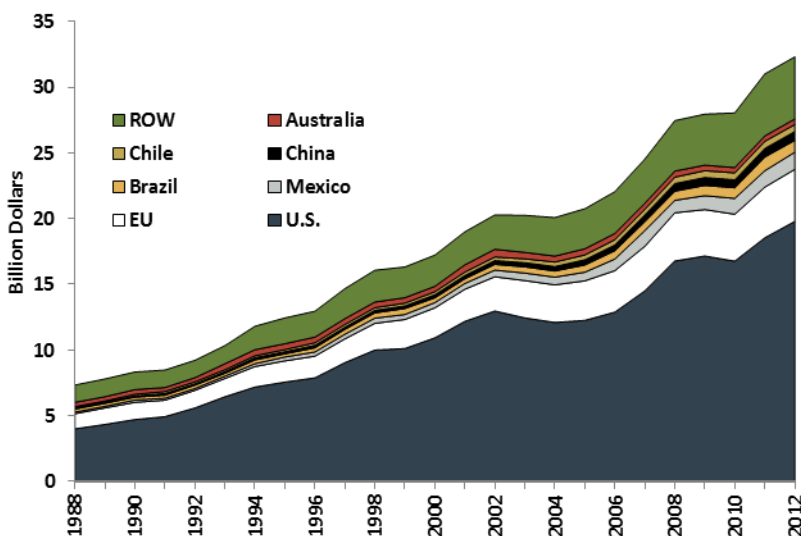
Source: Statistics Canada and AAFC calculations

The value of Canadian agriculture and agri-food imports grew from \$31.0 billion in 2011 to \$32.3 billion in 2012—an increase of 4.2%.

The value of imports from the U.S. grew to \$19.8 billion in 2012, up by 6.7% from the previous year.

The EU also remained an important source of imports, their value increasing by 2.7% in 2012 to \$4.0 billion.

Chart B.6  
Canadian Agriculture and Agri-Food Imports by Country of Origin, 1988-2012



Source: Statistics Canada and AAFC calculations

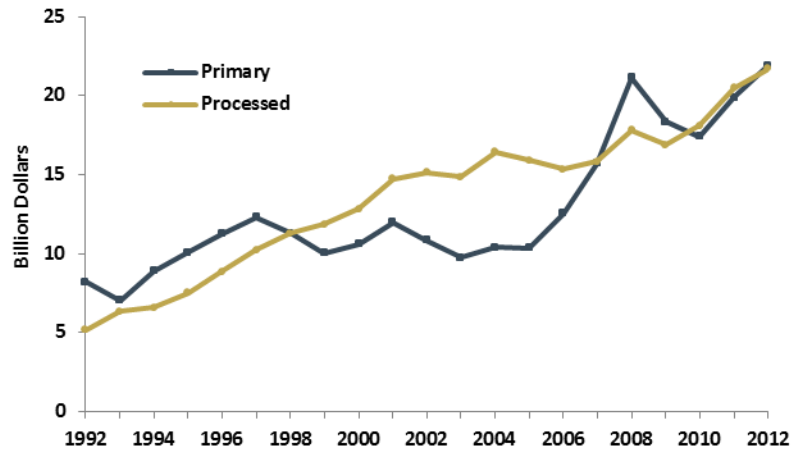


# Exports of primary commodities rival those of processed agri-food goods

Canadian exports of primary agriculture products increased in value by 10.3% in 2012 to \$21.9 billion, surpassing the previous peak of \$21.1 billion in 2008.

Canadian exports of processed products increased in value by 6.0% in 2012 to reach \$21.7 billion.

Chart B.7  
Canadian Exports of Agriculture and Agri-Food Products, Primary and Processed, 1992-2012

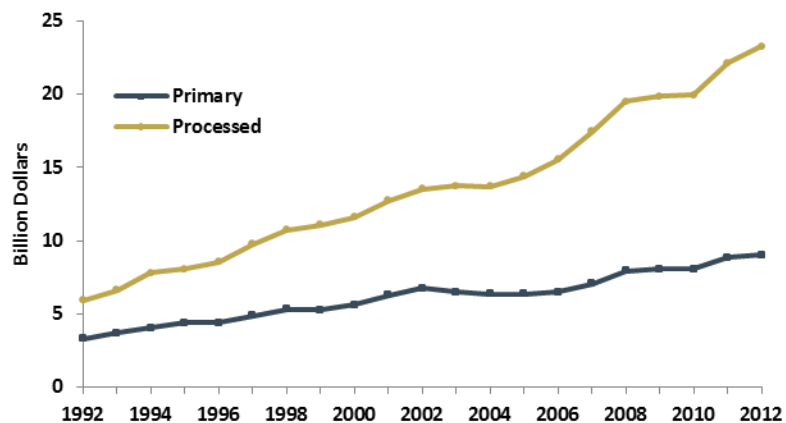


Source: Statistics Canada and AAFC calculations

In 2012, the value of processed products imported to Canada increased by 5.2% to reach \$23.3 billion, while the value of primary products imported to Canada rose by 1.8% to reach \$9.0 billion.

Over the past decade, the value of imported processed foods has grown at a faster pace than that of imported primary products.

Chart B.8  
Canadian Imports of Agriculture and Agri-Food Products, Primary and Processed, 1992-2012



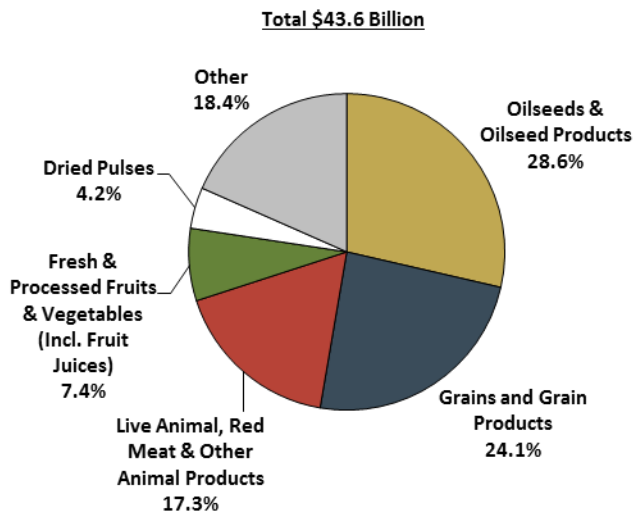
Source: Statistics Canada and AAFC calculations

# More than two-thirds of the value of all Canadian agriculture and agri-food exports fall into three main commodity groups

Of the \$43.6 billion in Canadian agriculture and agri-food exports in 2012, oilseeds and oilseed products accounted for 28.6%, which was followed by grains and grain products with 24.1%, and by live animals, red meat and other animal products with 17.3%.

Other important export products included fresh and processed fruits and vegetables, including fruit juices (7.4%), and dried pulses (4.2%).

Chart B.9  
Canadian Agriculture and Agri-Food Exports by Commodity, 2012



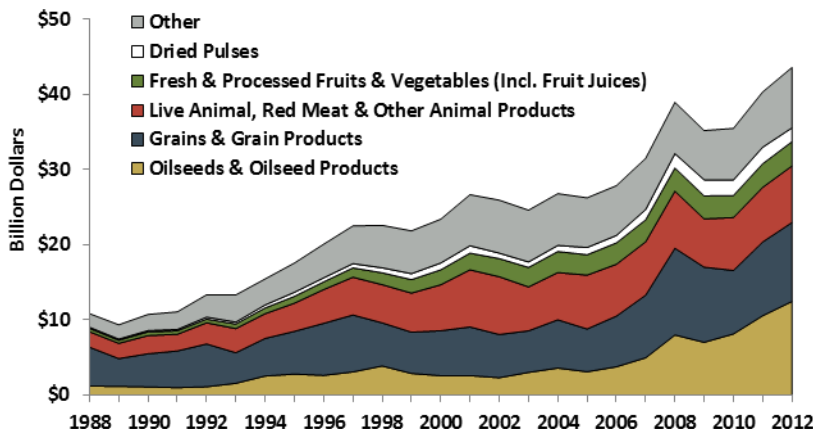
Source: Statistics Canada and AAFC calculations

Export growth occurred across a broad range of commodities.

Exports of oilseeds and oilseed products saw the strongest growth, their value increasing by 18% in 2012 to reach \$12.5 billion.

The value of exported grains and grain products grew by 7.0% in 2012 to reach \$10.5 billion, while exports of live animals, red meat and other animal products increased in value by 3.6% to reach \$7.5 billion.

Chart B.10  
Canadian Agriculture and Agri-Food Exports by Commodity, 1988-2012



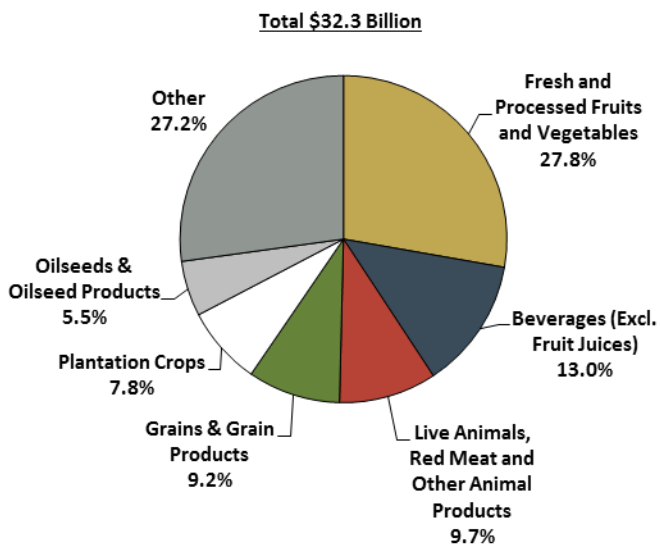
Source: Statistics Canada and AAFC calculations

# Canada imports a wide variety of agriculture and agri-food products

Fresh and processed fruits and vegetables accounted for just over one-quarter (27.8%) of the total value of Canadian agriculture and agri-food imports in 2012.

The next largest categories, by import value, were beverages (13.0%) and live animals, red meat and other animal products (9.7%).

Chart B.11  
Canadian Agriculture and Agri-Food Imports by Commodity, 2012

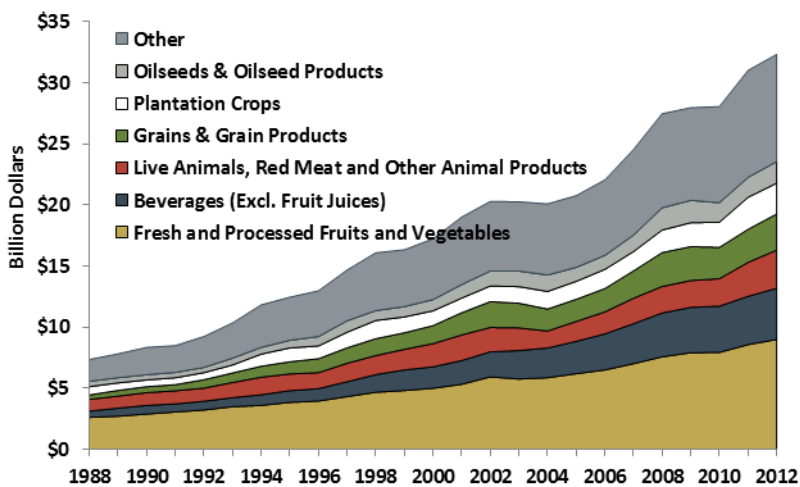


Source: Statistics Canada and AAFC calculations

Imported fresh and processed fruits and vegetables were valued at \$9.0 billion in 2012, an increase of 5.0% from 2011.

The value of imported beverages was up by 6.0% in 2012 to \$4.2 billion, while imported live animals, red meats and other animal products increased in value by 12.3% to \$3.1 billion.

Chart B.12  
Canadian Agriculture and Agri-Food Imports by Commodity, 1988-2012



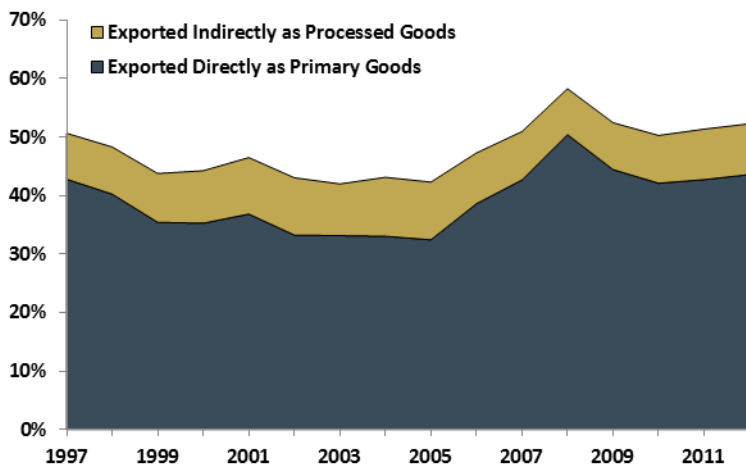
Source: Statistics Canada and AAFC calculations

# The Canadian agriculture and agri-food system is highly export-dependent

It is estimated that approximately half of the value of primary agriculture production in Canada is exported, as either primary commodities or processed food and beverage products.

The proportion exported peaked in 2008, at approximately 58% of the value of all farm market receipts, when world prices of grain and oilseed products had increased significantly.

**Chart B.13**  
Estimated Share of Canadian Agricultural Production that is Exported, Value Basis, 1997-2012

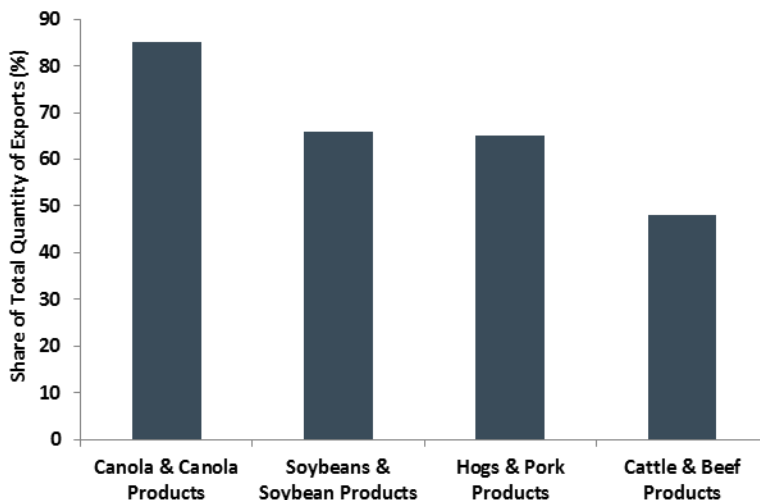


Source: Statistics Canada and AAFC calculations

Export agriculture and agri-food products include primary commodities, such as wheat, canola or live animals; and processed products, such as flour, canola oil or meat.

Over the 2010-2012 period, Canada exported (by weight) 85% of its canola and canola products; 66% of its soybeans and soybean products; 65% of its hogs and pork products; and 48% of its cattle and beef products.

**Chart B.14**  
Export Shares of Primary Commodities and Processed Products, Quantity-Based, Average, 2010-2012



Source: Statistics Canada and AAFC calculations

# SECTION C

## *Primary Agriculture and Farm Inputs*

### **INTRODUCTION**

The agriculture and agri-food system (AAFS) comprises several industries that are linked together into a complex, integrated supply chain. Activities along this chain generate significant economic benefits that help bolster the GDP. Agricultural producers, along with input and service providers, are among those whose participation in this supply chain is essential to the livelihood of the entire agriculture and agri-food system. Events experienced in the markets for primary commodities, for example, often impact those further downstream in the supply chain, such as the food processing and food retail/wholesale industries.

Agricultural producers are a very diverse group. They vary by farm size, type and region, as well as by their individual business strategies and management ability. Such diversity helps to explain some of the variability in performance seen among farm operations.

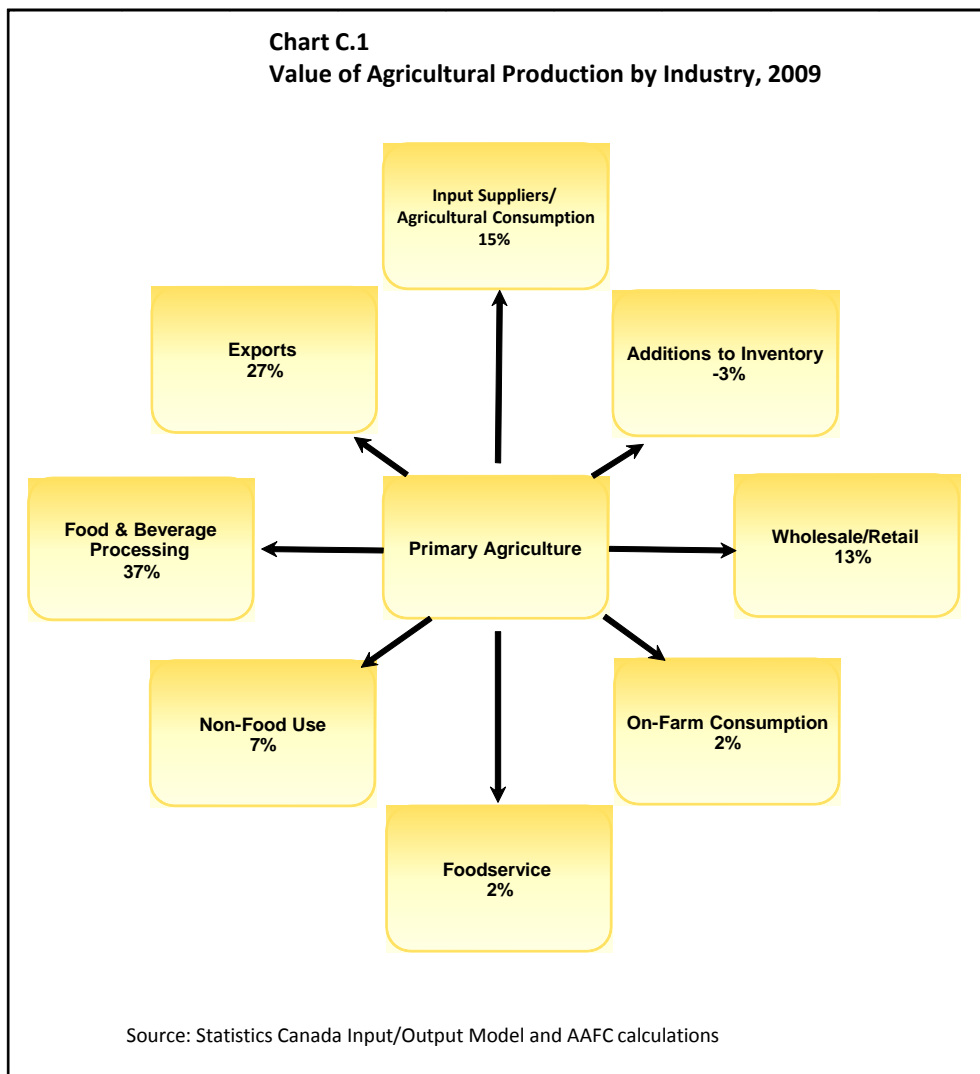
Input and service suppliers—ranging from multinational firms and commodity brokers to small, local agribusinesses—play a major role in the Canadian agriculture and agri-food system. Access to competitively priced inputs and services is particularly important to the livelihood of the primary agriculture industry.

# Agricultural production impacts all stages of the agri-food supply chain

Both upstream and downstream, industries make use of agricultural production.

The Canadian food and beverage processing industry remains the single most important market for primary commodities. Its consumption of agricultural commodities in 2009 was worth 37% of the total value of Canadian production that year.

Producers also have access to other markets. Of the total value of Canadian agricultural production in 2009, 27% was earned by exporting primary commodities; 15% was traded amongst Canadian producers as input products, such as feed or seeds; 13% was made through retail and on-farm sales (mostly of fresh produce); 7% was made through sales for non-food uses (mostly for nursery stock, flowers and other horticultural products for residential construction, consumers and bioproducts); and 2% was earned through sales to the foodservice industry.



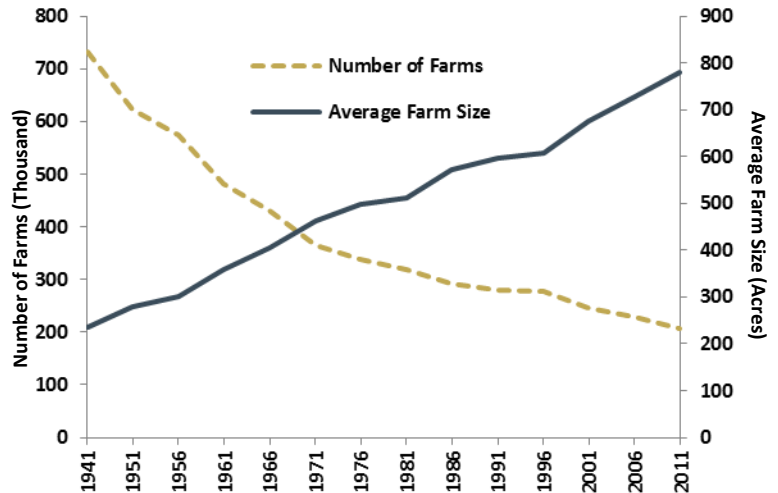
# Primary agriculture is a dynamic industry that adapts to changing global and domestic economic conditions

**Over the past 70 years, the average farm size in Canada has almost quadrupled, while the number of farms has declined.**

In 2011, there were 205,730 farms, representing a 10.0% decline since 2006. This followed a 7.3% decline between 2001 and 2006.

At the same time, the average farm size increased from 237 acres per farm in 1941 to 779 acres in 2011. Technological advances created conditions favourable to large-sized farm operations.

Chart C.2  
Number and Size of Farms in Canada, 1941-2011



Source: Statistics Canada, Census of Agriculture, various years

# The composition of agricultural production varies over time and by region

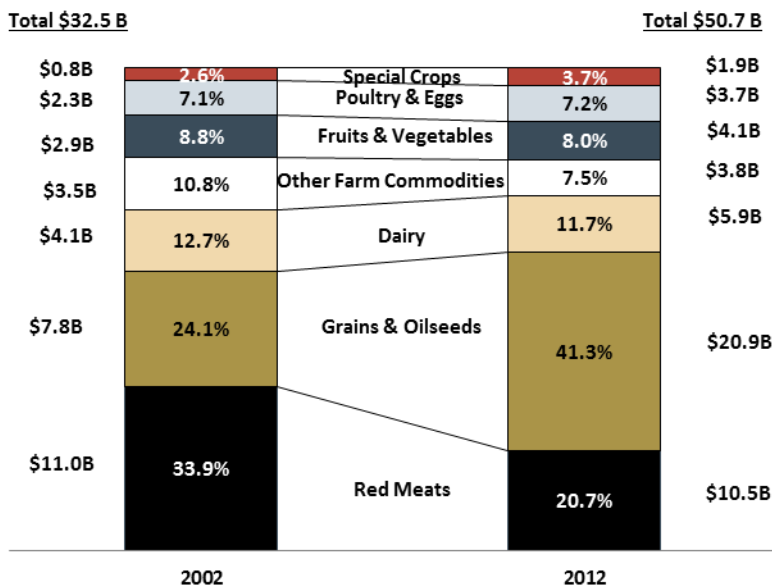
**Market receipts have evolved since 2002 but not equally across the commodity groups.**

Market receipts increased by 55.9% between 2002 and 2012. Receipts from red meat sales lost ground over that period, however, falling from 33.9% to 20.7% of the total.

Grain and oilseed receipts rose by \$13.1 billion over the same period, representing 41.3% of market receipts—the largest share among the commodity groups in 2012.

Receipts from the sale of special crops—such as pulses and mustard, sunflower and canary seeds—doubled between 2002 and 2012 to equal 3.7% of total market receipts in 2012.

**Chart C.3**  
Market Receipts by Commodity, 2002 and 2012



Source: Statistics Canada

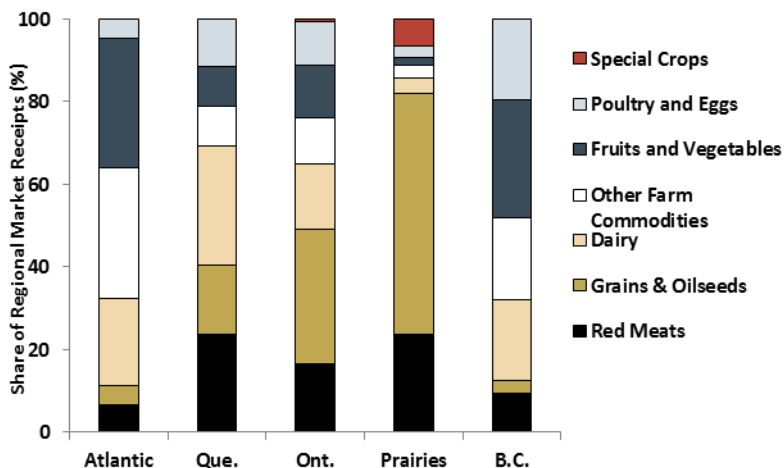
**The distribution of market receipts among commodity groups varies by region.**

In the Prairie region, more than half (58.3%) of the farm market receipts in 2012 came from the sale of grains and oilseeds. In British Columbia, fruits and vegetables accounted for 28.7% of total market receipts, red meats 9.4%, and grains and oilseeds 3.3%.

In Quebec, the dairy and red meat industries accounted for the largest shares, worth 28.9% and 23.8% of total market receipts. In Ontario, the grains and oilseeds industry accounted for the largest share, with 32.5%, while the dairy and red meat industries each accounted for smaller shares—15.9% and 16.4%, respectively.

