

A PORTRAIT OF THE CANADIAN AGRI-FOOD SYSTEM



A Portrait of the Canadian Agri-Food System

Economic and Policy Analysis Directorate
Policy Branch
June 2000

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ISSN #1487-5101 Catalogue #A1-19/2000E
Publication No. 2036/E Project No. 00-034-rp

Aussi disponible en français sous le titre:
Portrait du circuit agroalimentaire canadien

Preface

A Portrait of the Canadian Agri-Food System provides a graphical illustration of the trends in the structure and performance of the Canadian agri-food system. This publication presents the Canadian agri-food system in a broad context within the Canadian economy and in comparison with other industries. It also compares some of Canada's macro economic performance indicators with those of its main economic partners and other countries that are important to the world agri-food system, either as producers or consumers of agri-food commodities.

This June 2000 version of *A Portrait of the Canadian Agri-Food system* updates some of the information contained in the August 1999 version where possible. Further, important modifications to this edition include, among others, expanded information regarding Canadian agri-food trade (Section 2), the performance of the agriculture sector (Section 3), and Environmental & Sustainability Measures (Section 8). Please note that each section of this publication contains a glossary for selected terms.

Care must be taken when using these statistics and charts, as in some cases there can be significant volatility when dealing with continually revised forecasts and data estimates. Future revisions will be posted in an internet version of *A Portrait of the Canadian Agri-Food System* which may be found at <http://www.agr.ca/policy/epad>.

You are encouraged to provide feedback regarding the contents of the Portrait. For further information about *A Portrait of the Canadian Agri-Food System*, please contact Denyse Landry at (613) 759-1762 or by e-mail at landryd@em.agr.ca.

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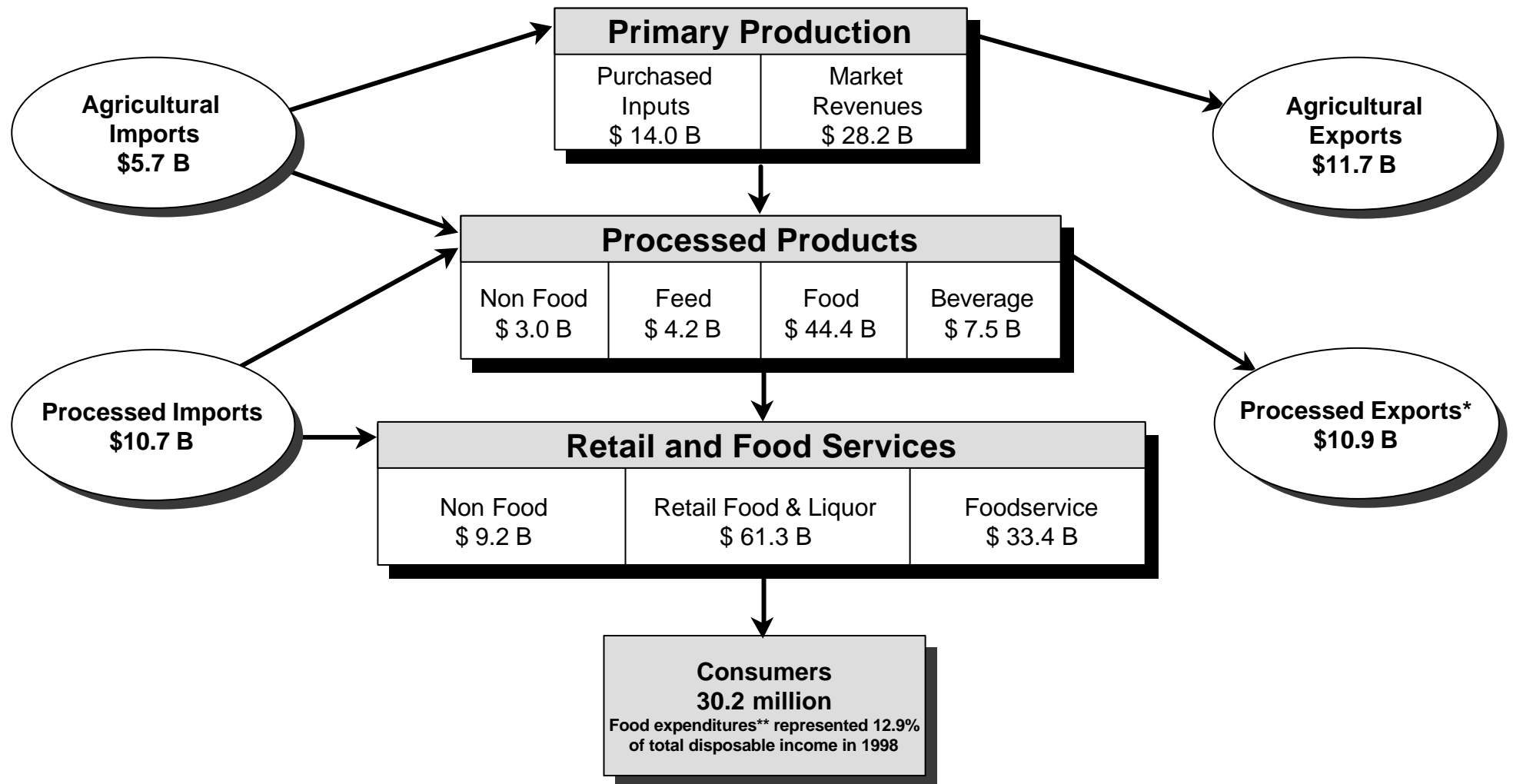
Fertilizer Expenses, Material and Nutrients 8-2