In the Atlantic provinces, fruits and vegetables accounted for the largest share of total market receipts with 31.1%.

**Chart C.4**  
Regional Market Receipts by Commodity, 2012



Source: Statistics Canada



# Farm market receipts in 2012 were boosted mostly by high prices

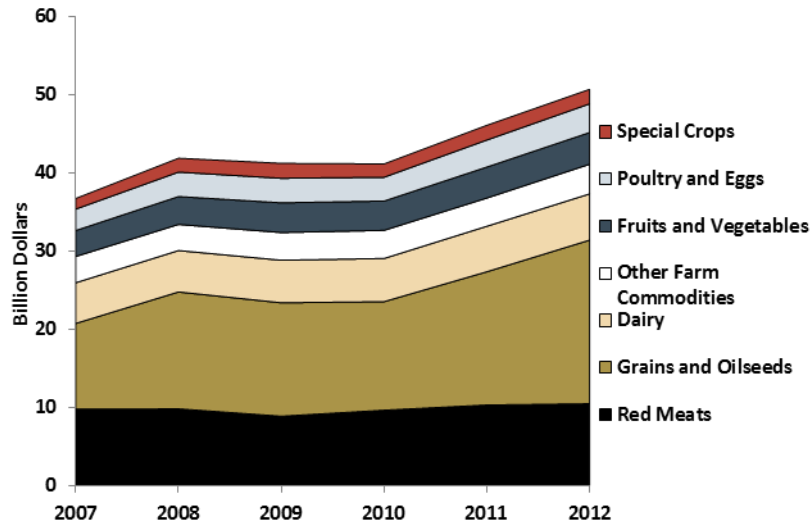
**Farm market receipts reached \$50.7 billion in 2012, which was 10.0% higher than in the previous year and 22.4% above the 2007-2011 average.**

In 2012, grain and oilseed receipts increased by 22.8% over the previous year and were 46.6% higher than the 2007-2011 average. Drought in the summer of 2012 in the U.S. drove up grain and oilseed prices, causing this commodity's market receipts to surge.

In recent years, cattle and hog producers have faced various challenges affecting the red meat industry, including the Country of Origin Labelling (COOL) regulations and high feed costs (which, in turn, led to herd reduction).

Cattle receipts have been increasing almost every year since 2007 due to strong cattle prices. After five consecutive years of decline, hog receipts improved in 2010 and 2011 due to higher hog prices, but fell slightly in 2012 when more U.S. hogs were sent to the market as a result of the summer drought.

Chart C.5  
Market Receipts by Commodity, 2007-2012

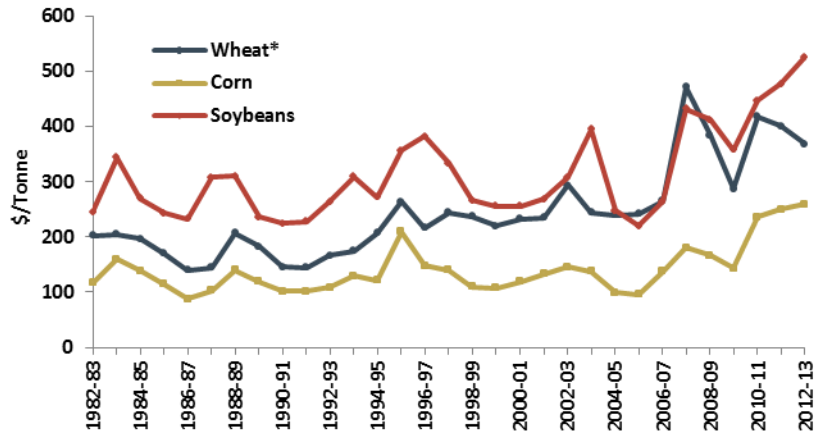


Source: Statistics Canada

# Commodity prices remained high in 2012

In 2012, grain and oilseed prices remained high, bolstered by ongoing world demand, the U.S. ethanol mandates, and the tight supplies that resulted from difficult climatic conditions.

Chart C.6  
Canadian Corn, Wheat and Soybean Prices,  
Crop Years 1982-1983 to 2012-2013



Source: AAFC

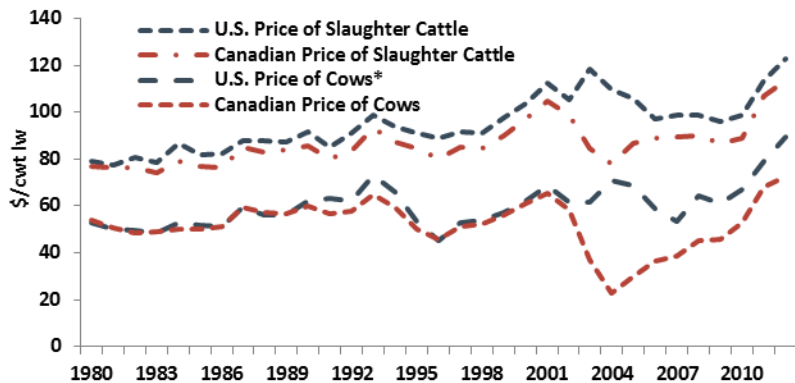
Note: \* Canada Western Red Spring.

Data for crop years 1982-1983 to 1996-1997 are AAFC estimates, based on prices for 1CWRS, 11.5% protein.

Lower inventories have boosted Canadian and U.S. cattle prices above historical peaks.

Historically, cattle prices in Canada and the U.S. have moved together fairly consistently. However, when the U.S. introduced a ban on live cattle trade following the 2003 Bovine Spongiform Encephalopathy (BSE) outbreak, a price gap between Canada and the U.S. emerged.

Chart C.7  
Cattle Price Cycle, 1980-2012



Source: USDA ERS, Canfax and AAFC calculations

Note: \* This series was terminated in 2008. The 2009-2012 values are estimated from the annual growth of the National Direct Cow price.

This gap narrowed once cattle trade was allowed to resume—first, in 2005, of cattle under 30 months of age; and then, in 2008, of older animals. As well, a strong Canadian-U.S. dollar exchange rate and exhausted cattle stocks drove prices up above historical cyclical peaks, thereby narrowing the Canadian-U.S. price gap even further.

# Net cash income reached record levels in 2012 for the third consecutive year

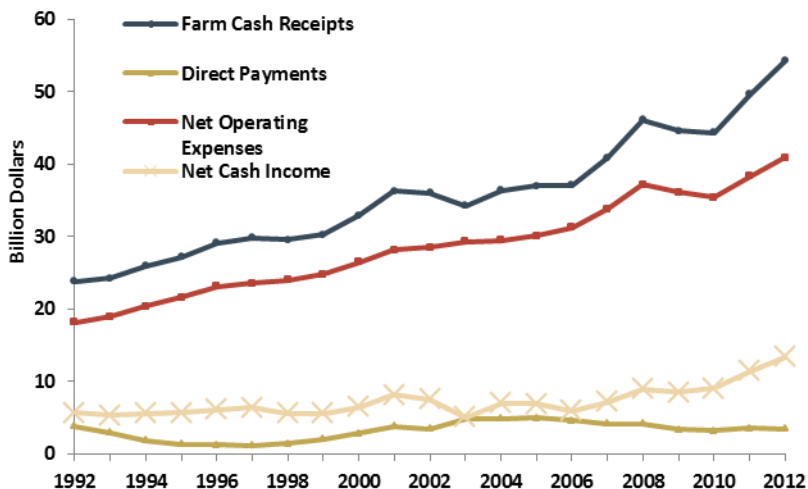
**In 2012, farm cash receipts rose faster than farm operating expenses, pushing the net cash income to \$13.3 billion—48.7% above the 2007-2011 average, and 17.6% over the 2011 net cash income.**

Farm cash receipts, which include market receipts and direct program payments, increased by 9.2% year-over-year in 2012, following a 11.9% increase in 2011. Both increases were driven mainly by strong crop receipts.

Net operating expenses followed a steady growth throughout most of the 1990s and 2000s. Expenses dropped slightly in 2009 and 2010 before increasing again in 2011 and 2012—by 8.3% and 6.7%, respectively.

Direct program payments to producers offset production losses resulting from natural disasters and help stabilize farm income. Recent increases in commodity prices, particularly in the grain and oilseed market, as well as higher margins, have helped to reduce direct payments to producers over recent years.

**Chart C.8**  
Farm Cash Receipts, Direct Payments, Net Operating Expenses and Net Cash Income, 1992-2012



Source: Statistics Canada and AAFC calculations.

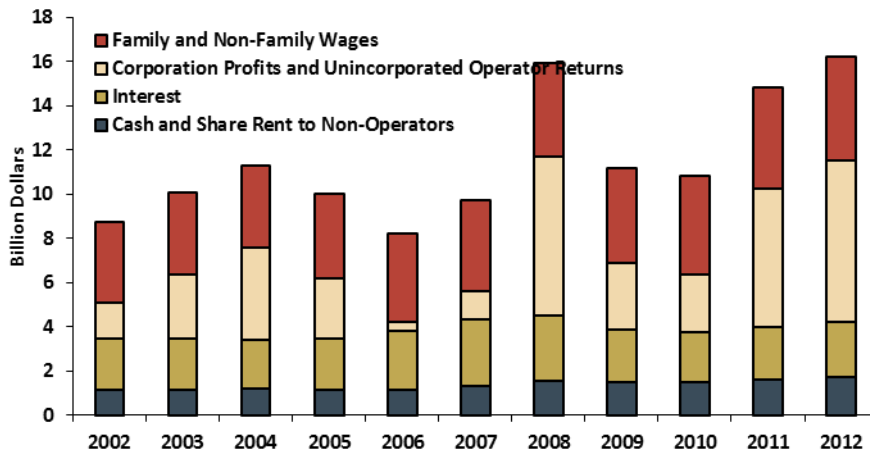
# Net value added in agriculture improved in 2012

In 2012, net value added in agriculture reached \$16.2 billion—46.4% higher than the 2002-2011 average, and 1.8% above the previous record high in 2008.

Net value added measures the total economic value of agricultural production. It reflects the return to all factors of production—rent to land, wages to labour, and interest to capital. Thus, net value added is affected by factors of production.

In 2012, interest to capital was 4.2% lower than the 2007-2011 average, while returns to all other factors of production were higher, including cash and share rent to non-operators (15.4%), and corporation profits and unincorporated operator returns (80.0%).

Chart C.9  
Net Value Added in Agriculture, 2002-2012



Source: Statistics Canada and AAFC calculations

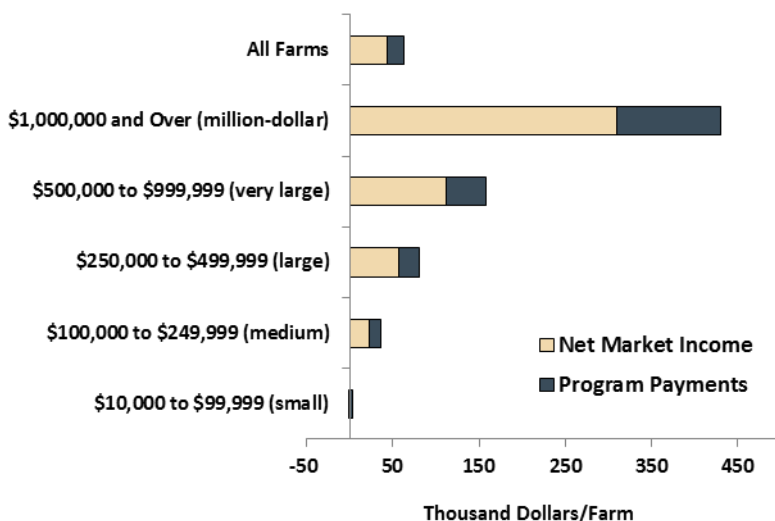
Note: Starting in 2005, changes were made to the net value added methodology so that resales are no longer included in agricultural sales to other farms or in expenses on inputs from other farms.

# Farm level performance, as measured by average net operating income, varies by farm size

In 2011, the average Canadian net operating income was \$63,000 per farm.

The average net operating income per farm varied from \$2,300 among small farms (those with revenues of \$10,000 to \$99,999) to \$430,000 among million-dollar-plus farms. Among the largest farms, 72.0% of their operating income came from the market, with the remainder coming from program payments. Net market income was also the predominant source of income for medium- to very large-sized farms (those with revenues of \$100,000 to \$999,999).

Chart C.10  
Average Net Operating Income by Revenue Class, 2011

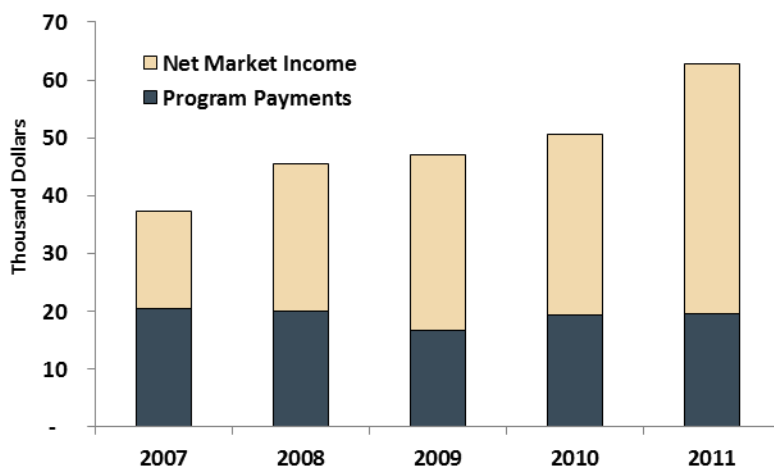


Source: Statistics Canada, Taxation Data Program  
Note: Estimates presented cover both unincorporated farms and communal farming organizations with total farm operating revenues equal to or greater than \$10,000, as well as incorporated farms with total farm operating revenues of \$25,000 and over.

Average net operating income also varies over time, as does the portion coming from the market.

On average, more than two-thirds (68.7%) of all farm operating income in 2011 came from the market—an increase from 45.2% in 2007.

Chart C.11  
Average Net Operating Income of Farms, 2007-2011



Source: Statistics Canada, Taxation Data Program  
Note: Estimates presented cover both unincorporated farms and communal farming organizations with total farm operating revenues equal to or greater than \$10,000, as well as incorporated farms with total farm operating revenues of \$25,000 and over.

# The average net operating income varies by province and farm type

In 2011, Prince Edward Island had the highest average net operating income per farm, followed by Manitoba and Newfoundland and Labrador.

Nova Scotia was the province with the lowest average net operating income.

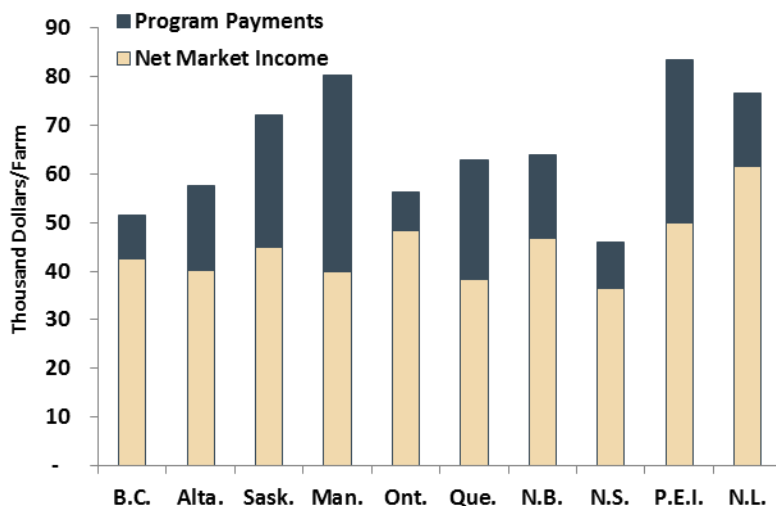
The need for program payments also varied by province, due in part to differences in farm support programming. In 2011, Ontario farmers received the lowest program payment per farm, while Manitoba farmers received the highest.

## Average net operating income varies across farm types and is influenced by prices, farm size and market conditions.

Across farm types, potato, poultry and egg, and dairy farms reported the highest average net operating incomes in 2011.

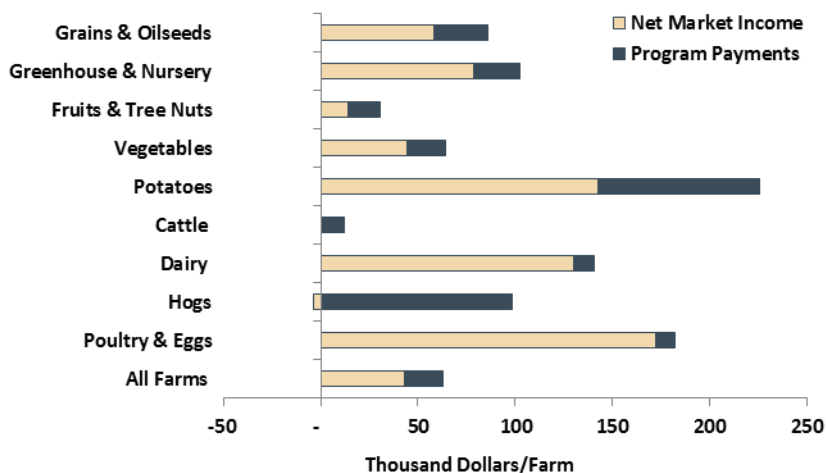
Cattle farms and fruit and tree nut farms reported the lowest average net operating incomes. Hog farms, in particular, continued to struggle in 2011, earning a negative net market income. A decline in exports—due to an appreciated dollar, higher feed costs, and the introduction of Country of Origin Labelling (COOL) in the U.S.—was largely responsible. Hog farmers’ losses, however, were offset by significant program payments.

**Chart C.12**  
Average Net Operating Income by Province, 2011



Source: Statistics Canada, Taxation Data Program  
Note: Estimates presented cover both unincorporated farms and communal farming organizations with total farm operating revenues equal to or greater than \$10,000, as well as incorporated farms with total farm operating revenues of \$25,000 and over.

**Chart C.13**  
Average Net Operating Income by Farm Type, 2011



Source: Statistics Canada, Taxation Data Program  
Note: Estimates presented cover both unincorporated farms and communal farming organizations with total farm operating revenues equal to or greater than \$10,000, as well as incorporated farms with total farm operating revenues of \$25,000 and over.

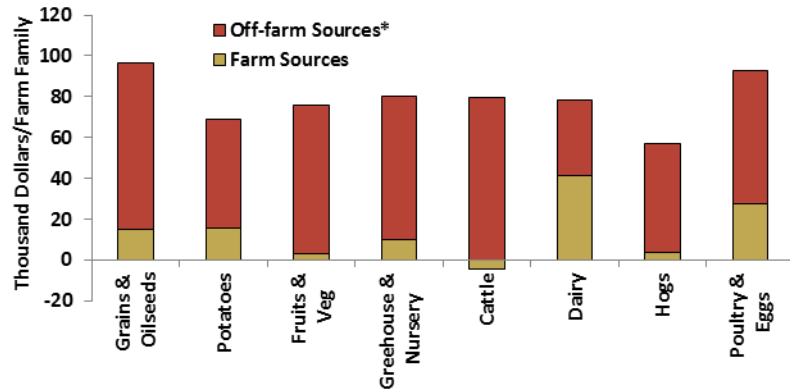
# Farm family income varies by farm type

Among farm families, those running dairy and poultry and egg operations were the least reliant on off-farm income sources.

These operations tend to be the most labour-intensive of the farm types, requiring full-time work from the families who run them.

Cattle (primarily cow-calf), hog and grain and oilseed operations, on the other hand, tend to be less labour-intensive, allowing the families who run them to earn additional income through off-farm employment.

Chart C.14  
Average Farm Family Income by Farm Type, 2009



Source: Statistics Canada, Taxation Data Program and AAFC calculations  
Note: \* Includes farm and non-farm wages and salaries, and non-farm self-employment income.

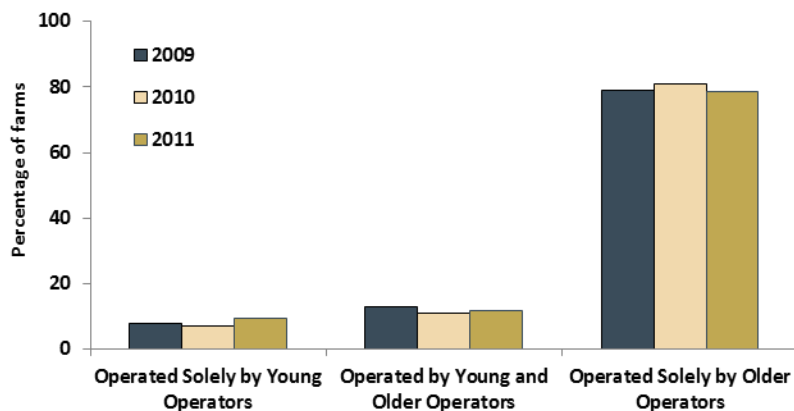
Estimates presented cover both unincorporated farms and communal farming organizations with total farm operating revenues equal to or greater than \$10,000, as well as incorporated farms with total farm operating revenues of \$25,000 and over.

# An increasing proportion of farms are being operated solely by young producers

In 2011, 9.4% of Canadian farms were managed solely by young operators (18 to 39 years of age). These young farmers had an average of 11 years of farming experience.

Between 2009 and 2011, the percentage of farms operated solely by young farmers increased slightly despite an aging farmer population. The majority of farms continue to be operated solely by older operators over 40 years of age (78.7%). The proportion of farms with a mix of young and older operators remained stable at 11.9% of the total in 2011.

Chart C.15  
Distribution of Farms by Young Operators and Older Operators, 2009-2011



Source: Statistics Canada, Farm Financial Survey, 2010, 2011 and 2012  
Note: Estimates presented cover both unincorporated farms and communal farming organizations with total farm operating revenues equal to or greater than \$10,000, as well as incorporated farms with total farm operating revenues of \$25,000 and over.

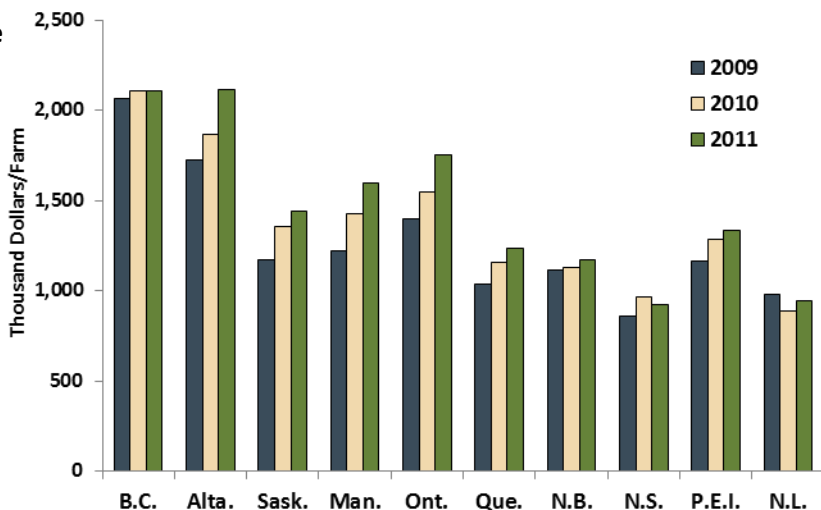


# Measured by net worth, the financial performance of farms varies by province and by farm type

Between 2009 and 2011, the average net worth per farm increased in all provinces except Newfoundland and Labrador. The greatest increases were seen in the Prairie region, Quebec, Ontario and Prince Edward Island.

Canada-wide, the average net worth per farm increased from \$1.4 million in 2009 to \$1.5 million in 2010, and to \$1.7 million in 2011.

Chart C.16  
Average Total Net Worth of Farms by Province, 2009-2011



Source: Statistics Canada, Farm Financial Survey, 2008 to 2011, and AAFC calculations

Note: Estimates presented cover both unincorporated farms and communal farming organizations with total farm operating revenues equal to or greater than \$10,000, as well as incorporated farms with total farm operating revenues of \$25,000 and over.

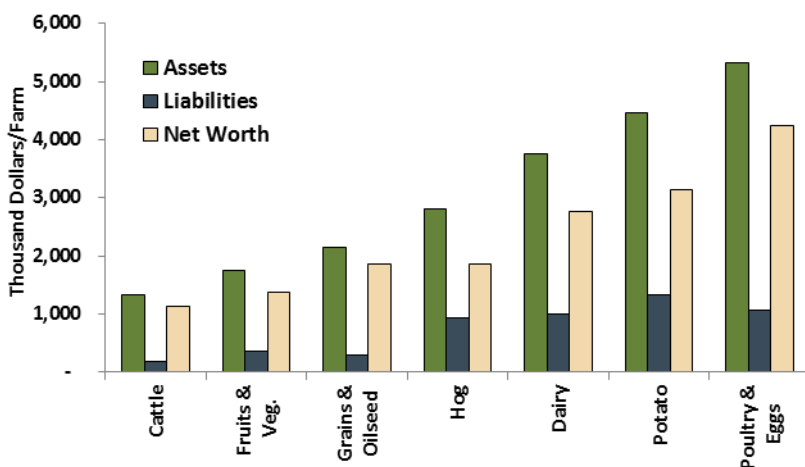
In 2011, poultry and egg farms reported the highest average net worth per farm, with over \$4.3 million, followed by potato farms with \$3.1 million, and dairy farms with \$2.8 million.

This reflects the fact that dairy, poultry and egg farms require quotas to operate their farms, which are included as assets. On the other hand, potato farms require expensive and specialized machinery.

Average assets and liabilities were significantly lower among the cattle, fruit and vegetable, and grain and oilseed farms.

Cattle farms reported the lowest average assets, liabilities and net worth of all farm types.

Chart C.17  
Average Assets, Liabilities and Net Worth by Farm Type, 2011



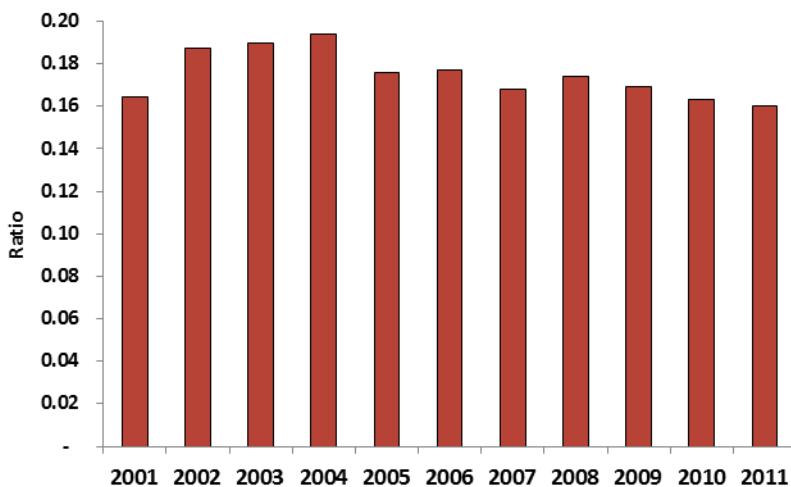
Source: Statistics Canada, Farm Financial Survey 2011 and AAFC calculations  
Note: Includes farms with \$10,000 or more in gross revenue.

# Debt-to-asset ratios reflect a farm's financial risk, as measured by how much of a farm's assets have been financed by debt

Over recent years, debt-to-asset ratios have gradually declined, falling to 16.0% in 2011.

Interest rates have been historically low, helping to keep debt-servicing costs down. In particular, the prime rate fell from 6.0% in 2001 to 3.0% in 2011.

**Chart C.18**  
Average Debt-to-Asset Ratios for All Farms, 2001-2011

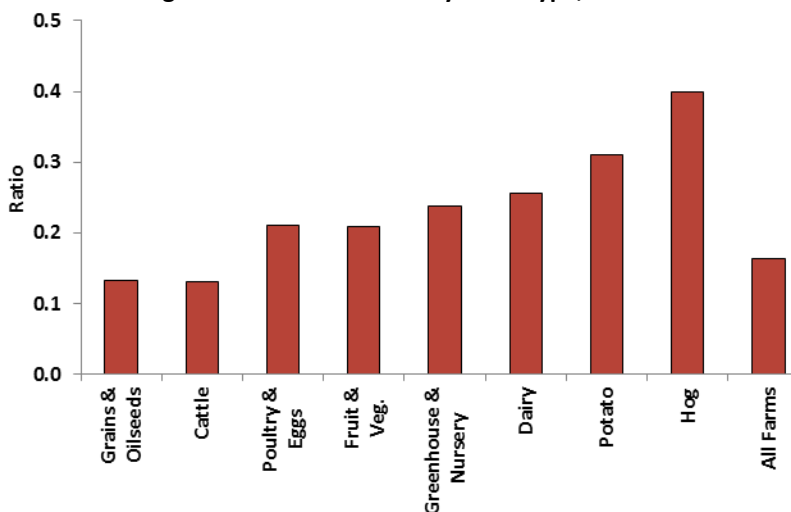


Source: Statistics Canada, Farm Financial Survey, 2001 to 2011, and AAFC calculations  
Note: Includes farms with \$10,000 or more in gross revenue.

## Debt-to-asset ratios vary by farm type.

In 2011, cattle and grain and oilseed operations reported the lowest debt-to-asset ratios with 13.0% and 13.4%, respectively, while hog farms reported the highest, with 40.0%. This reflects the significant debt accumulated by hog farmers during the expansionary period for hog operations in the early 2000s. Higher land value has helped to boost the asset value of grain and oilseed farms more recently.

**Chart C.19**  
Average Debt-to-Asset Ratios by Farm Type, 2011



Source: Statistics Canada, Farm Financial Survey, 2011  
Note: Estimates presented cover both unincorporated farms and communal farming organizations with total farm operating revenues equal to or greater than \$10,000, as well as incorporated farms with total farm operating revenues of \$25,000 and over.

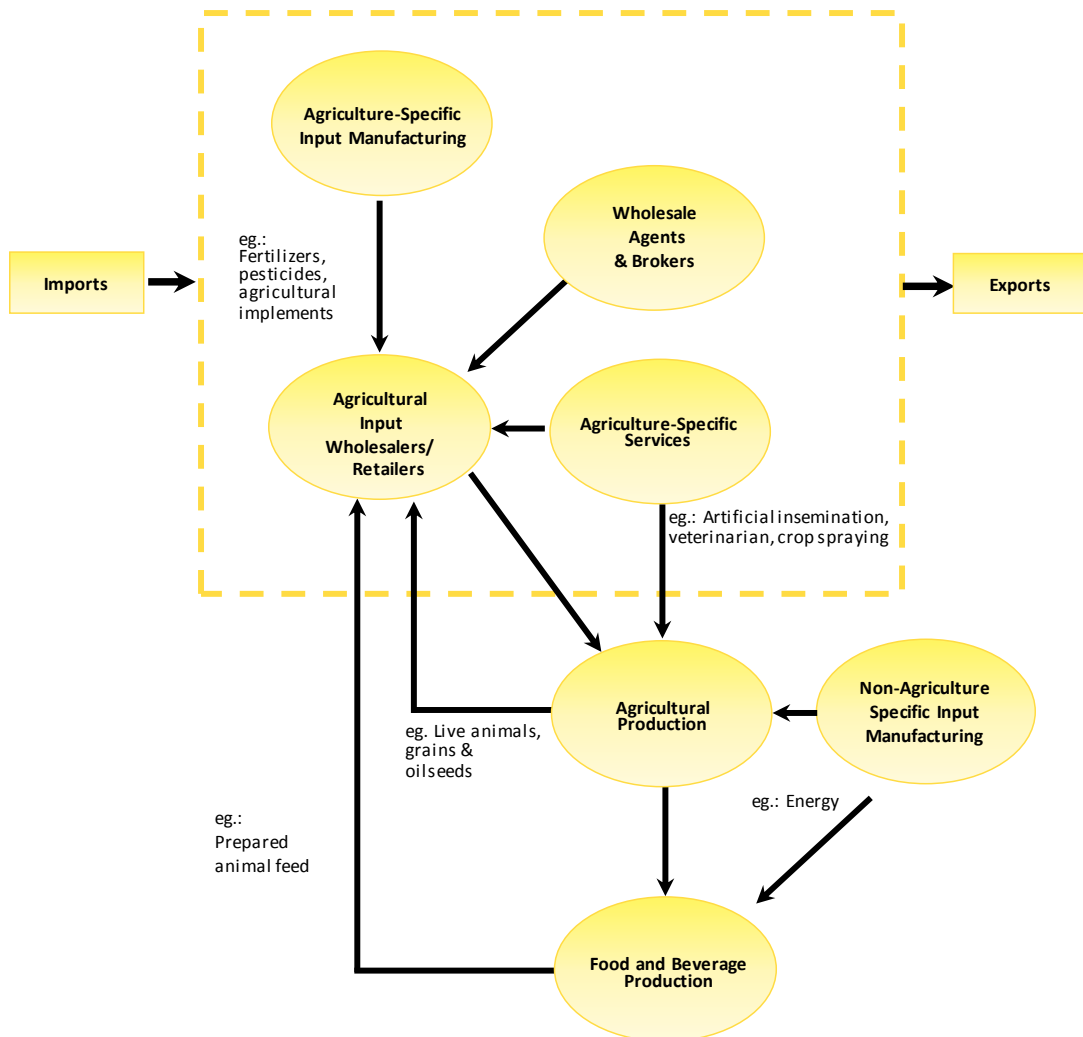
# Input suppliers are a whole chain unto themselves

Input and service suppliers constitute a whole value chain within the agriculture and agri-food system. They include input manufacturers, service providers and retailers/wholesalers.

They support primary agriculture while buying products from the downstream industries, such as prepared animal feed from grain and oilseed mills, or feeder calves from cow-calf operations.

The industry encompasses a diverse and broad range of suppliers—from multinational firms producing agricultural machinery and implements, to small local businesses selling feed and pesticides; and from international commodity brokers, to the neighbour doing custom work.

**Chart C.20**  
**The Value Chain of Agriculture-Specific Input and Service Suppliers**



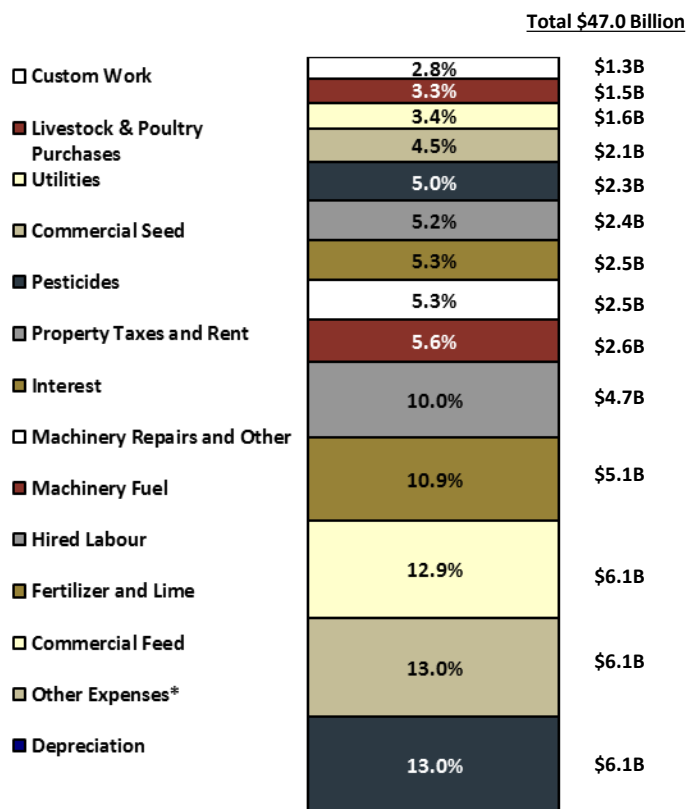
# Farm operating expenses were up in 2012 as a result of higher fuel, fertilizer, feed and seed prices

In 2012, farm net operating expenses and depreciation totalled \$47.0 billion, an increase of 6.4% from the previous year.

Commercial feed was the single largest operating expense (\$6.1 billion) for agricultural producers in 2012, followed by fertilizer and lime (\$5.1 billion), hired labour (\$4.7 billion), fuel (\$2.6 billion), machinery repairs (\$2.5 billion) and interest (\$2.5 billion).

Total depreciation reached \$6.1 billion in 2012, an increase of 4.3% over 2011. As farms become more capital intensive, depreciation continues to be a significant expense.

**Chart C.21**  
**Farm Net Operating Expenses and Depreciation, 2012**



Source: Statistics Canada

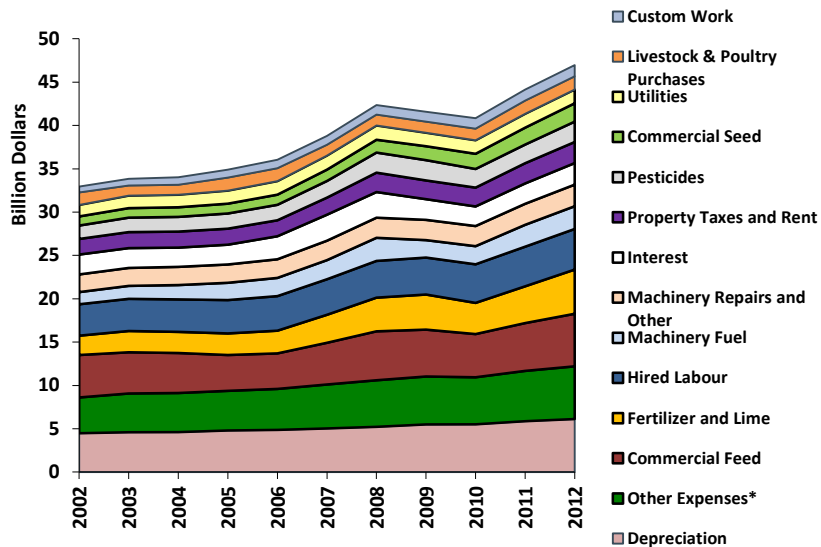
Note: \*Other Expenses is the sum of smaller-value categories, including legal and accounting fees; repairs to buildings and fences; irrigation; twine, wire and containers; crop and hail insurance; A. I. fees & veterinary; business insurance; and stabilization premiums.

# Operating expenses resumed their upward trend in 2011 and 2012, after having fallen in 2009 and 2010

**Producers saw their overall operating costs increase by 42.5% between 2002 and 2012.**

The expense that increased the most between 2002 and 2012 was for fertilizer and lime, which rose by 128.5%. Commercial feed and machinery fuel increased by 23.8% and 87.2%, respectively, over the same period.

**Chart C.22**  
Farm Net Operating Expenses and Depreciation, 2002-2012



Source: Statistics Canada and AAFC calculations

Note: \*Other Expenses are the sum of the smaller-value categories, including legal and accounting fees; repairs to buildings and fences; irrigation; twine, wire and containers; crop and hail insurance; A.I. fees and veterinary; business insurance; and stabilization premiums.

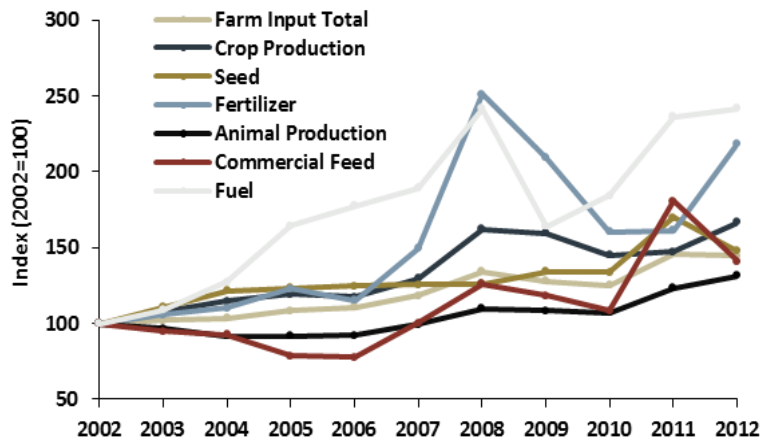
**Expenses were higher in 2012 due to the rise in all major farm input prices.**

Prices of major inputs for crop and animal production continued to increase in 2012, driving up the overall Farm Input Price Index.

The increase in crop input prices was partly due to increasing energy and fertilizer prices.

Commercial feed prices declined in 2009 and 2010, but then increased in 2011 and 2012 due to rising grain and oilseed prices.

**Chart C.23**  
Farm Input Price Index, 2002-2012



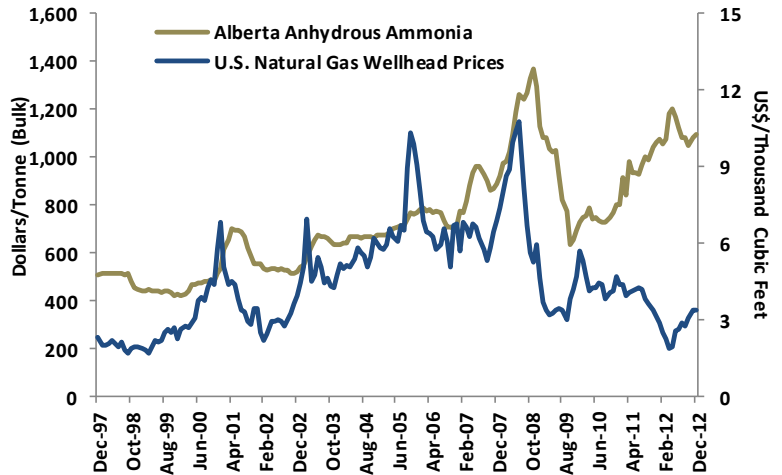
Source: Statistics Canada

# Fertilizer prices increased in 2012 in response to high crop prices and high demand

Historically, the price of fertilizer has followed the price of natural gas, but this trend has changed.

In 2012, increased demand for fertilizer among crop producers eager to capitalize on rising grain and oilseed prices drove up the price of anhydrous ammonia in Alberta. This occurred despite the fact that natural gas prices were at their lowest in almost a decade—a result of new, low-cost technology that had increased the supply of natural gas extracted from shale.

Chart C.24  
Anhydrous Ammonia and Natural Gas Prices, 1997-2012



Source: Alberta Agricultural Input Monitoring System (AIMS) and the United States Energy Information Administration.

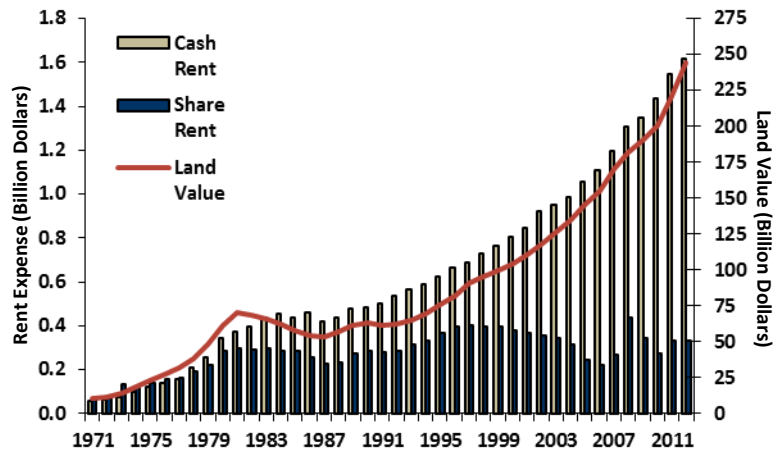
# Farmers are paying more rent for land

The value of land rose steadily throughout the 1990s and into the 2000s.

While cash rent and land values have trended upward together, the value of share rent has experienced a relative decline.

Share rent fluctuations are usually a result of crop price changes. The recent share rent decline may be due to changes in ownership structure (corporations rather than individuals, non-farmers instead of farmers) that can decrease the tendency toward share-crop arrangements.

Chart C.25  
Total Rent and Farmland Value, 1971-2012



Source: Statistics Canada and AAFC calculations

## Notes:

Landowners have traditionally relied on cash or share rent arrangements in renting their land to producers. Cash rent usually involves a per-acre arrangement between the landowner and the farmer, and are often set for a multi-year period. The producer is usually required to ensure proper stewardship of the land by seeing that pests are properly controlled. The same rent is paid regardless of what the output of the land is.

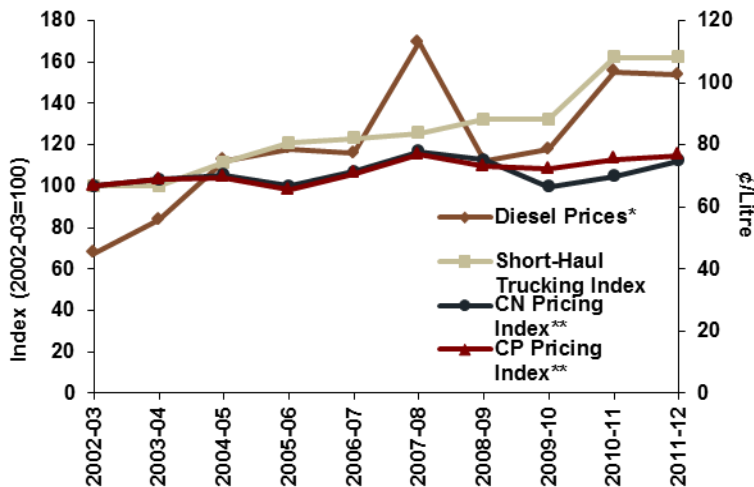
Share rent, or share-cropping, involves the landowner and renter sharing in the inputs and outputs of the land. A percentage to be shared is agreed upon between the two parties. The rent paid depends on production decisions made by the two parties and the output of the crop produced on the land. Therefore, the landowner in a share-crop arrangement is assuming more downside risk in years when production is down, but has the opportunity for a greater rent value in years when production is above average.

# Transportation costs, which reduce the prices of primary products, have continued to increase at a moderate rate in Western Canada

The cost of shipping grain in Western Canada has increased in recent years, with short-haul trucking rates leading the way.

The rising price of diesel caused trucking rates to surge in 2011, which then stabilized in 2012 once diesel rates declined. Although rail rates increased slightly in 2012, they remained well below trucking rates.

Chart C.26  
Rail and Trucking Rate Index, Western Canada, Fiscal Years 2002-2003 to 2011-2012



Source: Quroum Corporation, various grain companies, and the Farm Input Price Survey, AAFC

Note: \*Diesel prices are for Manitoba.

\*\* CN pricing represents the rates charged by Canadian National (CN) railway while CP pricing is that charged by Canadian Pacific.



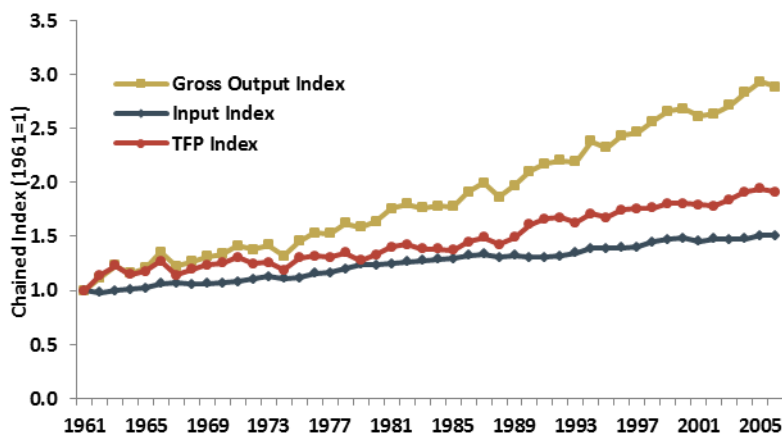
# Increased productivity in primary agriculture has contributed to long-term economic growth in the sector

**Total factor productivity (TFP) growth, which is the difference between output growth and input growth, has been quite steady, both over time and in relation to other countries.**

Between 1961 and 2006, gross output grew at an average annual rate of 2.3%. This growth was mostly driven by improvements in productivity. TFP grew at an average annual rate of 1.6% between 1961 and 2006, while input use grew by approximately 0.7% per year during the same period. The TFP growth rate can be interpreted as follows: using the same level of input, the average Canadian farmer in 2006 was able to produce about twice as much output as the average Canadian farmer in 1961.

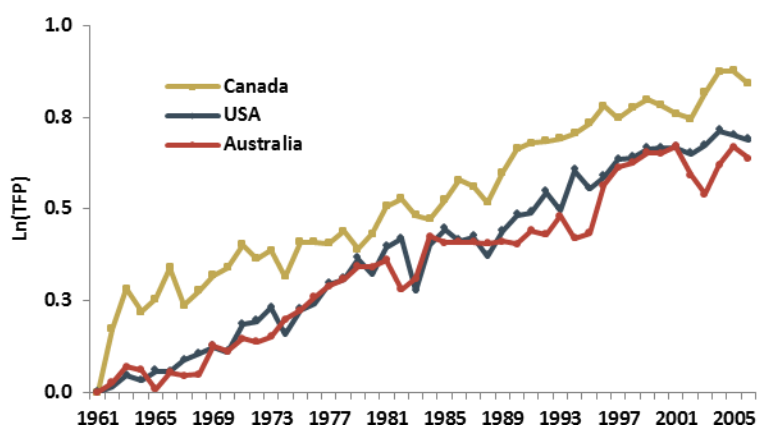
Long-run TFP growth rates in the agricultural sectors of Canada, the U.S. and Australia were all quite similar and stable between 1961 and 2006. The average annual TFP growth rates in these countries were 1.6%, 1.7% and 1.5%, respectively. This growth reflects a combination of technical change and efficiency improvements.

**Chart C.27**  
Gross Output, Input and Total Factor Productivity Growth in Primary Agriculture, 1961-2006



Source: AAFC

**Chart C.28**  
Total Factor Productivity Growth Comparison: Canada, U.S. and Australia, 1961-2006



Source: AAFC, ERS and ABARE

# Private investments in research and development have grown steadily due to the protection of intellectual property rights and increased collaboration among producers, the industry and the public sector

Real private sector investments in research and development (R&D) in agriculture have grown steadily since the 1980s, when intellectual property rights (IPR) protection on new crop varieties was introduced.

Real private sector spending on primary agriculture reached over \$90 million in 2012, down from a peak of \$102 million in 2008. Spending increased exponentially between 1998 and 2002, but has slowed more recently. However, these data present an incomplete picture of private spending on R&D in agriculture because they do not account for business spending on R&D in other industries. The agricultural sector benefits from research conducted by firms in related industries, such as seed developers, chemical companies, machinery companies, contract service providers, and biological and life science companies.

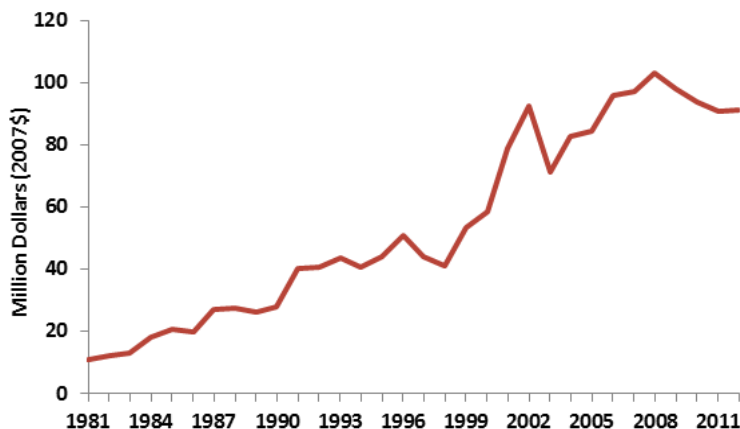
**Industry check-offs are an important source of funding for R&D. Check-offs have allowed producers to help finance and benefit from investments in R&D.**

The primary mechanism for financing the activities of the Saskatchewan Pulse Growers (SPG), for example, is a grower check-off collected as a percentage of final sales to fund R&D and promotional activities for the benefit of all pulse growers.

Due to lower seeded and harvested areas, the total value of the annual check-offs collected by the SPG decreased by 12.7% in 2012 to reach \$10.2 million.

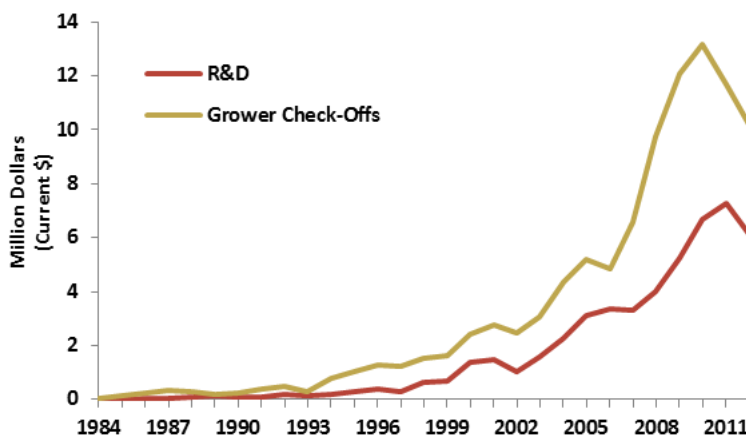
Over the 2008-2012 period, R&D expenditures by the SPG increased to an average of \$5.8 million per year.

Chart C.29  
Real Private Sector R&D in Primary Agriculture, 1981-2012



Source: Statistics Canada and AAFC calculations

Chart C.30  
Saskatchewan Pulse Growers R&D Expenditures and Check-Offs, 1984-2012



Source: Saskatchewan Pulse Growers Annual Report, various years

# SECTION D

## *Post Farm Gate*

### *(Food and Beverage Processing and Food Retail)*

#### **INTRODUCTION**

The food and beverage processing industry produces processed goods using both primary and processed products as inputs, which are then distributed to food retailers, foodservice establishments and, ultimately, food consumers. In an effort to supply the market with products possessing the attributes most in demand today, the industry has become increasingly integrated across the supply chain, in both domestic and global markets. The industry continues to face significant challenges arising from exchange rate fluctuations, commodity price volatility, tight labour markets, and the recent global economic recession, all of which in turn have affected input costs, export demand and sector competitiveness.

The food retail/wholesale and foodservice industries are vital participants in Canada's agriculture and agri-food system. Food retailers are on the front lines, constantly adapting to new consumer demands, a highly dynamic marketplace and new competitors. This often means restructuring to maintain or increase market share while at the same time forming alliances and networks with those upstream in the supply chain to ensure that consumer demand for food safety, quality and other product attributes are met.

Foodservice establishments also grapple to meet evolving consumer needs, frequently modifying and updating their goods and services to meet changing tastes and preferences. Already a fiercely competitive industry unto itself, the restaurant industry now faces increasing competition from the food retail industry, whose wide array of prepared foods and take-home meals offer the same convenience that consumers could once only get by dining out.

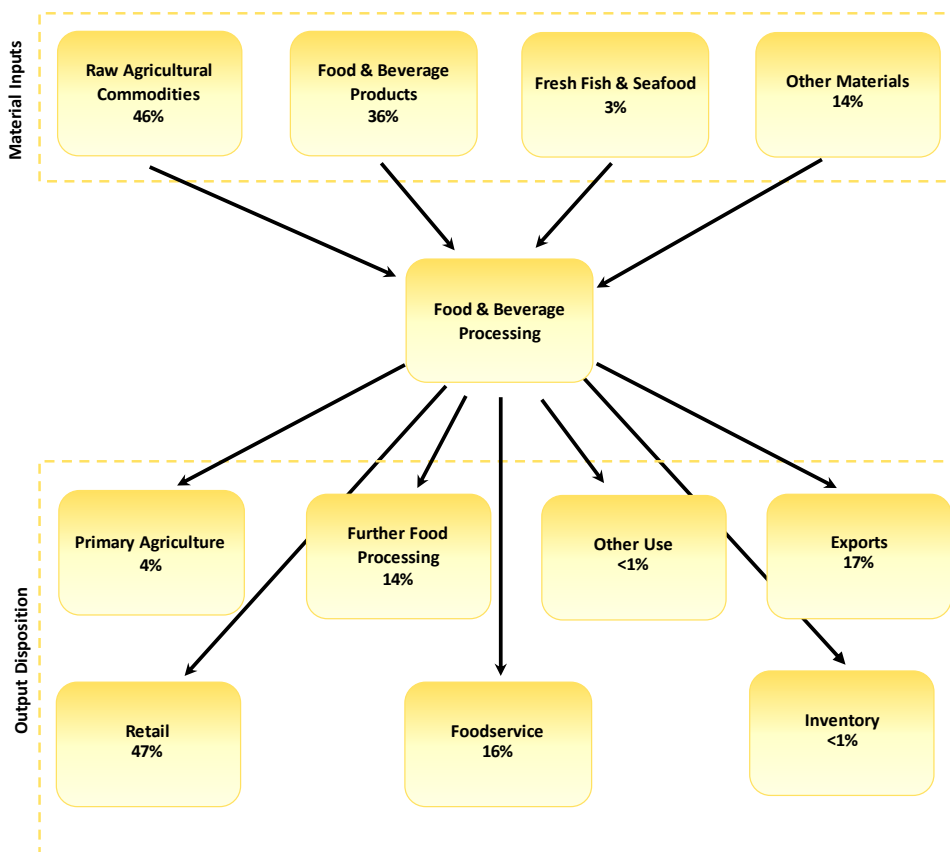
# The food and beverage processing industry is a large, diverse component of the AAFS, playing a key role in the transformation of agricultural commodities into food, feed and non-food products that are sold in Canada and around the world

Raw agricultural commodities accounted for about 46% of the total value of material inputs used by the Canadian food and beverage processing industry in 2009.

Processed inputs from the food and beverage processing industry made up 36% of the total value all material inputs, while fresh fish and seafood accounted for another 3%. The remaining 14% came from other materials, such as packaging materials, energy, chemical additives and ingredients.

Nearly half (47%) of the total value of all processed outputs by the food and beverage processing industry in 2009 came from sales to Canadian food retailers. Another 17% came from exports to foreign markets; 16% from sales to domestic service providers; and 14% from sales to other food processors for further processing. The rest came from sales to the primary agriculture sector (4%) and other industries within the AAFS (1%).

**Chart D.1**  
**Food Processing Input Composition and Output Disposition, 2009**



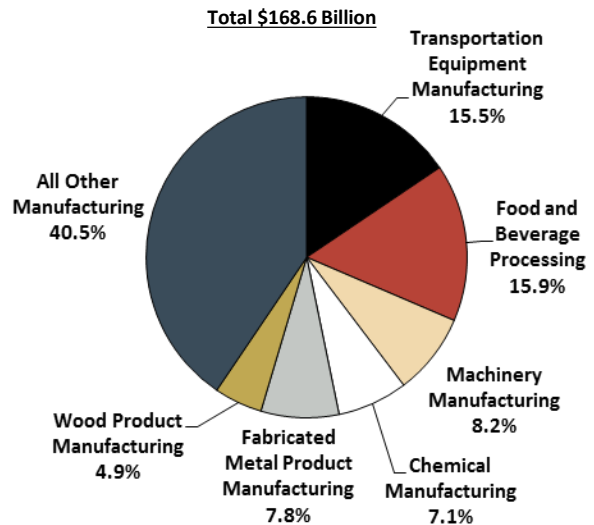
Source: Statistics Canada Input/Output Model and AAFC calculations  
Note: Does not add up to 100% due to missing confidential data.

# The food and beverage processing industry is the largest of all manufacturing industries in Canada

The food and beverage processing industry was the largest manufacturing industry in Canada in 2012, accounting for the largest share of the total manufacturing sector GDP, which came to \$168.6 billion.

With a GDP of \$26.8 billion, the food and beverage processing industry accounted for 15.9% of the total manufacturing sector GDP, surpassing the transportation equipment manufacturing industry, whose GDP was \$26.2 billion and represented 15.5%.

Chart D.2  
Distribution of Total Manufacturing GDP by Industry, 2012

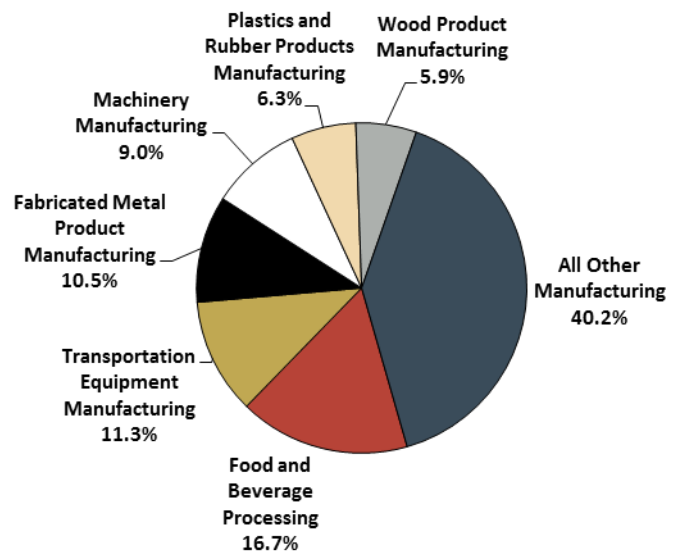


Source: Statistics Canada

Based on its share of jobs in the Canadian manufacturing sector, the food and beverage processing industry ranked first, ahead of the transportation equipment manufacturing industry.

Of the total number of jobs in the manufacturing sector, the food and beverage processing industry's share was 16.7% in 2012, employing 249,104 workers, while that of the transportation equipment manufacturing industry was 11.3%, employing 168,764 workers.

Chart D.3  
Distribution of Total Manufacturing Employment by Industry, 2012



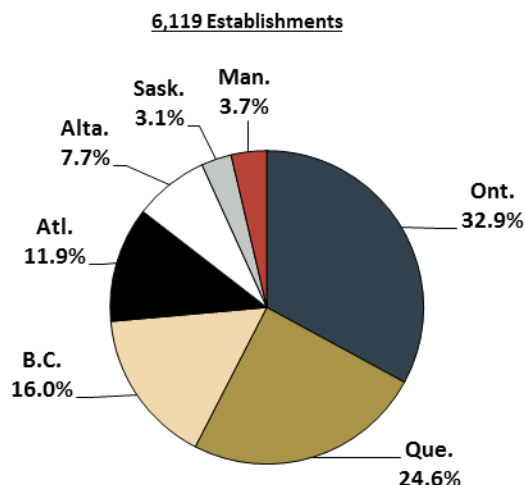
Source: Statistics Canada

# The food and beverage processing industry operates across Canada and produces a wide variety of products

More than half of all Canadian food and beverage establishments were located in Ontario (32.9%) and Quebec (24.6%).

A large number of these establishments in Ontario and Quebec were bakeries or manufacturers of tortilla, meat and other food products. Other provinces with a significant number of food processing operations included British Columbia (16.0%), the Atlantic region (11.9%) and Alberta (7.7%).

Chart D.4  
Distribution of Food and Beverage Processing Establishments by Province, 2012



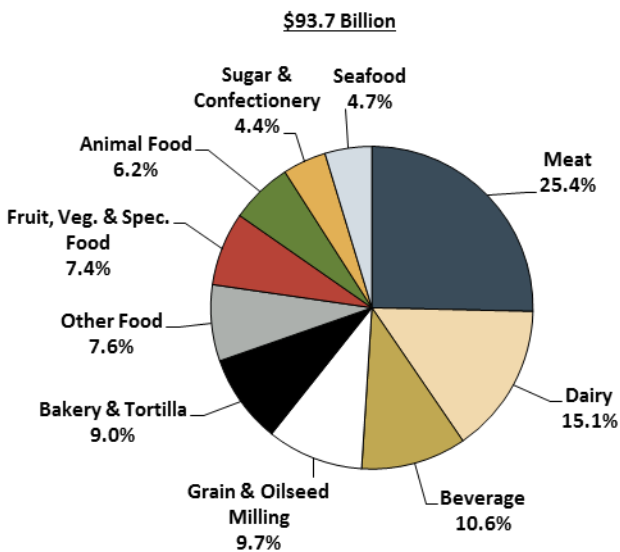
Source: Statistics Canada and AAFC calculations

Collectively, processed meat, dairy and beverage products accounted for more than half of the total value (\$93.7 billion) of shipments by the food and beverage processing industry in 2012.

Shipments of processed meat products alone accounted for one-quarter (25.4%), while shipments of dairy products and processed beverages accounted for 15.1% and 10.6%, respectively.

Shipments by the grain and oilseed milling industry, as well as by the bakery and tortilla manufacturing industry, were also significant, with shares of 9.7% and 9.0%, respectively.

Chart D.5  
Distribution of Food and Beverage Processing Shipments by Sub-Industry, 2012



Source: Statistics Canada and AAFC calculations

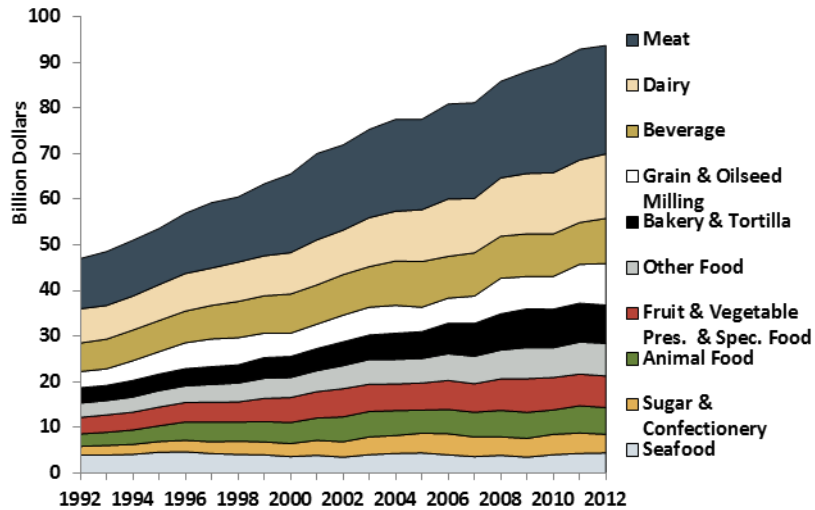
Note: Data are preliminary based on the Monthly Survey of Manufacturers (MSM).

# Shipments by the food and beverage processing industry have steadily increased in value since the 1990s

Since 1992, the value of shipments by the food and beverage processing industry has more than doubled, reaching \$93.7 billion in 2012.

The value of shipments of grain and oilseed products was almost 2.5 times higher in 2012 than in 1992, showing the fastest growth among the product categories of the food and beverage processing industry.

Chart D.6  
Food and Beverage Processing Shipments by Sub-Industry, 1992-2012

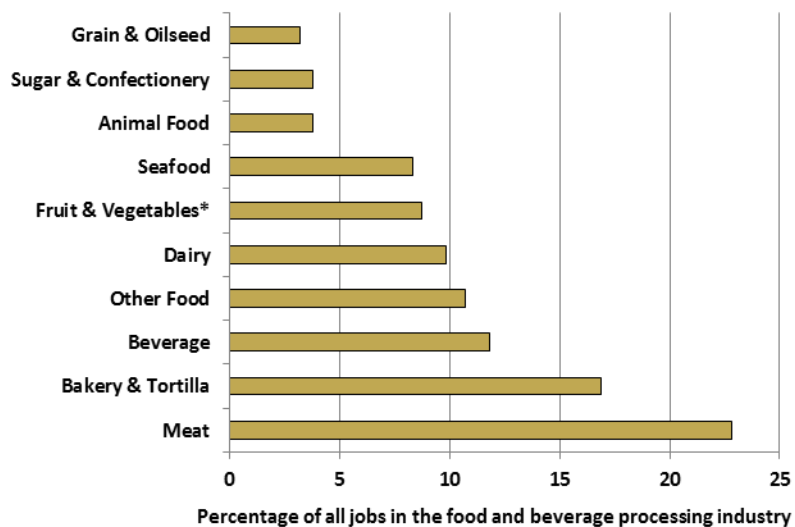


Source: Statistics Canada and AAFC calculations  
Note: The data used are derived from the Monthly Survey of Manufacturers (MSM).

Employment in the food and beverage processing industry is spread across several different product categories.

Employment in the meat processing industry alone accounted for 22.8% of all the jobs in the food and beverage processing sector. The bakery and tortilla manufacturing industry followed with 16.9% of the jobs.

Chart D.7  
Food and Beverage Processing Employment by Sub-Industry, 1992-2012



\* Fruit and vegetable preserving and specialty food manufacturing

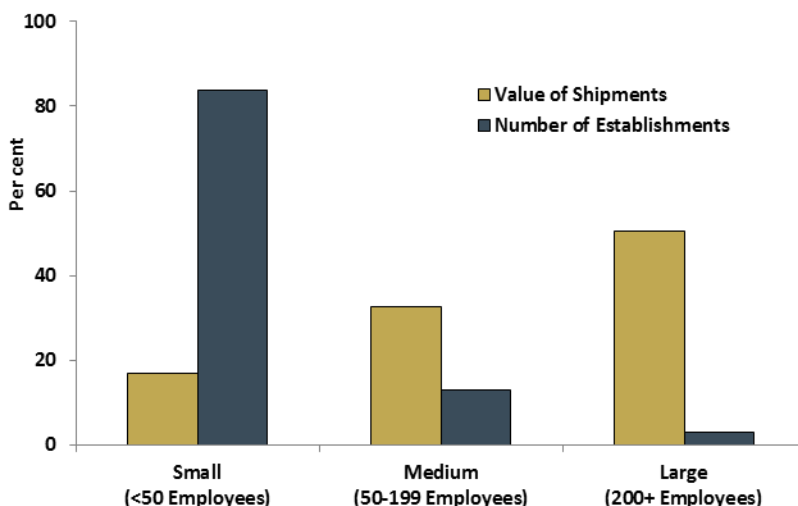
# Most food processing establishments are small but large operations account for the bulk of Canadian production

In 2009, small operations (fewer than 50 employees) accounted for 83.8% of all food processing establishments in Canada but only 16.9% of the total value of all shipments by food and beverage processors.

Large food processing establishments (200 or more employees), while relatively small in number, produced the bulk of the industry's output. These large operations accounted for only 3.1% of all food processing establishments in Canada but 50.5% of the value of all shipments.

Medium-sized operations (50 to 199 employees) accounted for the remaining 13.1% of food processing establishments and 32.6% of the total value of shipments.

Chart D.8  
Distribution of Food Processing Shipments and Number of Establishments by Employment Size, 2009



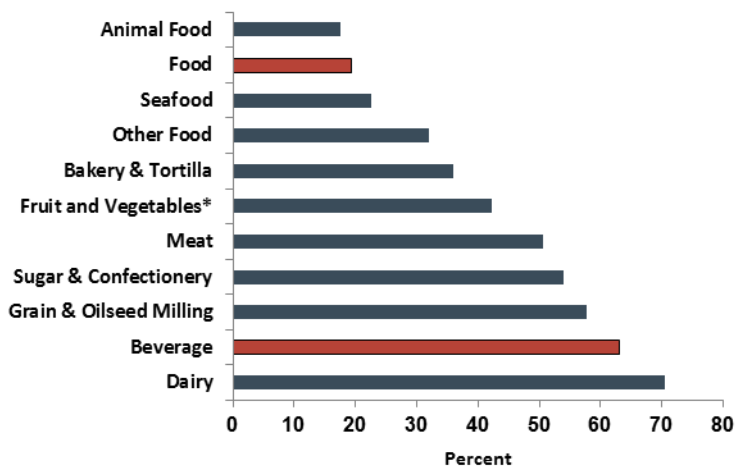
Source: Statistics Canada, special tabulation

**Concentration ratios\* vary across the food and beverage processing industry, from dairy processing, the most concentrated, to seafood and animal food processing, the least concentrated.**

The food and beverage processing industry has become increasingly concentrated, especially among processors of dairy, beverage, and grain and oilseed products.

In each of these product categories, the four largest processing firms accounted for more than half of the sales—70.4% of dairy processors' sales; 63.1% of beverage processors' sales; and 57.7% of grain and oilseed processors' sales. In seafood and animal processing, the four largest firms accounted for only 22.5% and 17.6% of the sales, respectively.

Chart D.9  
Concentration Ratios (CR4) in the Food and Beverage Processing Industry, 2009



Source: Statistics Canada and AAFC calculations

\* Fruit and vegetable preserving and specialty food manufacturing

Notes:

A concentration ratio is a measure of the market share of the largest firms in each industry and is often used as one indicator of the degree of competition in an industry.

A CR4 ratio represents the combined market share of the four largest firms in an industry.



# The Canadian food processing industry sells three-quarters of its products in the domestic market

Exports accounted for about a quarter of the total value of processed food and beverage shipments in 2012, while processed food and beverage imports accounted for a quarter of the total value of sales in the domestic market.

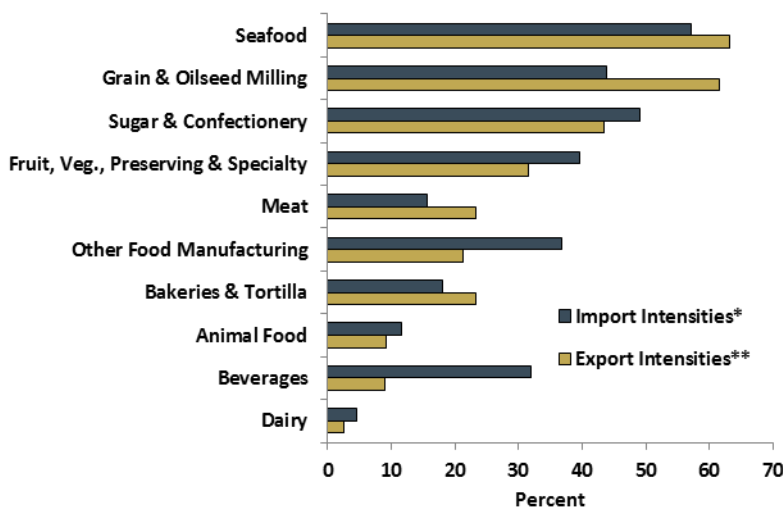
Export intensity is a measure of the relative importance of exports to an industry's shipments overall. Import intensity is a measure of the relative importance of imports to the overall value of sales in the domestic market.

Processors of seafood and grain and oilseed products were both more export-oriented and more import-dependent than were most other types of processors. Dairy, beverage and animal food processors were far less export-oriented, and hence focused on the domestic market. Meat processors were relatively export-oriented and less import-dependent.

**The U.S. remains the most important export destination for Canada's processed food and beverage products.**

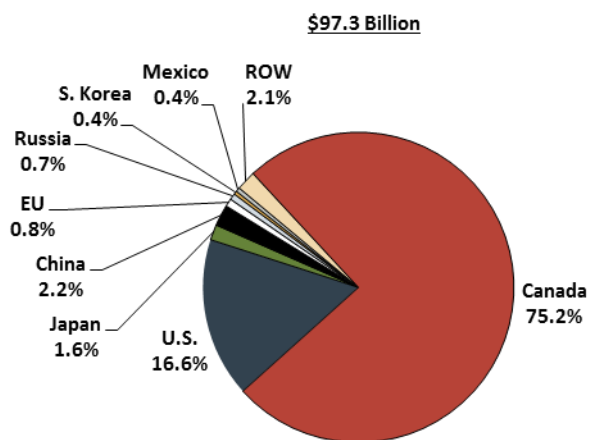
In 2012, domestic sales accounted for 75.2% of the total value of all shipments by the food and beverage processing industry. Shipments to the U.S. were worth 16.6%, while those to China and Japan were worth 2.2% and 1.6%, respectively. Shipments to the EU and Russia were worth 0.8% and 0.7%.

**Chart D.10**  
Food and Beverage Processing Import and Export Intensities by Sub-Industry, 2012



Source: Statistics Canada and AAFC calculations  
Notes: \*Calculated as imports/(shipments-exports+imports).  
\*\*Calculated as exports as a share of shipments.

**Chart D.11**  
Food and Beverage Processing Industry Shipments by Destination, 2012



Source: Statistics Canada and AAFC calculations

# To remain competitive, the food and beverage processing industry needs to manage its variable costs

Among all the variable input costs assumed by the food and beverage processing industry, materials and supplies were by far the largest expense, accounting for 82.4% of all variable input costs in 2011.

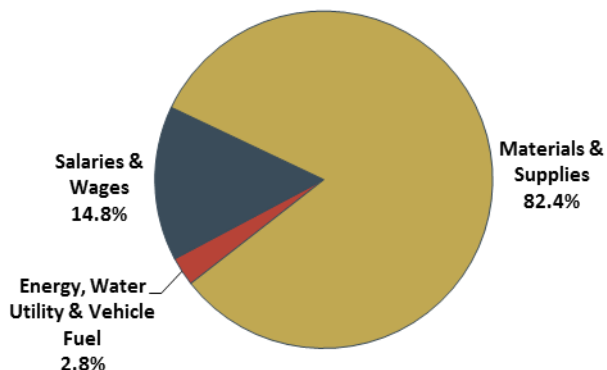
The cost of labour (salaries and wages) was the second-highest, representing 14.8% of the total variable input cost, while energy, water, utilities and fuel collectively accounted for another 2.8%.

The composition of the total variable input cost varied by sub-industry. For example, in the beverage processing industry, the cost of labour accounted for 22.8% of the total variable input cost. Collectively, energy, water, utilities and fuel accounted for almost 4.8%, and materials, the remainder. In the bakery industry, the cost of labour alone accounted for 29.0% of the total variable input cost, while materials accounted for 67.2%.

**The cost of material inputs was affected by the price of raw materials and other inputs, such as agricultural commodities and energy, which rose sharply in 2008 and 2011.**

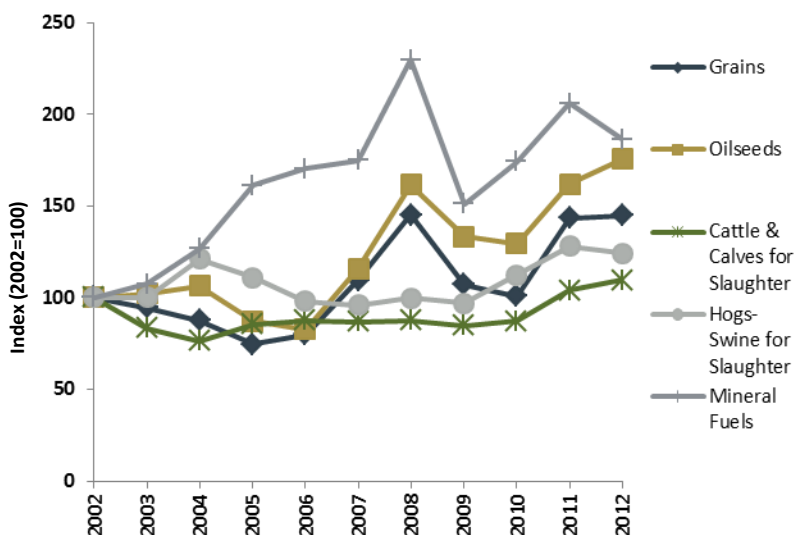
The Raw Materials Price Index (RMPI), which measures price changes for raw materials purchased by food manufacturers in Canada as inputs for further processing, fell in 2012 for fuels and hogs, but increased for oilseeds, grains and cattle.

Chart D.12  
Total Variable Input Costs in the Food and Beverage Processing Industry, 2011



Source: Statistics Canada and AAFC calculations  
Note: Total variable input costs exclude the cost of physical capital.

Chart D.13  
Raw Materials Price Index for Select Commodities, 2002-2012



Source: Statistics Canada

# Labour represented the second-highest input cost to food processors, impacting the industry's cost competitiveness

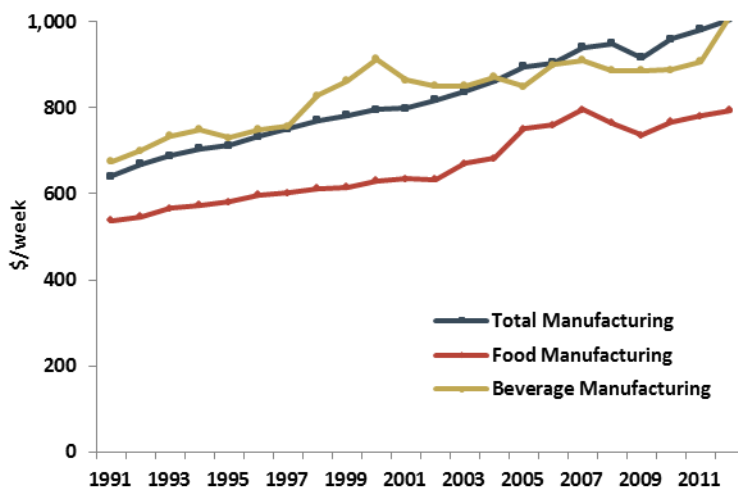
The cost of labour, which had decreased due to the economic recession of 2009, resumed its upward trend, both in the food and beverage processing industry and across the whole of the manufacturing sector.

During the 2004-2006 period, tighter labour markets drove up wages and salaries, particularly in the food processing industry, while those in the beverage processing industry stabilized. During the 2008-2009 recession, average weekly earnings fell more dramatically in the food processing industry than in the whole of the manufacturing sector, but have since gradually recovered.

Since the 1990s, the average weekly earnings in the food processing industry has consistently remained below those found in the overall manufacturing sector and in the beverage processing industry.

Weekly earnings in the beverage processing industry increased sharply in 2012, surpassing those in the whole of the manufacturing sector.

Chart D.14  
Average Weekly Earnings in Food and Beverage Processing and Total Manufacturing, 1991-2012



Source: Statistics Canada, Survey of Employment, Payroll, and Hours

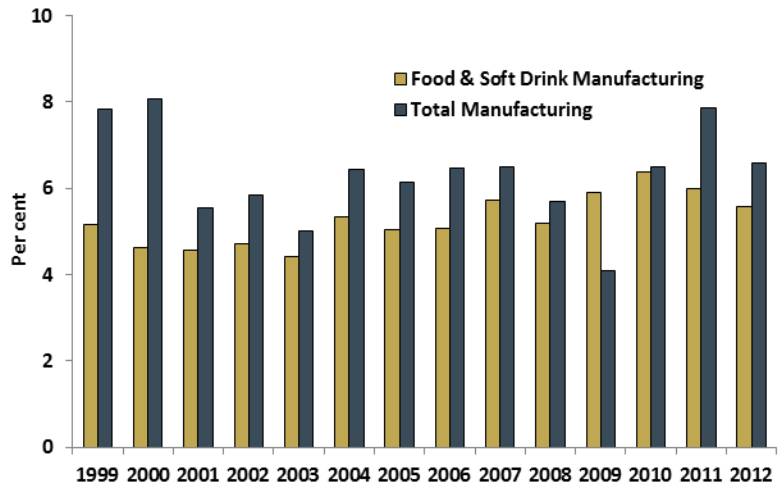
# In 2012, food processors experienced lower profit margins and a higher debt-to-equity ratio

Profit margins in the processed food and soft drink industry fell slightly in 2012, similar to that of the overall manufacturing sector, which dropped from 7.9% to 6.6%.

Profit margins across most manufacturing industries have recovered from the 2009 recession.

The processed food and soft drink industry, which outperformed the rest of the manufacturing sector during the recessionary period, has also recovered.

Chart D.15  
Profit Margins in Food and Soft Drink Processing and Total Manufacturing, 1999-2012

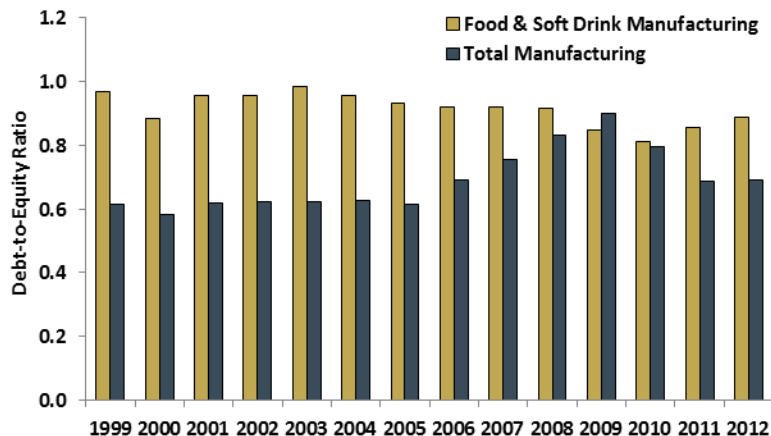


Source: Statistics Canada and AAFC calculations

An industry's financial health is reflected in its debt-to-equity ratio. The debt-to-equity ratio of the processed food and soft drink industry returned to historic levels in 2012, after having fallen in 2009 and 2010.

The debt-to-equity ratio for the whole of the manufacturing sector in 2012 remained relatively unchanged from the previous year.

Chart D.16  
Debt-to-Equity Ratio in Food and Soft Drink Processing and Total Manufacturing, 1999-2012



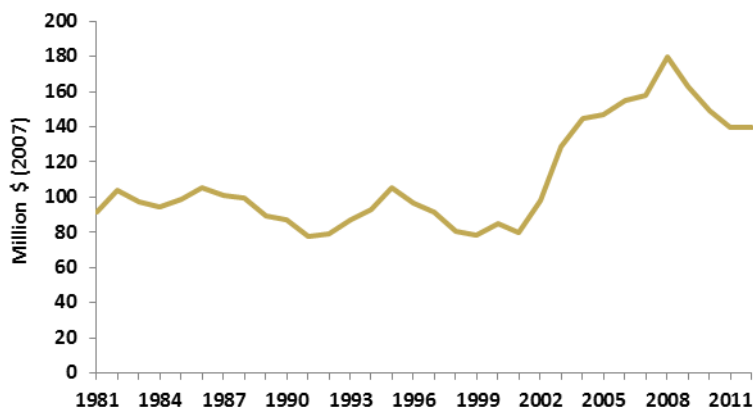
Source: Statistics Canada and AAFC calculations

# Private sector R&D expenditures in the food processing industry have grown substantially since 2002

Real private research and development (R&D) expenditures in the food processing industry were estimated to have reached \$139.8 million in 2012, representing a gradual decline from its peak of \$179.4 million in 2008. R&D spending averaged \$92.1 million annually between 1981 and 2000.

Over the past decade, the food processing industry has benefited from innovation in food safety and preservation processes—such as the Hazard Analysis and Critical Control Points (HACCP) process and flash freezing—as well as in inventory control (for example, the “just-in-time” inventory). Products are also being improved continually with the use of new ingredients and innovative packaging as food processors benefit from innovation in other industries in the supply chain.

Chart D.17  
Real Private Sector R&D Expenditures in Food Processing, 1981-2012



Source: Statistics Canada and AAFC calculations  
Notes: 2009-2012 figures are preliminary. Data include all R&D expenditures (intramural) made by private industry regardless of whether the sources of funds were self-financing.

# Canada's food and beverage processing industry spends less of its profits on R&D than do their OECD counterparts

Canadian food and beverage manufacturers spend a much smaller share of their profits on R&D than do their counterparts in other member countries of the Organisation for Economic Co-operation and Development (OECD), particularly those in the U.S. and Japan.

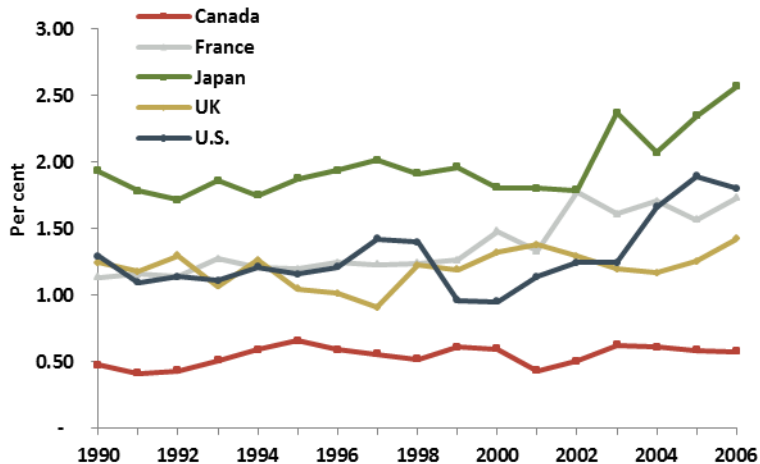
Canadian food and beverage manufacturers spent only about 0.5% of their value added on R&D, while their counterparts in the U.S. allocated about 2.0% and those in Japan, 2.4%.

When international comparisons are made, private R&D, as a share of value added (R&D intensity) in the Canadian food and beverage processing industry, tends to be lower than in other OECD countries. This can be partially explained by the fact that Canadian food and beverage processors, many of which are foreign-owned multinationals, tend to benefit from investments made by parent companies outside of Canada.

**The productivity growth in the Canadian food, beverage and tobacco (FBT) processing industry has consistently been above that in the U.S.**

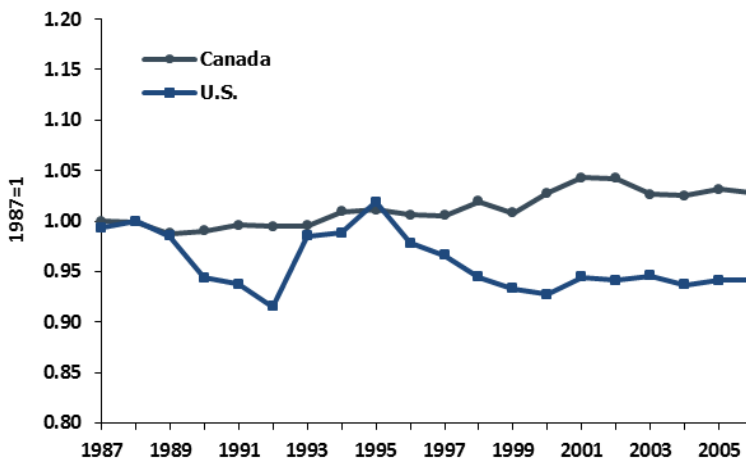
Total factor productivity (TFP) growth in the Canadian FBT processing industry averaged about 0.1%, annually, between 1988 and 2006. During the same period, the TFP growth in the American FBT processing industry averaged about -0.3%, annually.

Chart D.18  
Food and Beverage Industry R&D Expenditures as a Share of Value-Added, in Selected OECD Countries, 1990-2006



Source: OECD, STAN Indicators, 2011

Chart D.19  
Total Factor Productivity Indices for the Canadian and U.S. Food, Beverage and Tobacco Industries, 1987-2006

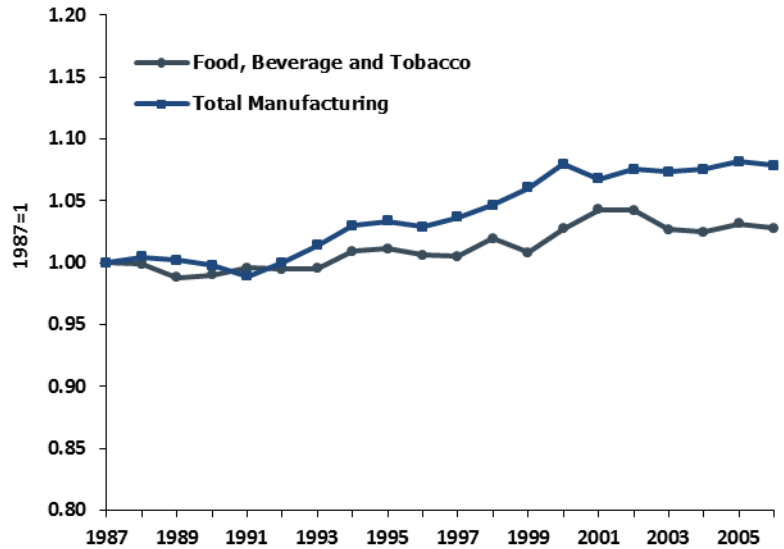


Source: Statistics Canada and the U.S. Bureau of Labor Statistics

# Productivity growth in the food, beverage and tobacco (FBT) processing industry has consistently fallen below that of the overall manufacturing sector

Between 1988 and 2006, the average annual total factor productivity (TFP) growth rate for the whole of the manufacturing sector was 0.6%—considerably higher than the TFP growth rate found in the food, beverage and tobacco (FBT) processing industry, which averaged just 0.1% per year.

Chart D.20  
Total Factor Productivity Indices for the Canadian Food, Beverage and Tobacco and Total Manufacturing Industries, 1987-2006



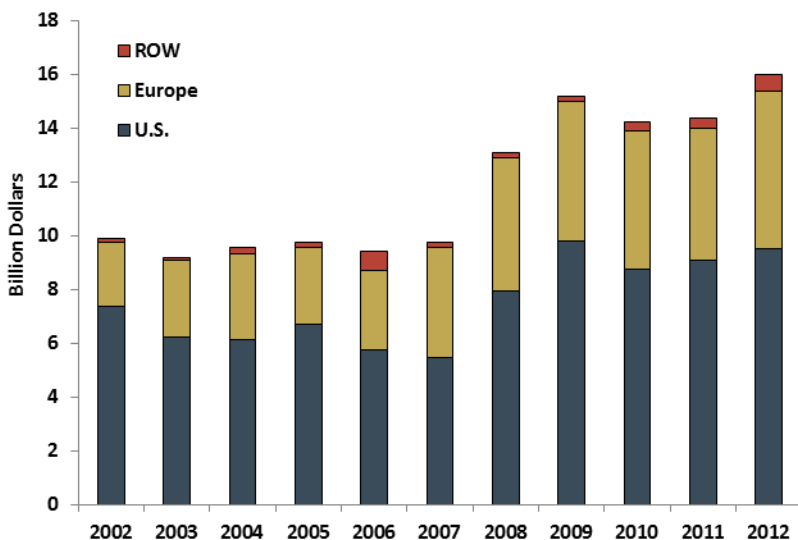
Source: Statistics Canada

# Foreign direct investment (FDI) is an important source of capital investment and innovation in the Canadian food and beverage processing industry; Canadians have also been investing in food processing industries abroad

The stock of inward FDI in the Canadian food processing industry in 2012 totalled \$16.0 billion. The U.S. accounted for 59.6% of Canada's stock of inward FDI for food processing, while Europe accounted for another 36.3%.

The stock of inward FDI from the U.S. rose fairly rapidly after 2007, while that from Europe increased steadily from 2002 to 2012.

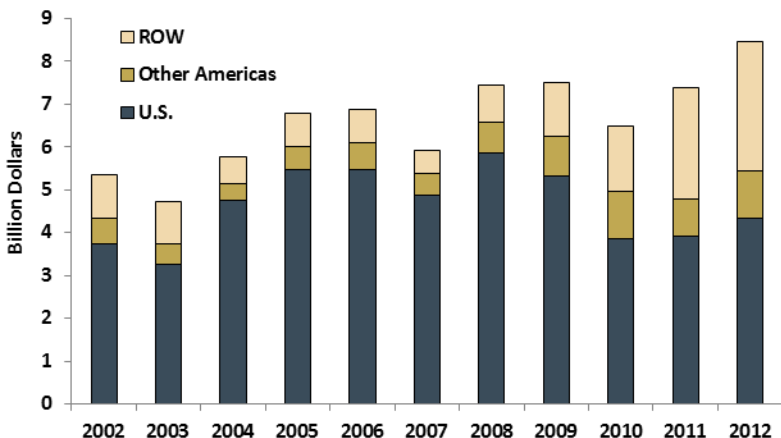
**Chart D.21**  
Stock of Inward FDI in the Canadian Food Processing Industry, by Country or Region of Origin, 2002-2012



Source: Statistics Canada and AAFC calculations  
Note: Figures are estimates and subject to revisions by Statistics Canada.

Canadian investments in the U.S. accounted for 51.1% of the total stock of Canadian outward FDI in food processing in 2012.

**Chart D.22**  
Stock of Outward FDI in the Canadian Food Processing Industry, by Country or Region of Destination, 2002-2012



Source: Statistics Canada and AAFC calculations  
Note: Figures for the latest year are estimates and subject to revisions by Statistics Canada.

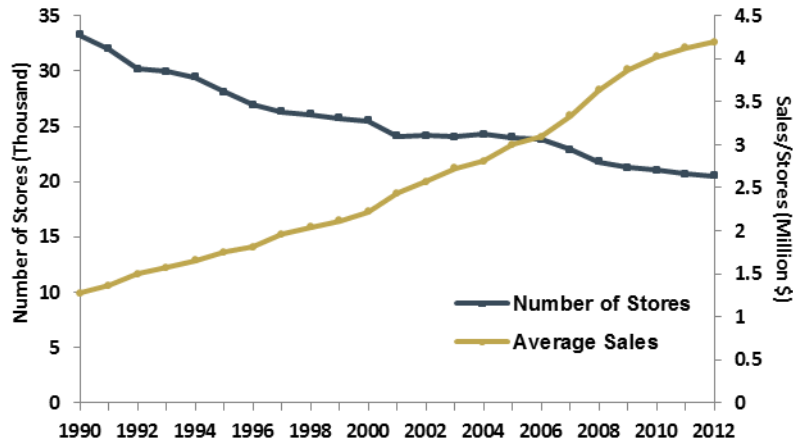


# Food retailers continued to consolidate their operations in 2012 as profit margins increased

**Significant store rationalization has occurred over the past two decades, with a move to larger operations.**

Traditional grocery store chains have consolidated due to increased competition. The three largest food retailers in Canada were Loblaw Companies Limited, with \$31.6 billion in sales across 1,043 stores nationwide; Sobeys Incorporated, with \$17.6 billion in sales (as of April 2013) across 1,565 stores nationwide; and Metro Incorporated, with \$12.0 billion in sales across 564 stores in Ontario and Quebec.

**Chart D.23**  
Number of Canadian Food Stores and Average Sales, 1990-2012



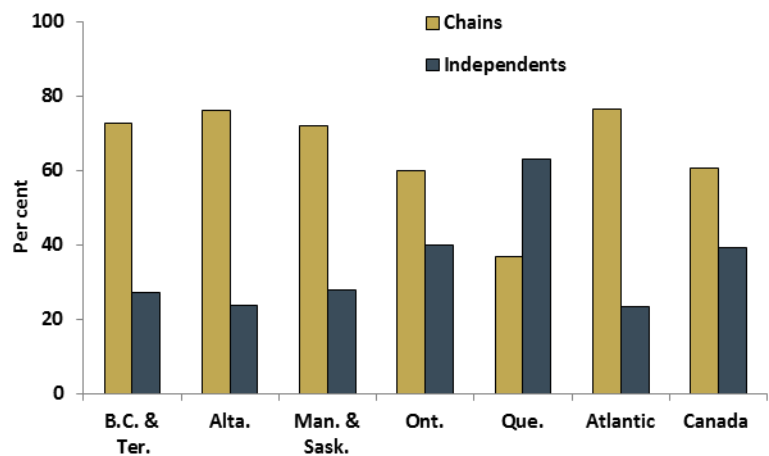
Source: Canadian Grocer, Statistics Canada and AAFC calculations  
Note: 2012 figures are estimates.

**Grocery store chains dominated food store sales in all provinces except Quebec.**

There are only two pan-Canadian grocery store chains—Loblaw Companies Limited and Sobeys Incorporated. Overall, 60.7% of all food store sales in Canada were made by these and other grocery store chains. The composition of that total sales figure, however, varies from province to province.

Overall, chains are very important in the Atlantic region (76.7%) and in Alberta (76.3%), but much less so in Quebec (36.8%). In most provinces, chains saw their share of all food store sales in Canada increase slightly in 2012 over the previous year; the exception was in Alberta.

**Chart D.24**  
Distribution of Canadian Food Store Sales, Chains vs. Independents, by Region, 2012



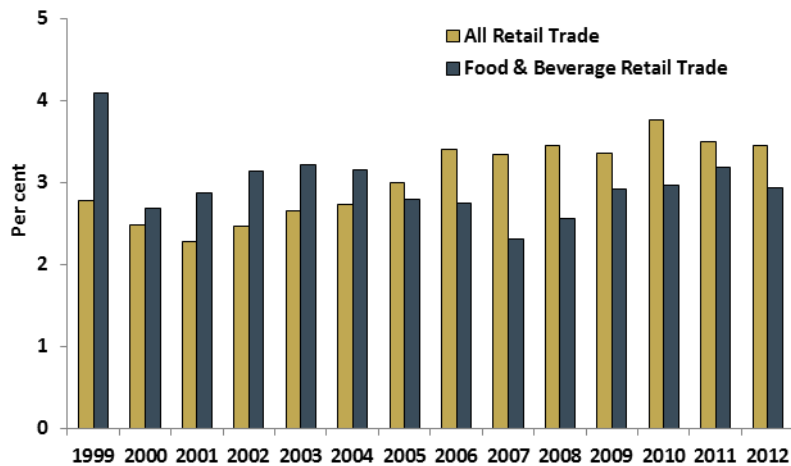
Source: Canadian Grocer Magazine, February 2013  
Note: Store retailers (excluding non-store retailers) are divided into chain stores and non-chain stores (independents). Chain stores are defined as operating four or more locations in Canada (within the same industry group and under the same legal ownership).

# Profit margins among food and beverage retailers decreased in 2012, remaining below those of the whole of the retail sector

Up until 2005, the profit margins of food and beverage retailers exceeded those of other retailers. This trend has since reversed, due in part to increasing competition from traditionally non-food retailers, such as general merchandisers.

The average profit margin ratio of food and beverage retailers in 2012 was slightly above the 2001-2010 average.

**Chart D.25**  
Average Profit Margin Ratio\* for Food and Beverage Retailers, 1999-2012

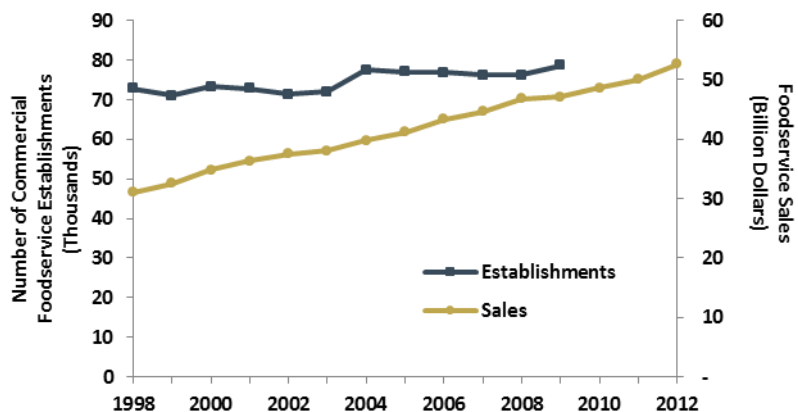


Source: Statistics Canada, Quarterly Financial Statistics for Enterprises  
 Note: \*See Glossary for definition of the profit margin ratio.  
 Does not include government-controlled enterprises, for example LCBO, SAQ.

## Commercial foodservice sales have steadily increased over the last decade.

Commercial foodservice sales were valued at \$52.6 billion in 2012, representing a 5.2% increase from the previous year. In 2009, there were roughly 78,600 commercial foodservice establishments in Canada—40% of them in Ontario, 23% in Quebec, 16% in the Prairie region, 15% in British Columbia and 6% in the Atlantic region.

**Chart D.26**  
Commercial Foodservice Sales and Number of Establishments, 1998-2012



Source: Statistics Canada  
 Note: Number of establishments data was discontinued and therefore not updated to 2012.

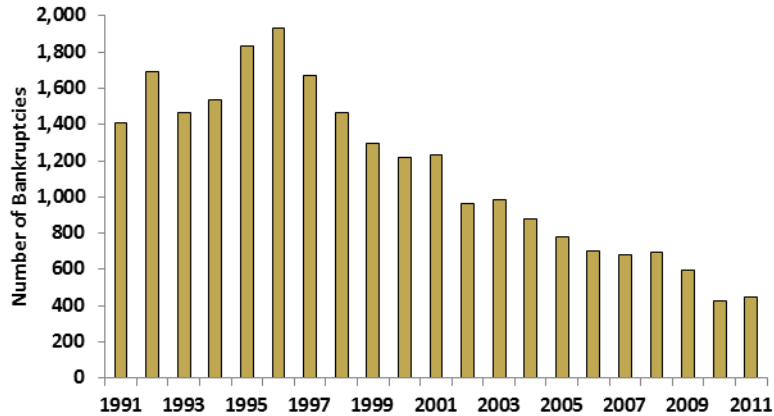
# Profit margins for foodservice and drinking establishments continue to trend up, while restaurant bankruptcies stay at a historical low

**Restaurant bankruptcies were up slightly in 2011 but remained historically low.**

Bankruptcies fell from a high of 1,933 in 1996 to a low of 446 in 2010, as an increasing share of restaurants were bought out by major chains.

Full-service restaurants accounted for 45% of all commercial foodservice establishments. They also accounted for three-quarters of the bankruptcies filed in Canada in 2011 by the foodservice industry. This was likely due to the considerable challenges faced by the restaurant industry, particularly the fierce competition within the industry.

**Chart D.27**  
Commercial Restaurant Bankruptcies, 1991-2011

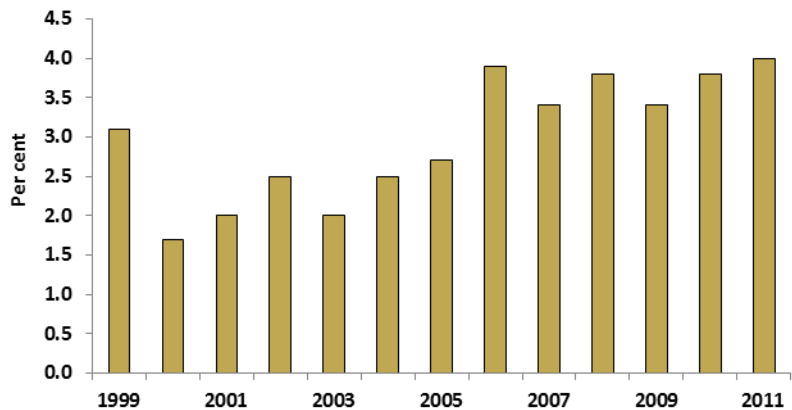


Source: Canadian Restaurant and Foodservice Association, Quarterly InfoStats

**In 2011, profit margins among Canada's foodservice and drinking establishments continued to rise.**

Profit margins among foodservice and drinking establishments have generally trended upward over the last decade, beginning at a low of 1.7% in 2000, peaking at 3.9% in 2006, and then peaking again at 4.0% in 2011.

**Chart D.28**  
Profit Margin Ratios for Foodservice and Drinking Establishments, 1999-2011



Source: Statistics Canada, Financial and Taxation Statistics for Enterprises, Annual



# SECTION E

## *Consumers*

### **INTRODUCTION**

The Canadian economy continued its post-recession recovery in 2012, buoyed by an improved employment rate and a rising GDP. Job growth led to a gradual increase in the real per capita disposable income available to Canadians.

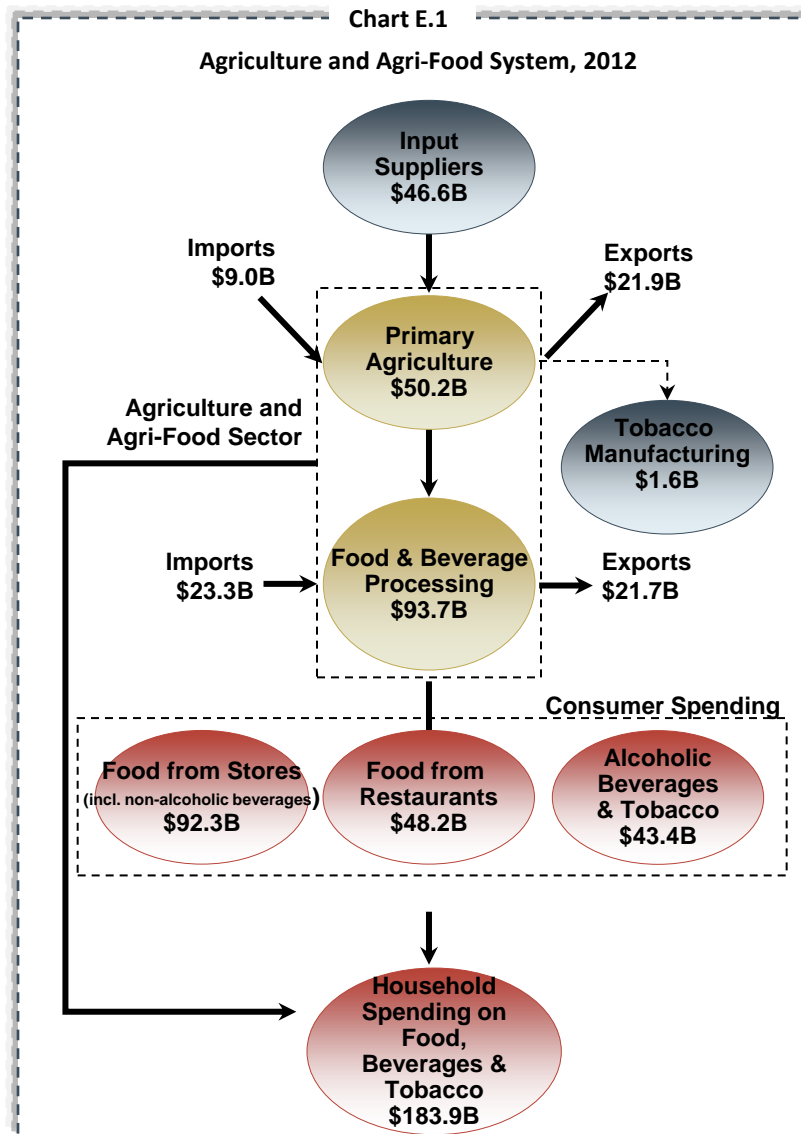
Spending on food—both in stores and in restaurants—continued to rise in 2012. The inflation rate of retail food prices declined but still remained above the overall inflation rate, which increased.

At the grocery store, Canadian consumers continued to look beyond staple foods to products with attributes reflecting their diverse preferences and values. Cost remained a top consideration, however.

# Canadian consumers spent \$183.9 billion on food, beverages and tobacco in 2012

Canadian consumers benefit from a highly competitive, efficient and dynamic food system that provides them with access to a wide variety of affordable, nutritious, safe and high quality food products.

Founded on an efficient and viable agricultural sector, the Canadian food system produces, processes and distributes agriculture and agri-food products.



Source: AAFC calculations

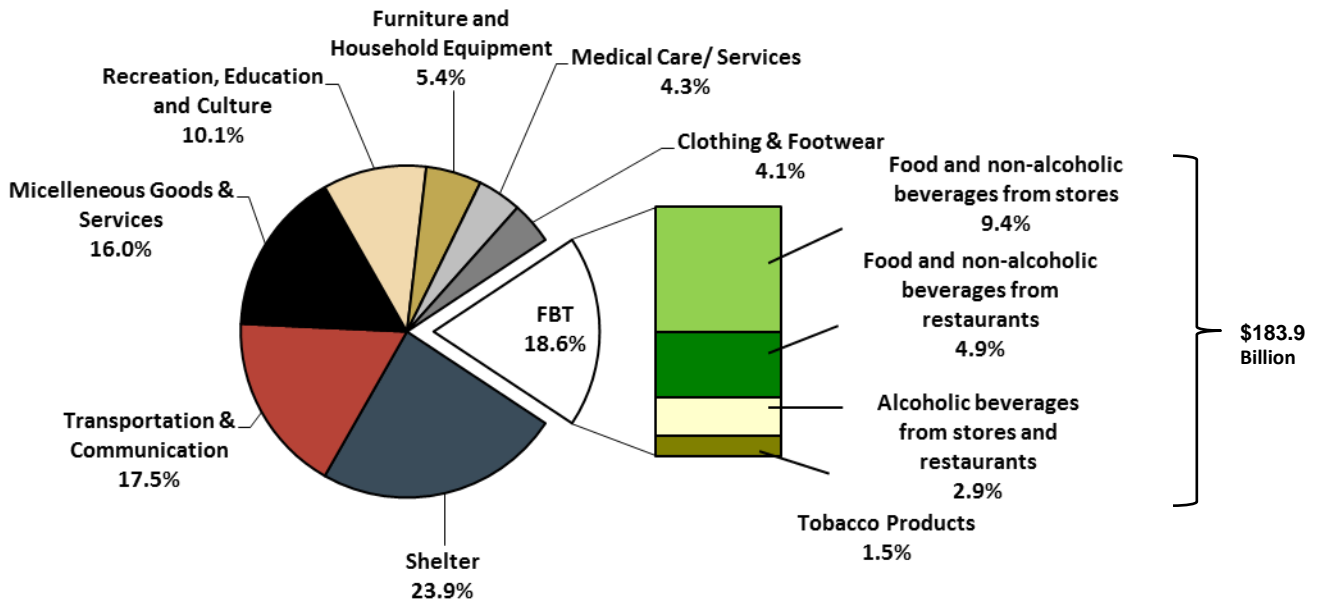
# Food, beverages and tobacco (FBT) made up the second-largest household expenditure category in 2012

Canadian household spending on goods and services in 2012 came to \$987.4 billion, of which 18.6%, or \$183.9 billion, was spent on food, beverages and tobacco products.

Of the total spent on goods and services, food and non-alcoholic beverages purchased at the store accounted for 9.4%, or \$92.3 billion, while those purchased in restaurants accounted for 4.9%, or \$48.2 billion. Spending on alcoholic beverages and tobacco products accounted for 2.9% and 1.5%, respectively, together coming to \$43.4 billion.

The largest household expenditure in 2012 was shelter, at \$236.2 billion, representing 23.9% of all spending on goods and services. Other categories in which the expenditures represented sizeable shares included transportation and communication, with 17.5%; miscellaneous goods and services, with 16.0%; and recreation, education and culture, with 10.1%.

**Chart E.2**  
**Distribution of Household Expenditures on Goods and Services, 2012**



Source: Statistics Canada custom tabulation and AAFC calculations

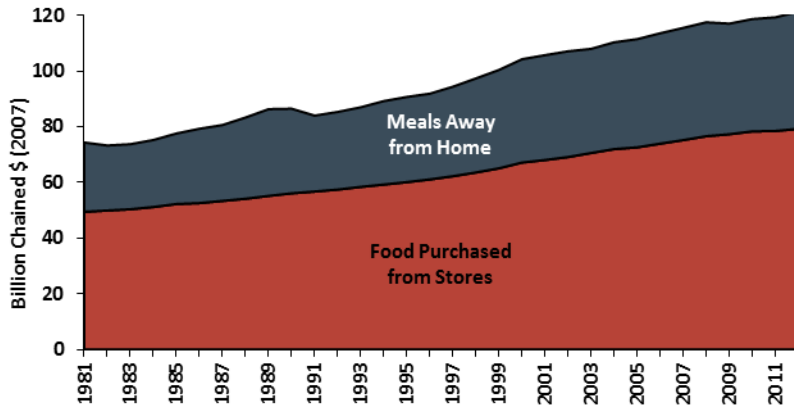
# Expenditures on food alone represented a small proportion of all household spending

Real spending on food and non-alcoholic beverages increased by 1.7%, from \$119.3 billion in 2011 to \$121.3 billion in 2012.

Real personal spending on food from stores increased from \$78.5 billion in 2011 to \$79.3 billion in 2012; real personal spending on food from restaurants increased from \$40.8 billion in 2011 to \$42.0 billion in 2012.

Since 1981, Canadians have consistently made about 34% of their annual household food expenditures at the restaurant, and the other 66% at the store.

**Chart E.3**  
Real Household Expenditures on Food and Non-Alcoholic Beverages, 1981-2012



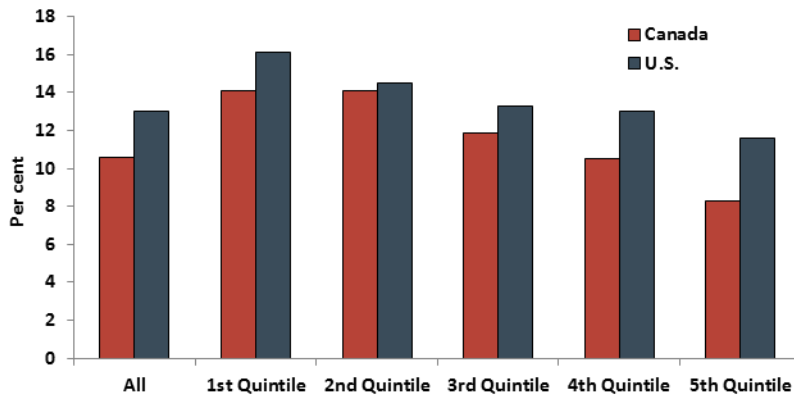
Source: Statistics Canada and AAFC calculations  
Note: Does not include expenditures on alcoholic beverages and tobacco.

**Of the total spent on goods and services in 2011, food expenditures accounted for 10.6% in Canada and 13.0% in the U.S.**

Among Canadian households with an income in the top 20% (the fifth quintile), food expenditures accounted for 8.3% of all household spending on goods and services; among the lowest income households, they accounted for 14.1%.

Similarly, in the U.S., the proportion of all household spending on goods and services that went to food was smaller among those with higher incomes—11.6% among the highest income households, and 16.1% among the lowest.

**Chart E.4**  
Household Expenditures on Total Food\* by Income Quintile in Canada and the U.S., 2011



Source: Statistics Canada, U.S. Bureau of Labor Statistics, and AAFC calculations  
Notes: \*Includes foods purchased from stores and meals away from home.  
Quintile: Households are ranked in ascending order by total household income and are divided into five equal groups. The 1<sup>st</sup> quintile is the lowest 20% of households and the 5<sup>th</sup> quintile is the highest 20% of households.

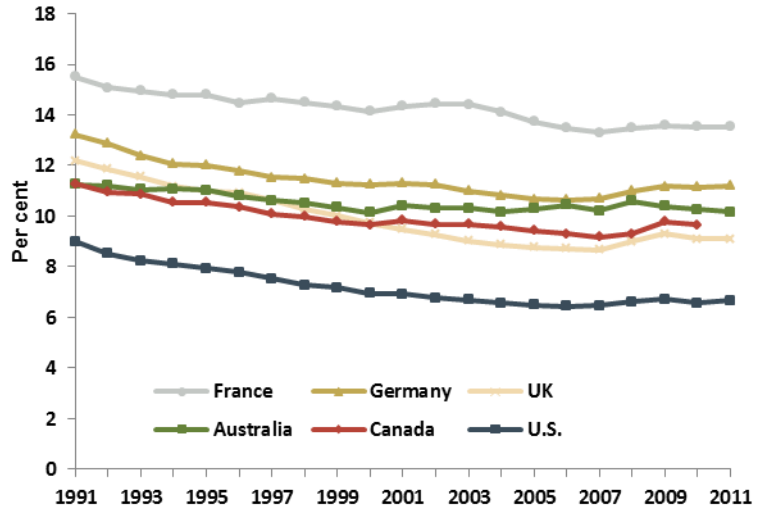


# Food from stores and non-alcoholic beverages accounted for a smaller share of household expenditures in Canada than in several other OECD countries

Generally speaking, over the past 20 years, about 10% of Canadians' household expenditures have been on food from stores and non-alcoholic beverages.

Among selected OECD countries in 2011, France dedicated the largest share (13.4%) of its household spending to food from stores and non-alcoholic beverages, followed by Germany (11.5%), Australia (10.2%) and the U.K. (9.1%). Such expenditures accounted for the smallest share of household spending in the U.S. (6.0%).

Chart E.5  
Household Expenditures on Food\* and Non-Alcoholic Beverages in Selected OECD Countries, 1991-2011



Source: OECD

Note: OECD has not published 2011 data for Canada.

\* Includes food and non-alcoholic beverages from stores only.

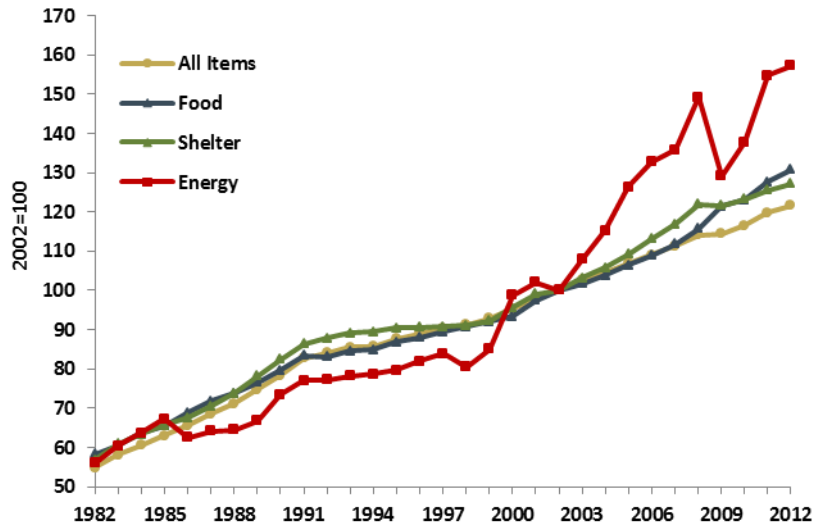
# Retail price inflation slowed for all major items in 2012

The retail price inflation rate for food, shelter and energy decreased in 2012. As a result, the overall price inflation was also lower, dropping from 2.9% in 2011 to 1.5% in 2012.

The price inflation rate of retail food was higher than that of other goods and services. In 2012, retail food prices rose by 2.4%, after having risen by 3.7% in 2011. Energy prices increased by only 1.7% in 2012, after having jumped by 12.3% in the previous year. Inflation of the cost of shelter in 2012 was only 1.7%.

Over the past decade, price inflation of retail foods has generally tracked the all items inflation rate and has been far less volatile than that of energy.

Chart E.6  
Consumer Price Indices (CPI) for Food, Shelter, Energy and All Items, 1982-2012



Source: Statistics Canada

# Canadian food consumption patterns continue to evolve

**Food availability is used as a proxy for consumption and is measured as the total weight of all the food made available for human consumption by the Canadian food supply chain.**

Beef availability continued trending downward, reaching 27.4 kilograms per person in 2012. Pork availability, which has also generally trended downward, increased to reach 22.1 kilograms per person in 2012.

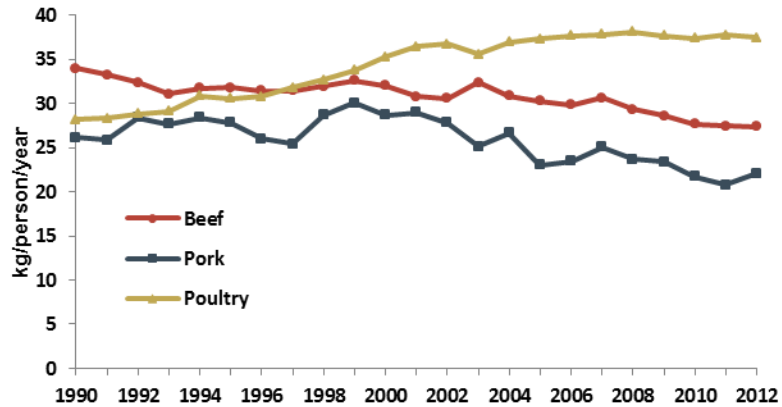
The availability of poultry has exceeded that of beef every year since 1997. Per capita, poultry availability reached 37.4 kilograms per person in 2012, down slightly from the previous year.

## Reducing food waste is important for addressing costly inefficiencies in the supply chain.

In Canada, an estimated 6 million tonnes (or 31%) of food was lost or wasted at the consumer and retail levels in 2010. Vegetables, dairy products and fruit accounted for the largest shares at 21.8%, 21.2% and 16.5%, respectively.

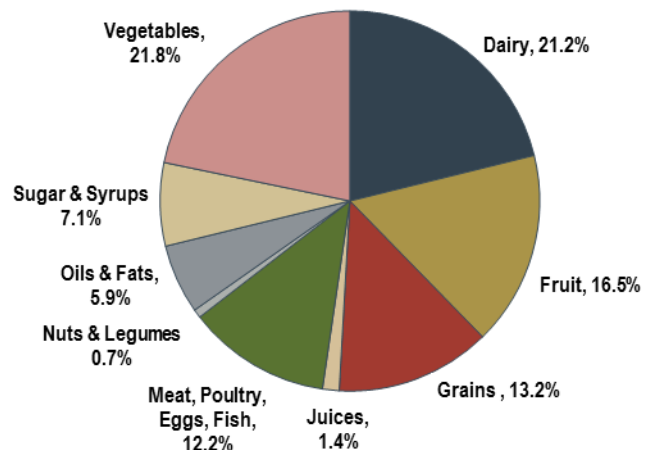
Retail losses include dented cans, unpurchased holiday food, spoilage, and the culling of blemished or misshaped foods. Consumer losses include spoilage, cooking shrinkage and plate waste. Food loss and waste is complex to measure accurately due to the wide definitions and their variation across the supply chain.

**Chart E.7**  
Per Capita Availability of Beef, Pork and Poultry, 1990-2012



Source: Statistics Canada and AAFC calculations  
 Notes: 1) Does not allow for losses, such as waste and/or spoilage in stores, households, private institutions or restaurants or losses during preparation. Represents food available for consumption and not actual quantities of food consumed.  
 2) Beef and pork are reported by carcass weight and poultry by eviscerated weight.  
 3) Per capita availability refers to the food available for consumption on a per person basis. It is calculated by dividing the domestic disappearance by the Canadian population as of July 1st of the reference year.

**Chart E.8**  
Consumer and Retail Level Food Loss and Waste by Commodity, 2010



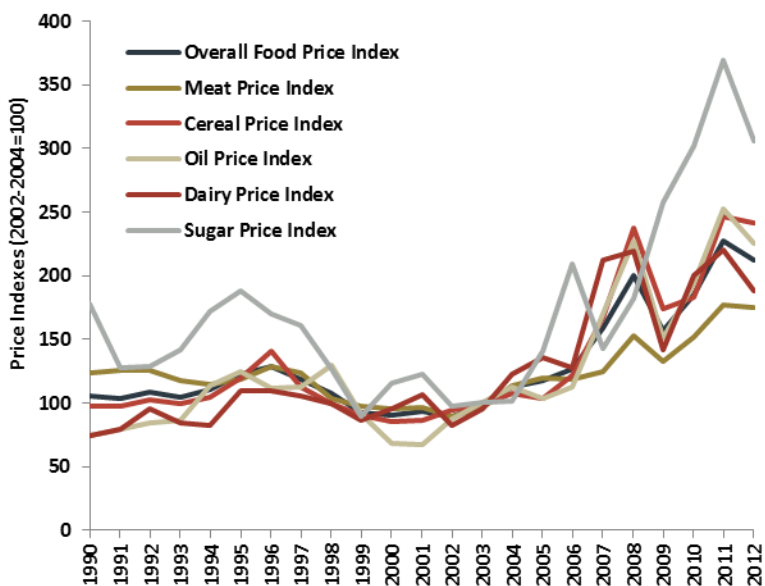
Source: AAFC calculations using Statistics Canada and USDA data  
 Note: These data reflect losses and waste at the consumer and retail levels only. Statistics Canada source is food available for consumption by commodity and USDA source is Economic Research Service, Loss-Adjusted Food Availability (LAFA) data series.

# In general, world food prices across the major commodity groups declined in 2012

World food prices declined in 2012. The Food and Agriculture Organization (FAO) overall food price index dropped from 227.6 in 2011 to 211.8 in 2012—a decrease of 7%.

World food prices declined across all major commodity groups. Sugar and dairy prices declined significantly—by 17.1% and 14.5%, respectively. Oil prices fell by 10.7%, cereal prices by 2.2%, and meat prices by 0.8%.

Chart E.9  
World Food Commodity Price Indices, 1990-2012



Source: FAO Food Price Index

# The origin of food is considered important by some Canadian consumers

## More Canadians buy food based on its origin.

A survey of Canadian consumers conducted in 2011-2012 (Food Safety: Canadians' Awareness, Attitudes and Behaviours) by the Canadian Food Inspection Agency found that 23.0% of the respondents totally agreed that they buy food based on where it comes from, while 16.9% totally disagreed with the statement.

Almost half (48.4%) of the respondents somewhat or totally agreed (responses 5, 6 and 7) that the origin of the food they buy is important.

Another 22.9% of the respondents neither agreed nor disagreed that the origin of food influenced their purchase decisions.

## More older Canadians reported buying food based on their origin.

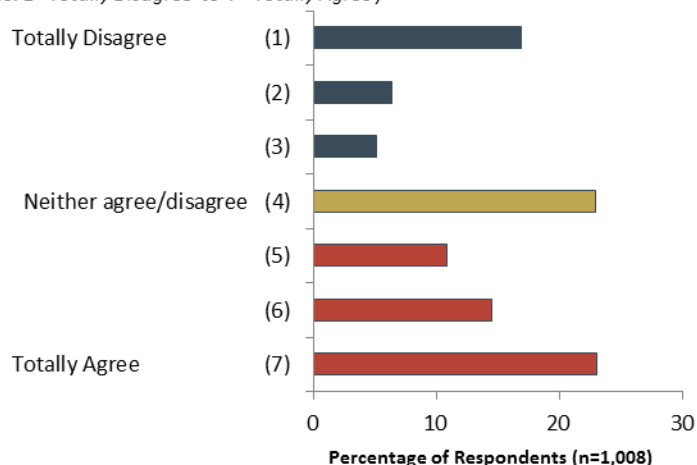
Among those who totally agreed that they buy food based on its origin, 36.7% were older Canadians (55 years of age or older), while 21.9% were young Canadians (18-34 years or age).

Among those who totally disagreed with the statement, only 21.1% were older Canadians, while 41.4% were younger Canadians.

**Note:**  
Survey results are accurate within plus or minus 3.1 percentage points, 19 times out of 20. Responses were collected through telephone interviews of 1,008 Canadians aged 18 years and older from November 30, 2011 to January 4, 2012.

**Chart E.10**  
Significance of the Country of Origin as a Food Attribute, 2011-2012

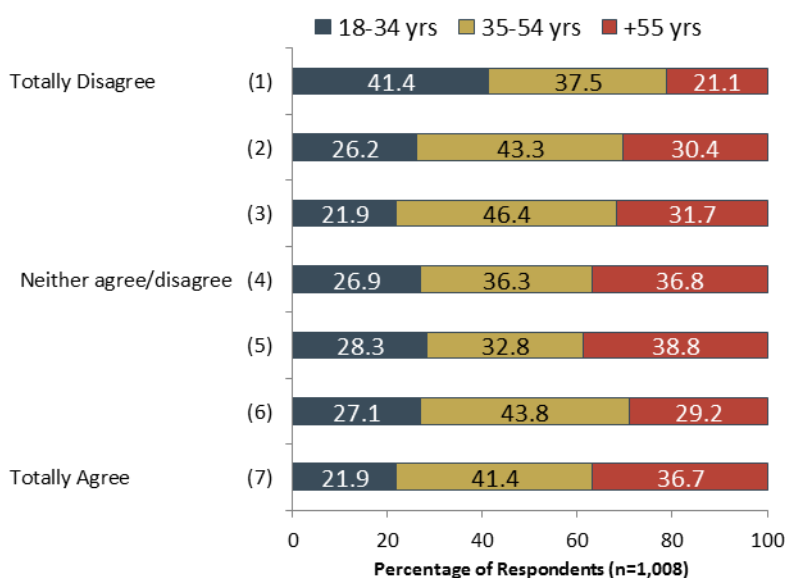
"I buy food based on where it comes from."  
(Scale: 1 - Totally Disagree to 7 - Totally Agree)



Source: Canadian Food Inspection Agency, Food Safety: Canadians' Awareness, Attitudes and Behaviours (2011-2012)

**Chart E.11**  
Significance of Food Origin by Age Group, 2011-2012

"I buy food based on where it comes from."  
(Scale: 1 - Totally Disagree to 7 - Totally Agree)



Source: Canadian Food Inspection Agency, Food Safety: Canadians' Awareness, Attitudes and Behaviours (2011-2012)



# SECTION F

## *Government Expenditures and Support*

### **INTRODUCTION**

Expressed in dollar terms, government expenditures (federal and provincial) in support of the agriculture and agri-food sector are expected to increase in the fiscal year 2012-2013. As a share of the agriculture GDP, government expenditures are estimated to be 22.1% in 2012-2013.

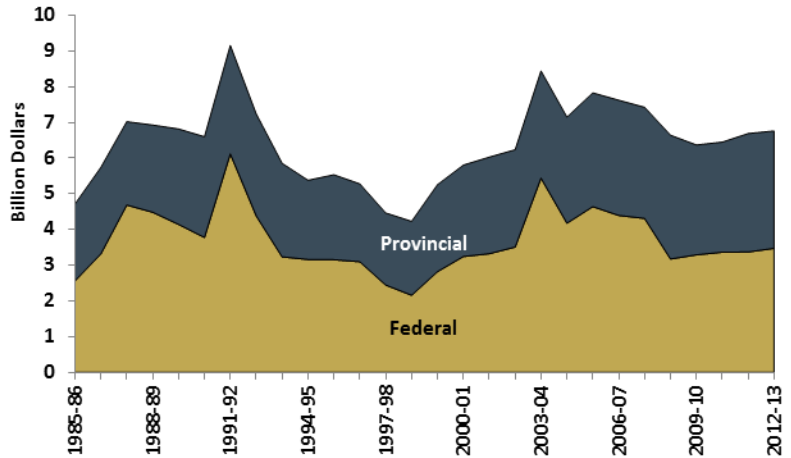
Agricultural policies in Canada and other countries have evolved over time. Changes have been made, not only by decreasing the level of support but also by modifying the type of support.

# Government expenditures in support of the agriculture and agri-food sector have increased from those of the late 1990s but have been on a declining trend since fiscal year 2003-2004

Federal and provincial governments have provided a significant level of support to the agriculture and agri-food sector in Canada, with the federal government contributing, on average, 57.5% of the total support over the past three decades.

Total government expenditures in support of the agriculture and agri-food sector are estimated to be \$6.8 billion for the fiscal year 2012-2013. This is up slightly from the previous year, as federal support levels have increased.

**Chart F.1**  
Total Government Expenditures in Support of the Agriculture and Agri-Food Sector, Fiscal Years 1985-1986 to 2012-2013



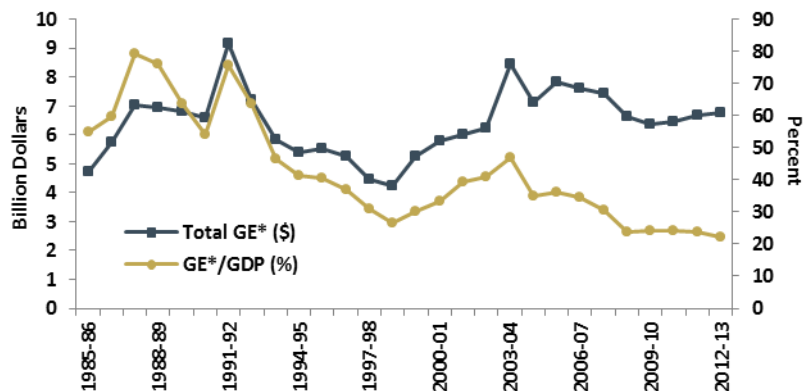
Source: AAFC

Note: Fiscal year 2012-2013 figures are estimates.

As a share of agriculture GDP, government support is expected to fall to 22.1% in the fiscal year 2012-2013.

Throughout the 1990s, government expenditures declined, both in dollar terms and as a share of the agriculture GDP. However, since the fiscal year 1999-2000, both indicators increased to peak in the fiscal year 2003-2004 as a result of programs stemming from the 2003 Bovine Spongiform Encephalopathy (BSE) crisis. Since this time, government expenditures have been on a slight declining trend.

**Chart F.2**  
Total Government Expenditures in Support of the Agriculture and Agri-Food Sector as a Share of Agriculture GDP, Fiscal Years 1985-1986 to 2012-2013



Source: AAFC

Note: Fiscal year 2012-2013 figures are estimates.

\*GE - Government expenditures

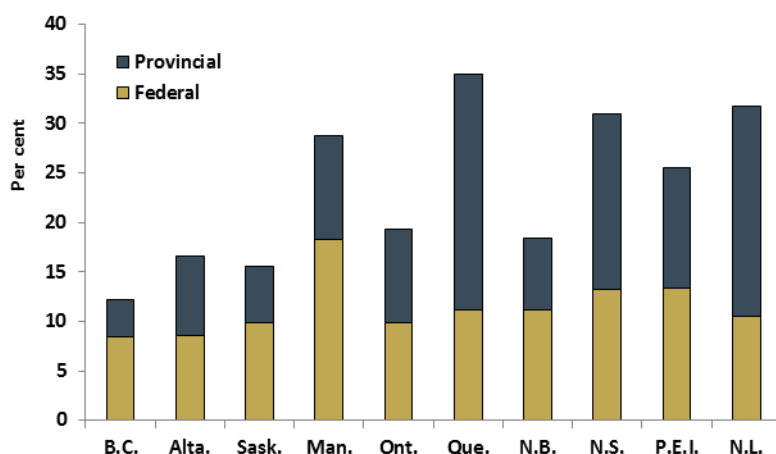


# Provincial government expenditures in support of the agriculture and agri-food sector vary considerably due to specialized programs addressing regional needs

In the fiscal year 2012-2013, the total of all government expenditures in support of the agriculture and agri-food sector accounted for 22.1% of the agriculture GDP at the national level, but this share varied across provinces.

In each of the following provinces, government support accounted for a share of the sector GDP that was below the national average: British Columbia (12.2%); Alberta (16.6%); Saskatchewan (15.6%); Ontario (19.3%); and New Brunswick (18.4%).

**Chart F.3**  
Total Government Expenditures in the Agriculture and Agri-Food Sector as a Share of Sector GDP by Province, Fiscal Year 2012-2013



Source: AAFC

Note: Fiscal year 2012-2013 figures are estimates.

# Collectively, federal research and inspection expenditures and program payments make up the largest portion of government expenditures in support of the agriculture and agri-food sector

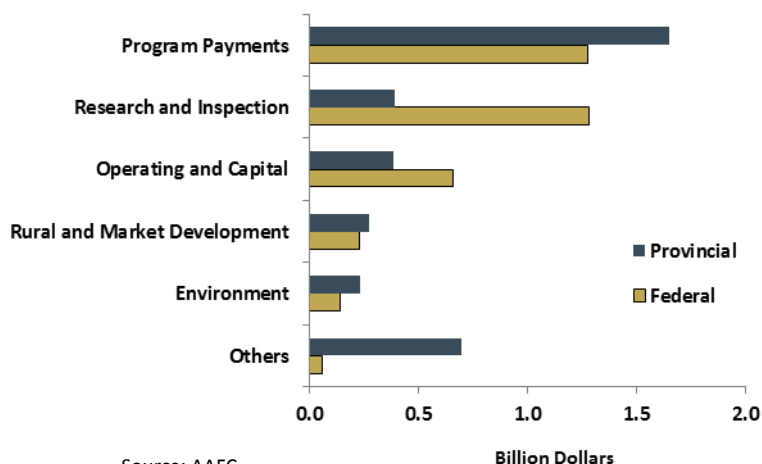
Unlike in previous years, research and inspection in the fiscal year 2012-2013 are estimated to account for the largest share of federal government expenditures in support of the agriculture and agri-food sector in Canada. At the provincial level, program payments are estimated to account for the largest share of government support, following the trend from previous years.

Federal research and inspection expenditures and program payments, which can be attributed to business risk management, are each estimated to account for 35% of the total federal government support to the sector in the fiscal year 2012-2013.

At the provincial level, program payments are estimated to account for 45% of all provincial expenditures in support of the agriculture and agri-food sector, which is much higher than those at the federal level.

Provincial research and inspection expenditures are estimated to account for 11% of all provincial expenditures in support of the agriculture and agri-food sector, which is much lower than those at the federal level.

Chart F.4  
Federal and Provincial Government Expenditures in Support of the Agriculture and Agri-Food Sector by Major Category, Fiscal Year 2012-2013



Source: AAFC

Note: Fiscal year 2012-2013 figures are estimates.

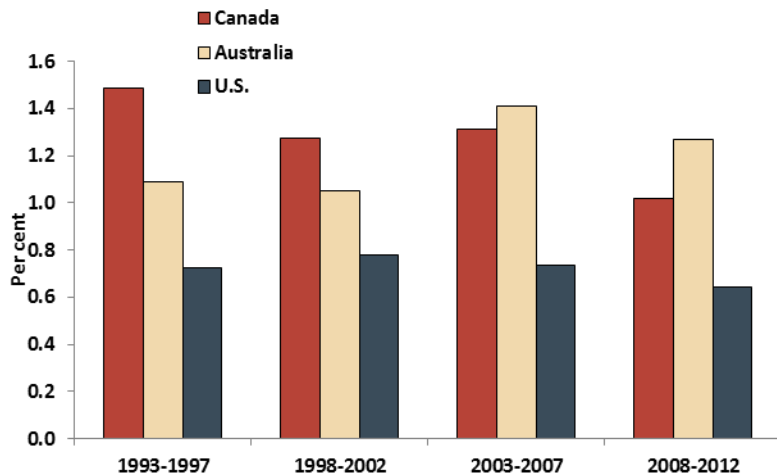
# In dollar terms, Canadian public research expenditures have increased over time but their share of gross farm receipts has decreased

Canada's public R&D spending, as a share of gross farm receipts (GFR), has decreased over time. Canada continues to surpass the U.S. but trails behind Australia.

During the 2008-2012 period, Canada's public agricultural R&D spending averaged 1.0% as a share of GFR, a decrease from the 1.3% average over the 2003-2007 period.

While Canada's public R&D spending in support of agriculture, as a share of GFR, has fallen below that of Australia in recent years, Australia's R&D spending has also fallen slightly from their 2003-2007 share of 1.4%, to 1.3% over the 2008-2012 period. Canada's spending share remains above that of the U.S. in the most recent time period; however, the gap between Canada and the U.S. has been gradually closing.

Chart F.5  
Public R&D Spending to Support the Agriculture and Agri-Food Sector as a Share of Gross Farm Receipts, 1993-1997 to 2008-2012



Source: OECD, Trade and Agriculture Directorate, Producer and Consumer Support Estimates, OECD Database

# Support to Canadian producers, as measured by the producer support estimate (PSE), has declined in recent years. It has remained above that of the U.S. but below that of the EU.

In 2012, the producer support estimate (PSE) for Canada was 14.3% of gross farm receipts, compared to 19.0% for the EU and 7.1% for the U.S.

Canadian support to producers was 14.3% in 2012. This was a decline from 15.0% in 2011, mainly attributable to an increase in farm receipts and a decrease in budgetary transfers.

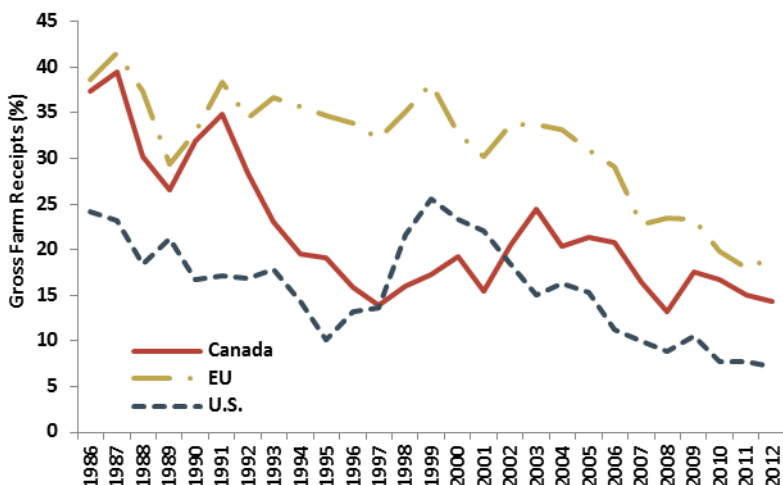
While Canada supports its producers more than the U.S. does, EU producers benefit from significantly more support.

In 2012, 63.7% of the total support to producers in Canada was provided through market price support (MPS), compared to an average of 52.0% over the 1986-2012 period.

In Canada, both MPS and budgetary transfers, expressed as a percentage of gross farm receipts, have decreased over the 1986-2012 period. The share of market price support has fluctuated between 40.5% and 64.2% of the total support over the same period.

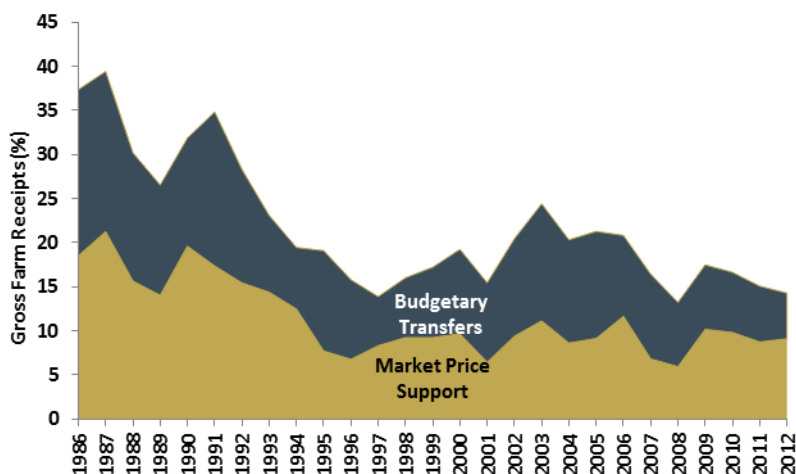
In Canada, milk has traditionally received the highest level of support through MPS. Milk's share of the total MPS increased between 2011 and 2012 from 61.5% to 66.3%. Conversely, over the same time period, poultry's share of the total MPS decreased, from 18.0% to 13.8%.

**Chart F.6**  
Percent of Producer Support Estimates (PSE) in Selected Countries, 1986-2012



Source: OECD, Trade and Agriculture Directorate, Producer and Consumer Support Estimates, OECD Database  
Note: 2012 data are preliminary.

**Chart F.7**  
Composition of Support to Producers in Canada, 1986-2012



Source: OECD, Trade and Agriculture Directorate, Producer and Consumer Support Estimates, OECD Database  
Note: 2012 data are preliminary.

# In the EU and U.S., policy reforms have led to a significant reduction in MPS but increases in budgetary transfers

**In 2012, 80.0% of total support to producers in the EU(27) was provided through budgetary transfers, compared to an average of 45.9% over the 1986-2012 period.**

While MPS, expressed as share of gross farm receipts, has decreased over the 1986-2012 period in the EU, budgetary transfers, as a share of total support, have increased. In 1986, 86.6% of all support to producers was provided through MPS, compared to just 19.9% in 2012.

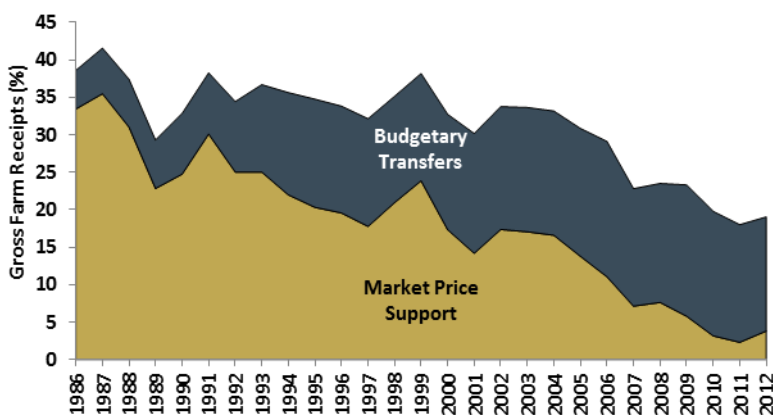
The EU has changed the way support is provided to agricultural producers through significant reforms to the Common Agricultural Policy (CAP)\* that decreased intervention prices while increasing fixed direct payments to producers.

**In 2012, 89.8% of the total support to producers in the U.S. was provided through budgetary transfers, compared to an average of 66.1% over the 1986-2012 period.**

In the U.S., both MPS and budgetary transfers, expressed as a percentage of gross farm receipts, were on a declining trend over the 1986-2012 period. In 1986, 68.5% of all support to producers was through budgetary transfers, compared to 89.8% in 2012.

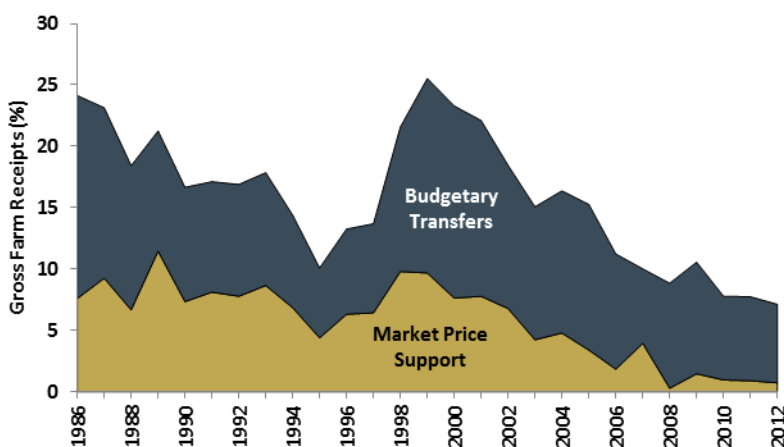
Milk received the highest level of support through MPS in the U.S., until it plummeted in 2008; it has shown a significant decreasing trend over the last decade.

**Chart F.8**  
Composition of Support to Producers in the EU, 1986-2012



Source: OECD, Trade and Agriculture Directorate, Producer and Consumer Support Estimates, OECD Database  
Note: 2012 data are preliminary.

**Chart F.9**  
Composition of Support to Producers in the U.S., 1986-2012



Source: OECD, Trade and Agriculture Directorate, Producer and Consumer Support Estimates, OECD Database  
Note: 2012 data are preliminary.

Source: \*MacSharry, Agenda 2000 and Mid-Term Review

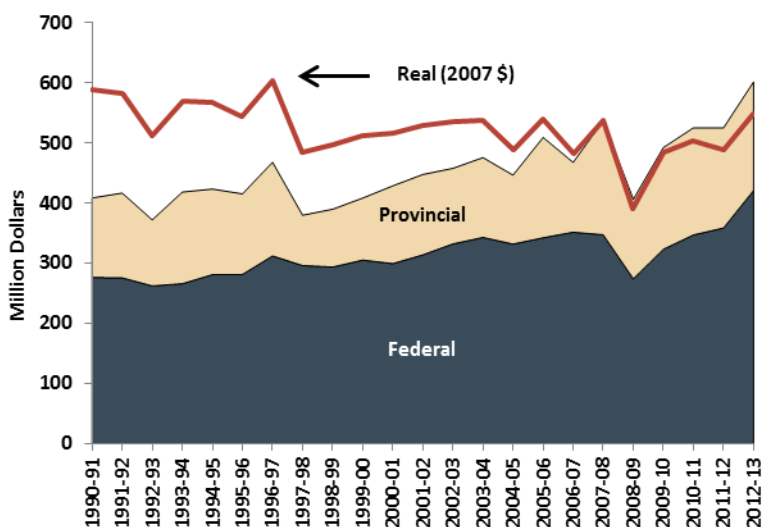
# Public investments in R&D in the agriculture and agri-food sector represent a critical source of innovation and productivity growth

Public funding of research in support of the agriculture and agri-food sector, of which the majority is attributable to the federal government, is estimated to rise to \$602 million in the fiscal year 2012-2013.

Over the period between fiscal years 2002-2003 and 2012-2013, total public research expenditures have shown an increasing trend, with the exception of the decline that occurred at the end of the Agricultural Policy Framework in the fiscal year 2008-2009 before new initiatives were put in place. Over this same period, the federal share of total R&D expenditures has accounted for an average of 69%, with provincial public expenditures accounting for the remaining 31%. Both federal and provincial R&D expenditures have grown considerably.

After accounting for inflation, real government R&D expenditures (2007\$) showed a declining trend until the fiscal year 2008-2009, when they began showing an increase. Expenditures in the fiscal year 2012-2013, however, are still below the peak of the fiscal year 1996-1997.

Chart F.10  
Government Research Expenditures on Agriculture and Agri-Food, Fiscal Years 1990-1991 to 2012-2013



Source: AAFC  
Note: Fiscal year 2012-2013 figures are estimates.  
Real government expenditures on R&D in agriculture and agri-food have been deflated to 2007 dollars.

## THE CANADIAN AGRICULTURE AND AGRI-FOOD SYSTEM'S COMPONENTS

### **Agriculture and Agri-Food Sector**

The agriculture and agri-food sector is composed of all industries whose primary role is to produce food and agricultural products. It encompasses both primary agriculture and food, beverage and tobacco processors.

### **Canadian Agriculture and Agri-Food System**

The Canadian agriculture and agri-food system is a value chain of industries focused on producing agricultural and food products. It includes agricultural input and service suppliers, primary agriculture, food, beverage and tobacco processors, food retailers/wholesalers, and foodservice establishments.

Unless otherwise noted, component stages of the agriculture and agri-food system are defined according to the North American Industrial Classification System (NAICS). A detailed listing of included industries for each component stage of the system is provided below.

### **Input & Service Suppliers**

Agricultural input and service suppliers are composed of the following industries as defined by NAICS:

At the 4-digit level

- 1151 Support Activities for Crop Production
- 1152 Support Activities for Animal Production
- 3253 Pesticide, Fertilizer and Other Agricultural Chemical Manufacturing
- 4171 Farm, Lawn and Garden Machinery and Equipment Wholesaler-Distributors
- 4183 Agricultural Supplies Wholesaler-Distributors

At the 5-digit level

- 33311 Agricultural Implement Manufacturing

### **Primary Agriculture**

Primary agriculture is composed of the following industries as defined by NAICS:

At the 3-digit level

- 111 Crop Production
- 112 Animal Production

# GLOSSARY

---

## At the 4-digit level

- 1111 Oilseed and Grain Farming
- 1112 Vegetable and Melon Farming
- 1113 Fruit and Tree Nut Farming
- 1114 Greenhouse, Nursery and Floriculture Production
- 1119 Other Crop Farming
- 1121 Cattle Ranching and Farming
- 1122 Hog and Pig Farming
- 1123 Poultry and Egg Production
- 1124 Sheep and Goat Farming
- 1125 Animal Aquaculture
- 1129 Other Animal Production

## **Food, Beverage and Tobacco Processing**

Food, beverage and tobacco processing is composed of the following industries as defined by NAICS:

## At the 3-digit level

- 311 Food Manufacturing
- 312 Beverage and Tobacco Product Manufacturing

## At the 4-digit level

- 3111 Animal Food Manufacturing
- 3112 Grain and Oilseed Milling
- 3113 Sugar and Confectionery Product Manufacturing
- 3114 Fruit and Vegetable Preserving and Specialty Food Manufacturing
- 3115 Dairy Product Manufacturing
- 3116 Meat Product Manufacturing
- 3117 Seafood Product Preparation and Packaging
- 3118 Bakeries and Tortilla Manufacturing
- 3119 Other Food Manufacturing
- 3121 Beverage Manufacturing
- 3122 Tobacco Manufacturing

## **Food Retail/Wholesale**

Food retail/wholesale is composed of the following industries as defined by NAICS:

## At the 3-digit level

- 411 Farm Product Wholesaler-Distributors
- 413 Food, Beverage and Tobacco Wholesaler-Distributors
- 445 Food and Beverage Stores



# GLOSSARY

---

## **Foodservice**

Foodservice is composed of the following industries as defined by NAICS:

At the 3-digit level

722 Food Services and Drinking Places

At the 4-digit level

4542 Vending Machine Operators

## **CONSUMERS**

### **Total Current Consumption**

Shows the expenses incurred for food, shelter, household operations, household furnishings and equipment, clothing, transportation, health care, personal care, recreation, reading materials, education, tobacco products and alcoholic beverages, games of chance, and a miscellaneous group of items.

### **Personal Expenditure on Consumer Goods and Services**

Household spending on new consumer goods and on consumer services, plus any mark-up on used goods.

## **CLASSIFICATION OF FOOD PURCHASES**

### **Food and Non-Alcoholic Beverages Purchased from Stores**

Food purchased from stores includes supermarkets, food specialty stores (butcher shops, fresh produce stores, bakeries, fish markets, delicatessens, health food stores, markets or stands, and direct purchases from producers and frozen food suppliers, outdoor farmers' markets and stands, and all other non-service establishments), convenience stores, and other (any other type of store that sells food items, such as department stores, club-type stores, drug stores, etc.).

### **Food Purchased from Restaurants**

Food purchased from restaurants includes table-service restaurants, fast-food restaurants, cafeterias and other (refreshment stands, snack bars, vending machines, chip wagons and caterers). They are usually found at supermarkets, theatres, exhibitions, sports events, parks, etc.

### **Alcoholic Beverages**

This includes those purchased from stores and restaurants. Also included are expenditures on supplies and fees for self-made beer, wine or liquor. Purchases of alcoholic beverages may be under-reported.

## FARM INCOME DEFINITIONS

### **Average Family Income**

Average family income is that income level derived by dividing total family income by the number of families.

### **Capital Cost Allowance**

Capital cost allowance refers to the amount deducted for depreciable property for tax purposes.

### **Debt-to-Asset Ratio**

Debt-to-asset ratio at the farm level is total debt divided by total assets.

### **Debt-to-Equity Ratio**

Debt-to-equity ratio at the industry level is total debt divided by total equity.

### **Direct Payments**

Direct payments include the amounts paid under government agricultural programs and agricultural programs funded by the private sector. These include insurance programs funded totally by premiums paid by producers. Only those payments related to current agricultural production and paid directly to individuals involved in agricultural production are included.

### **Farm Cash Receipts**

Include revenues from the sale of agricultural commodities, program payments from government agencies, and payments from private crop and livestock insurance programs. Receipts are recorded in the calendar year (Jan.-Dec.) when the money is paid (cash basis) to farmers.

### **Farm Expenses**

Farm expenses are estimates of farm operating expenses and represent business costs incurred by farm operators for goods and services used in the production of agricultural commodities. All expense information is on a calendar year basis. If direct rebates are paid to farmers to reduce the cost of particular inputs, then the net expense estimates are used in the preparation of net income, although both gross and net expenses may be displayed. As the objective is to produce provincial estimates of net income, flows from one farm to another are excluded from the estimates. The province can be viewed as one large farm.

### **Farm Family Income**

Farm family income is the sum of the total income of the operator and his/her family members. It includes income from both farm and non-farm sources.

# GLOSSARY

---

## **Farm Net Worth**

Farm net worth is measured as the total assets of the farm evaluated at current market value less total liabilities.

## **Market Receipts**

Market receipts refers to cash income from the sale of agricultural commodities, but excludes direct program payments to producers.

## **Net Cash Income**

Net cash income measures farm business cash flow (farm cash receipts minus operating expenses) generated from the production of agricultural goods. Net cash income represents the amount of money available for debt repayment, investment or withdrawal by the owner.

## **Net Operating Income**

Net operating income is a term to refer to the difference between gross farm revenues and total farm cash expenses.

## **Non-Farm Employment Income**

Employment income which originates from sources other than the farm operation (such as gross wages and salaries) and net self-employment income (from business, professional, commission and fishing) not related to the farm operation.

## **Off-Farm Income**

The term off-farm income is a bit misleading in that it includes wages and salaries paid to family members for work done on an unincorporated farm.

## **Other Non-Farm Income**

Investment income (such as interest, taxable capital gains, dividends) which originates from sources other than the farm operation, pensions, and other income from government programs for families or individuals and other income not from the farm operation.

## **Profit Margin Ratio**

Profit margin ratio at the industry level is calculated as operating profits divided by total operating revenues. Operating profit is the net result of the principal business activities of a firm. It is calculated before taking into account interest expense, investment income, non-recurring losses from the write-down of assets, gains or losses realized on the disposal of assets, and income tax expense. This ratio

# GLOSSARY

---

indicates management's ability to generate earnings from the principal business activities of a firm.

## **Rate of Return on Long-Term Capital**

The rate of return on long-term capital is calculated as operating income (without deducting either taxes or interest paid) divided by long-term capital, where long-term capital is taken to be the sum of shareholders' equity and long-term debt.

## **Realized Net Farm Income**

Realized net farm income is calculated as realized net market income plus government program payments.

## **Realized Net Market Income**

Realized net market income is calculated as farm market receipts plus income-in-kind less operating expenses and depreciation.

## **Return on Assets**

The rate of return on assets at the farm level is calculated as net operating income plus interest expense minus capital cost allowance divided by the total value of assets at cost. In the case of dairy and poultry farms, the allowance on eligible capital property for quota was also deducted.

## **Return on Equity**

The rate of return on equity at the farm level is calculated as net operating income minus capital cost allowance divided by net worth at cost. In the case of dairy and poultry farms, the allowance on eligible capital property for quota was also deducted.

## **Return on Equity Ratio**

Return on equity ratio at the industry level is calculated as after-tax profit divided by total equity x 100. This ratio measures the level of return to the owners (investors) and it represents their measure of profitability. The earnings figure is the after-tax profit, including a deduction for interest expense (payments to lenders). It is the net profit available to the owners (investors). The ratio indicates how many cents are returned to every dollar invested by the owners.

## **FARM OPERATION DEFINITIONS**

### **Incorporated Farm**

A legal business entity separate from the persons who own, manage or operate the business. The business owners or shareholders are not personally liable for any of the debts of the company, other than the value of their investments in the company due to the legal independence of the business.

# GLOSSARY

---

## **Non-Family Farm**

Farms organized as non-family corporations, co-operatives or other communal operations. It also includes farms held in estates or trusts.

## **Multi-Generational Farm**

Multi-generational farms are farms with more than one operator where the age difference between the oldest and youngest operator is 20 years or more.

## **Single Generation Farm**

Single generation farms are farms with more than one operator where the age difference between the oldest and youngest operator is less than 20 years.

## **Sole Proprietorship**

A type of business entity, which is owned and run by one individual and where there is no legal distinction between the owner and the business.

## **Unincorporated Farms**

Farm businesses where there is no legal distinction between the owners and the business, which include sole proprietorships and partnerships.

## **FOOD RETAIL/WHOLESALE**

### **Chain Stores**

Food retailers are divided into chain stores and non-chain stores. Chain stores are defined as operating in four or more locations in Canada (within the same industry group and under the same legal ownership).

## **ECONOMIC AND STATISTICAL TERMINOLOGY**

### **Advanced Technology**

Advanced technology refers to a new technology that performs a new function or improves some function significantly better than commonly used technologies. Examples include biotechnology, nanotechnology, etc.

### **Capital Stock**

Fixed capital is comprised of buildings, engineering structures and machinery and equipment. Total investment in fixed capital is made up of purchases needed to offset depreciation (replacement needs) and purchases to expand the capital stock. When replacement needs exceed investment, the capital stock falls, since the existing stock is not being maintained. When investment exceeds replacement needs, the stock increases.

# GLOSSARY

---

## **Chained Dollars**

A measure to express real volumes of production or expenditure by removing the distorting effects of price changes over time.

## **Check-offs**

Producer association check-off schemes are common sources of funding for R&D innovation, promotion and development of agriculture commodities. These schemes usually involve an annual assessment of marketing or sales, where the revenue is pooled by the grower organization and a percentage share or fixed amount levy is collected for these purposes.

## **Concentration Ratio (CR4)**

Concentration ratio is a measure of an industry's concentration level and expresses sales of a set number of the top firms in the industry as a percentage of total industry sales. CR4 is the acronym for the concentration ratio of the top four firms in the industry.

## **Constant Prices**

Constant prices refers to a value from which the overall effect of a general price inflation has been removed.

## **Crop Yield**

Crop yield is a measure of the amount of a crop harvested per unit of land area.

## **Crop Year**

A crop year is a twelve-month period used for collecting data on a particular crop — generally corresponding to the natural planting and marketing cycle for that crop. Usually, a crop year begins in a month other than January.

## **Foreign Direct Investment (FDI)**

FDI refers to investment by non-residents in an enterprise where the non-residents own 10 percent or more of the ordinary shares or voting power in incorporated enterprises or the equivalent in unincorporated enterprises.

## **Gross Domestic Product (GDP)**

The GDP for a country is the total unduplicated value of the goods and services produced in that country during a given period.

**Hazard Analysis and Critical Control Points (HACCP)**

A process control system designed to identify and prevent microbial and other hazards in food production. It includes steps designed to prevent problems before they occur and to correct deviations as soon as they are detected. Such preventative control systems with documentation and verification are widely recognized by scientific authorities and international organizations as the most effective approach available for producing safe food.

**Labour Productivity**

Labour productivity is a measure of an industry's output per hour of labour worked.

**Marketing**

Marketing in the agricultural sector includes all of the services involved in moving an agricultural product from the farm to the consumer. Numerous interconnected activities are involved, such as growing, harvesting, grading, packing, transporting, storing, processing, distributing, advertising and sales.

**Multifactor Productivity**

Multifactor productivity is considered a proxy for a country's innovation performance, encompassing technological change and other efficiencies. It tracks measures of labour, capital and land use, and is seen as a more comprehensive indicator than labour productivity.

**Net Value Added**

Net value-added measures agriculture's contribution to the national economy's production of goods and services created in a particular year. It is derived by calculating the total value of agricultural sector production, including program payments, and subtracting the related costs of production (expenses on inputs, business taxes and depreciation). Net value-added is distributed to the various factors of production, including rent to non-operator landlords, interest to lenders, wages and profits.

**Quintiles**

Quintiles are ranking households in ascending order of total household income and organized into five groups of equal numbers.

**Quota Value**

The value of a specified quantity of a supply-managed agricultural commodity, such as those in the dairy or poultry industries, which a producer is allowed to supply.

**Technology**

Technology is broadly defined to include the technical means and know-how required to produce a product or service. It takes the form of equipment, materials, processes, blueprints and knowledge.

# GLOSSARY

---

## **Total Factor Productivity (TFP)**

TFP is measured as output divided by all inputs (i.e., capital, labour, etc.)

## **Value-Added Production**

Value-added production refers to products that have undergone some processing.

## **GOVERNMENT SUPPORT CATEGORIES**

### **Government Expenditures**

Government spending (at all levels) on agriculture and food processing in a year, both direct and indirect, to individuals, agencies or associations.

## **MAJOR EXPENDITURE CATEGORIES**

### **Development, Trade and Environment-Related Program Expenditures**

Include administration and capital expenditures incurred by the government to work on regional development, marketing and trade, and environmental activities as well as grants and contributions issued by the government for work on these activities.

### **Operating and Capital Expenditures**

Include government expenditures on general administration and management, and on policy information and statistical services.

### **Other Expenditures**

Include government expenditures on food aid and international assistance, extension, and education as well as social program payments and tax expenditures.

### **Program Payment Expenditures**

Include payments for income support and stabilization programs, ad hoc and cost reduction programs, agri-insurance and financing assistance programs.

### **Research and Inspection Expenditures**

Include administration and capital expenditures incurred by the government to perform research and inspection activities, as well as grants and contributions issued by the government for work on these activities.

### **Storage and Freight Assistance Expenditures**

Program payments for storage and freight.



# GLOSSARY

---

## GOVERNMENT SUPPORT MEASURES

### **Budgetary Transfers**

Budgetary expenditures from governments providing direct payments to agricultural producers.

### **Market Price Support (MPS)**

Transfers to agricultural producers from policy measures that create a gap between domestic market prices and border prices of a specific agricultural commodity.

### **Producer Support Estimate (PSE)**

A yearly measure of policy support to farm producers. It is the sum of market price support and budgetary payments to producers, expressed as a percentage of the gross farm receipts.

### **Gross Farm Receipts (GFR)**

The value of commodity production plus the direct transfers received by producers in the current year.

### **Single Commodity Transfers**

Transfers to agricultural producers from policy linked to the production of a single commodity, such that the producer must produce the designated commodity in order to receive the transfer.

## TRADE CATEGORIES

### **Agriculture and Agri-Food Exports**

Agriculture and agri-food exports include the export of agriculture commodities, food (excluding fish and fish products), non-alcoholic beverages (including bottled water), alcoholic beverages, tobacco products, and floriculture and nursery.

### **Agriculture and Agri-Food Imports**

Agriculture and agri-food imports include the import of agriculture commodities, food (excluding fish and fish products), non-alcoholic beverages (including bottled water), alcoholic beverages, tobacco products and floriculture and nursery.

### **Intra-Regional Trade**

Trade between two regions in a given location. For example trade between Canadian provinces or the European Union member countries.

### **Primary Agriculture Product Trade**

Uses the North American Industrial Classification System coding structure as the basis, defines primary agriculture as codes 111 and 112.

# GLOSSARY

---

## **Processed Agri-Food Product Trade**

Uses the North American Industrial Classification System coding structure as the basis, and defines processed agri-food products as codes 311 and 3121.

# DATA SOURCES AND REFERENCES

---

## Section A: GDP and Employment

- A.1-A.2 Statistics Canada, CANSIM Table 379-0031 - Gross Domestic Product (GDP) at basic prices by North American Industry Classification System (NAICS); Statistics Canada, Annual Survey of Manufactures and Logging 2011
- A.3-A.4 Statistics Canada, Annual Labour Force Survey, special tabulation
- A.5-A.6 Statistics Canada, CANSIM Table 379-0030 - Gross Domestic Product (GDP) at basic prices, by North American Industry Classification System (NAICS) and by province, annual
- A.7-A.8 Statistics Canada, Annual Labour Force Survey, special tabulation

## Section B: International Trade

- B.1-B.2 Global Trade Atlas
- B.3-B.12 Statistics Canada, Canadian International Merchandise Trade Database via AAFC's Trade Data Retrieval System
- B.13 AAFC calculations based on various products from Statistics Canada
- B.14 Statistics Canada, Canadian International Merchandise Trade Database via AAFC's Trade Data Retrieval System

## Section C: Primary Agriculture and Farm Inputs

- C.1 Statistics Canada Input/Output Model and AAFC calculations
- C.2 Statistics Canada, Census of Agriculture, various years
- C.3-C.5 Statistics Canada, CANSIM Table 002-0001 - Farm Cash Receipts
- C.6 AAFC
- C.7 Canfax annual report, United States Department of Agriculture, Economic Research Service, Livestock, Dairy and Poultry Outlook AAFC, Red Meat Market Information
- C.8 Statistics Canada, CANSIM Table 002-0009 - Net farm income, annual (dollars) Statistics Canada, CANSIM Table 002-0001 - Farm Cash Receipts, annual (dollars)
- C.9 Statistics Canada, CANSIM Table 002-0004 - Agriculture value added account, annual (dollars)
- C.10-C.14 Statistics Canada, Taxation Data Program
- C.15 Statistics Canada, Farm Financial Survey
- C.16 Statistics Canada, Farm Financial Survey and AAFC calculations
- C.17 Statistics Canada, Farm Financial Survey and AAFC calculations
- C.18 Statistics Canada, Farm Financial Survey and AAFC calculations
- C.19 Statistics Canada, Farm Financial Survey
- C.20 AAFC

## DATA SOURCES AND REFERENCES

---

- C.21-C.22 Statistics Canada, CANSIM Table 002-0005 - Farm operating expenses and depreciation charges, annual (dollars)
- C.23 Statistics Canada, CANSIM Table 328-0015 - Farm input price index, quarterly (index, 2002=100)
- C.24 Alberta Agriculture and Food, Economics and Competitiveness Division, Statistics and Data Development Unit's Alberta Agricultural Input Monitoring System (AIMS) and the United States Energy Information Administration
- C.25 Statistics Canada, CANSIM Table 002-0005 - Farm operating expenses and depreciation charges, annual (dollars)
- C.26 AAFC, Farm Input Price Survey, Quorum Corporation, Rail and Trucking Freight Rate Index (2002=100): 2011-2012 Annual Report Data Tables, Trucking Rates: Table 4A-1, Composite Freight Rates and Railway Freight Rates: Table 4C-1, Composite Freight Rates
- C.27 AAFC calculations based on data from the Canadian Primary Agriculture Productivity Database, 1961-2006
- C.28 AAFC, United States Department of Agriculture, Economic Research Service, Australian Bureau of Agricultural and Resource Economics
- C.29 Statistics Canada and AAFC calculations
- C.30 Saskatchewan Pulse Growers Annual Report, various years

### **Section D: Post Farm Gate (Food and Beverage Processing and Food Retail)**

- D.1 Statistics Canada Input/Output Model and AAFC calculations
- D.2 Statistics Canada, CANSIM Table 379-0031 - Gross Domestic Product (GDP) at basic prices, by North American Industry Classification System (NAICS), monthly (dollars)
- D.3 Statistics Canada, CANSIM Table 281-0024 - Employment (SEPH), unadjusted for seasonal variation, by type of employee for selected industries classified using the North American Industry Classification System (NAICS), annual (persons)
- D.4 Statistics Canada, CANSIM Table 551-0002 Canadian business patterns, location counts, employment size and North American Industry Classification System (NAICS), national industries, by Canada and provinces, semi-annual (number)
- D.5-D.6 Statistics Canada, Monthly Survey of Manufacturing, 2012 and AAFC calculations
- D.7 Statistics Canada, CANSIM Table 281-0024 - Employment (SEPH), unadjusted for seasonal variation, by type of employee for selected industries classified using the North American Industry Classification System (NAICS), annual (persons) and AAFC calculations
- D.8 Statistics Canada, Annual Survey of Manufactures and Logging, special tabulation
- D.9 Statistics Canada, Annual Survey of Manufactures and Logging and AAFC calculations
- D.10-D.11 Statistics Canada, Canadian International Merchandise Trade Data via AAFC's Trade Data Retrieval System, Statistics Canada, Monthly Survey of Manufacturing, 2012 and AAFC calculations
- D.12 Statistics Canada, CANSIM Table 301-0006, Principal statistics for manufacturing industries by North American Industry Classification System (NAICS), annual

## DATA SOURCES AND REFERENCES

---

- D.13 Statistics Canada, CANSIM Table 330-0007 - Raw materials price indexes monthly (index, 2002=100)
- D.14 Statistics Canada, CANSIM Table 281-0027 - Average weekly earnings (SEPH), unadjusted for seasonal variation, by type of employee for selected industries classified using the North American Industry Classification System (NAICS), annual (current dollars)
- D.15-D.16 Statistics Canada, Statistics Canada, Quarterly Survey of Financial Statistics for Enterprises special tabulation and AAFC calculations
- D.17 Statistics Canada, Catalogue No. 88-001-X Science Statistics – Vol. 33, No.4 – Industrial Research and Development, 2006-2010 data; data from 1980 to 1994 – Statistics Canada special tabulation
- D.18 OECD, Structural Analysis (STAN) Database Indicators, 2009
- D.19 Statistics Canada, CANSIM Table 383-0022 - Multifactor productivity, gross output, value-added, capital, labour and intermediate inputs at a detailed industry level, by North American Industry Classification System (NAICS), annually United States Department of Labor, Bureau of Labor Statistics, 1987-2006 Aggregate Manufacturing and Manufacturing Industries (KLEMS) Multifactor Productivity Tables
- D.20 Statistics Canada, CANSIM Table 383-0022 - Multifactor productivity, gross output, value-added, capital, labour and intermediate inputs at a detailed industry level, by North American Industry Classification System (NAICS), Annually
- D.21-D.22 Statistics Canada, CANSIM Table 376-0052 - International investment position, Canadian direct investment abroad and foreign direct investment in Canada, by North American Industry Classification System (NAICS) and region, annual (dollars)
- D.23 Canadian Grocer Magazine, Jan/Feb 2001, National Market Survey, Canadian Food Store Sales, 2000, p. 22-31, Julia Drake; Condon, G., Canadian Grocer, February 2013 (sales figures for 2012 are estimated based on preliminary Statistics Canada data for supermarkets and Canadian Grocers 2013 Survey of Chains and Groups)
- D.24 Canadian Grocer Magazine, February 2013
- D.25 Statistics Canada, Quarterly Financial Statistics for Enterprises; Food and Beverage Retail Trade - special tabulation; and All Retail Trade - CANSIM Table 187-0002 – quarterly statement of changes in financial position, by North American Industry Classification System (NAICS), selected financial ratios and selected seasonally adjusted components, quarterly (dollars unless otherwise noted)
- D.26 Statistics Canada, CANSIM Table 355-0006, Monthly Survey of Food Services and Drinking Places, by North American Industry Classification System (NAICS), monthly
- D.27 Canadian Restaurant and Foodservices Association (CRFA), Quarterly InfoStats 2003, special tabulation for 2004-2011
- D.28 Statistics Canada, CANSIM Table 180-0003 - Financial and taxation statistics for enterprises, by North American Industry Classification System (NAICS), annual (dollars unless otherwise noted)

# DATA SOURCES AND REFERENCES

---

## Section E: Consumers

- E.1 AAFC calculations based on Statistics Canada data
- E.2 Statistics Canada, CANSIM Table 380-0067 and CANSIM Table 380-0085– Household final consumption expenditure on goods and services, annual and AAFC calculations
- E.3 Statistics Canada, CANSIM Table 380-0085 Household final consumption expenditure on goods and services, annual and AAFC calculations
- E.4 Statistics Canada, Table 203-0022 - Survey of household spending (SHS), household spending, by household income quintile, annual (dollars), United States Bureau of Labour Statistics, Consumer Expenditures in 2011, Annual Consumer Expenditure Survey
- E.5 OECD, OLIS Database for Australia, France, German, and UK. Statistics Canada, CANSIM Table 203-0022 for Canada. United States Bureau of Labour Statistics, Table 45, Consumer Expenditures in 2011 for the US.
- E.6 Statistics Canada, CANSIM Table 326-0020 - Consumer price index (CPI), 2011 basket, Annual (2002=100)
- E.7 Statistics Canada, CANSIM Table 002-0011 - Food available in Canada, Annual
- E.8 AAFC calculations using Statistics Canada and USDA data. Statistics Canada, special tabulation, 2010. USDA source is Economic Research Service, Loss-Adjusted Food Availability (LAFA) data series.
- E.9 FAO, Food Price Index (<http://www.fao.org/worldfoodsituation/foodpricesindex/en/>)
- E.10-E.11 Canadian Food Inspection Agency, Food Safety: Canadians' Awareness, Attitudes and Behaviours (2011-2012) report.

## Section F: Government Expenditures and Support

- F.1-F.6 AAFC, Government Expenditures Database (September 2013 update)
- F.7-F.10 OECD, Trade and Agriculture Directorate, Producer and Consumer Support Estimates, OECD Database, 1986-2013