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Agri-Food System: Structure, Significance and Growth

Canada

Agri-Food System Value of Production and Sales, 1998



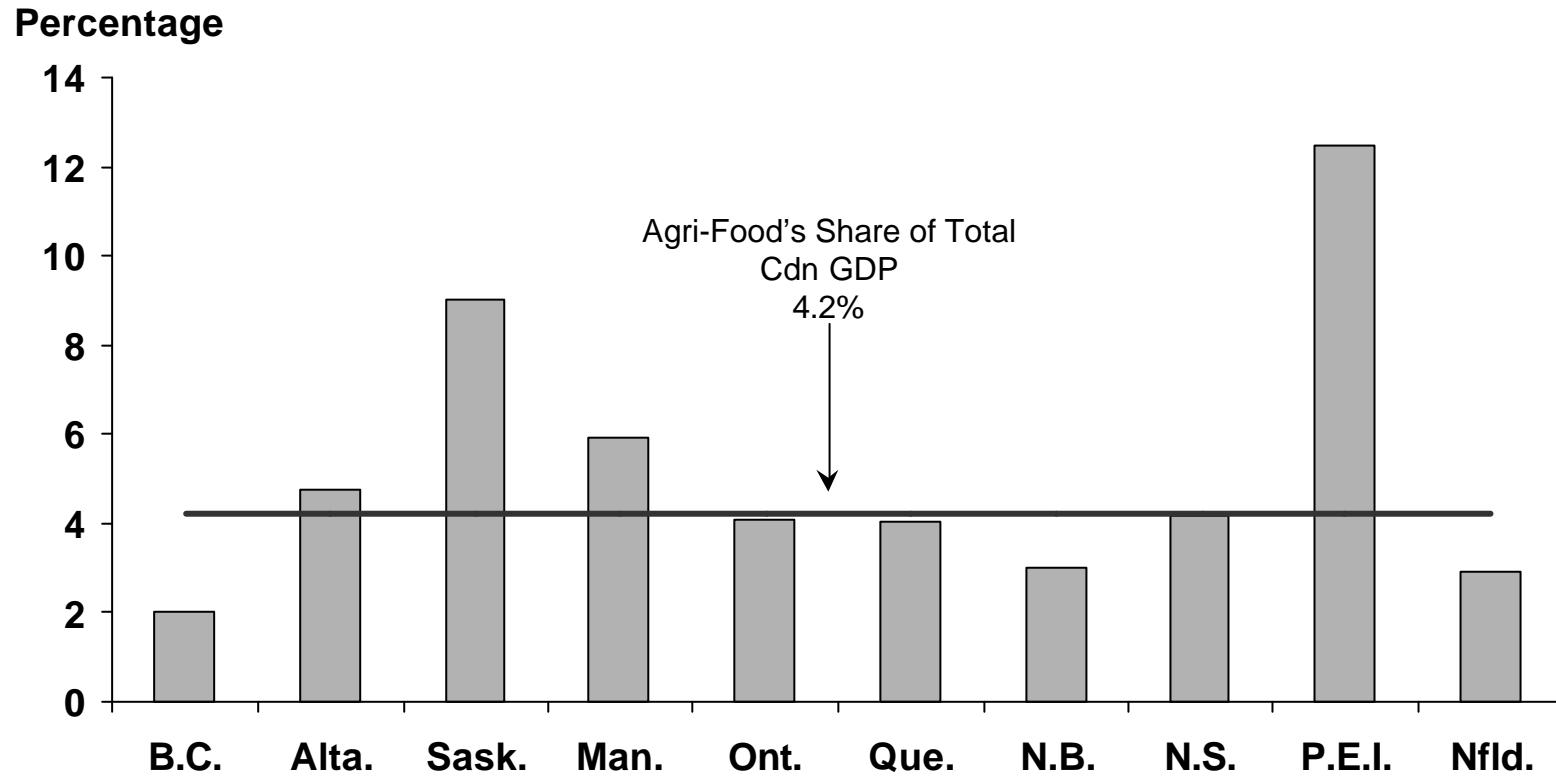
* Processed Exports includes a small component of Other Non-Food Exports consisting mainly of ethanol and linseed oil.

** Food expenditures includes expenditures on alcoholic beverages and tobacco.

Sources: CANSIM, Statistics Canada - Canadian Economic Observer (January 2000); Canadian Restaurant and Foodservices Association; AAFC - Farm Income, Financial Conditions and Government Assistance Data Book, Trade Data Retrieval System.

Graph 1-2

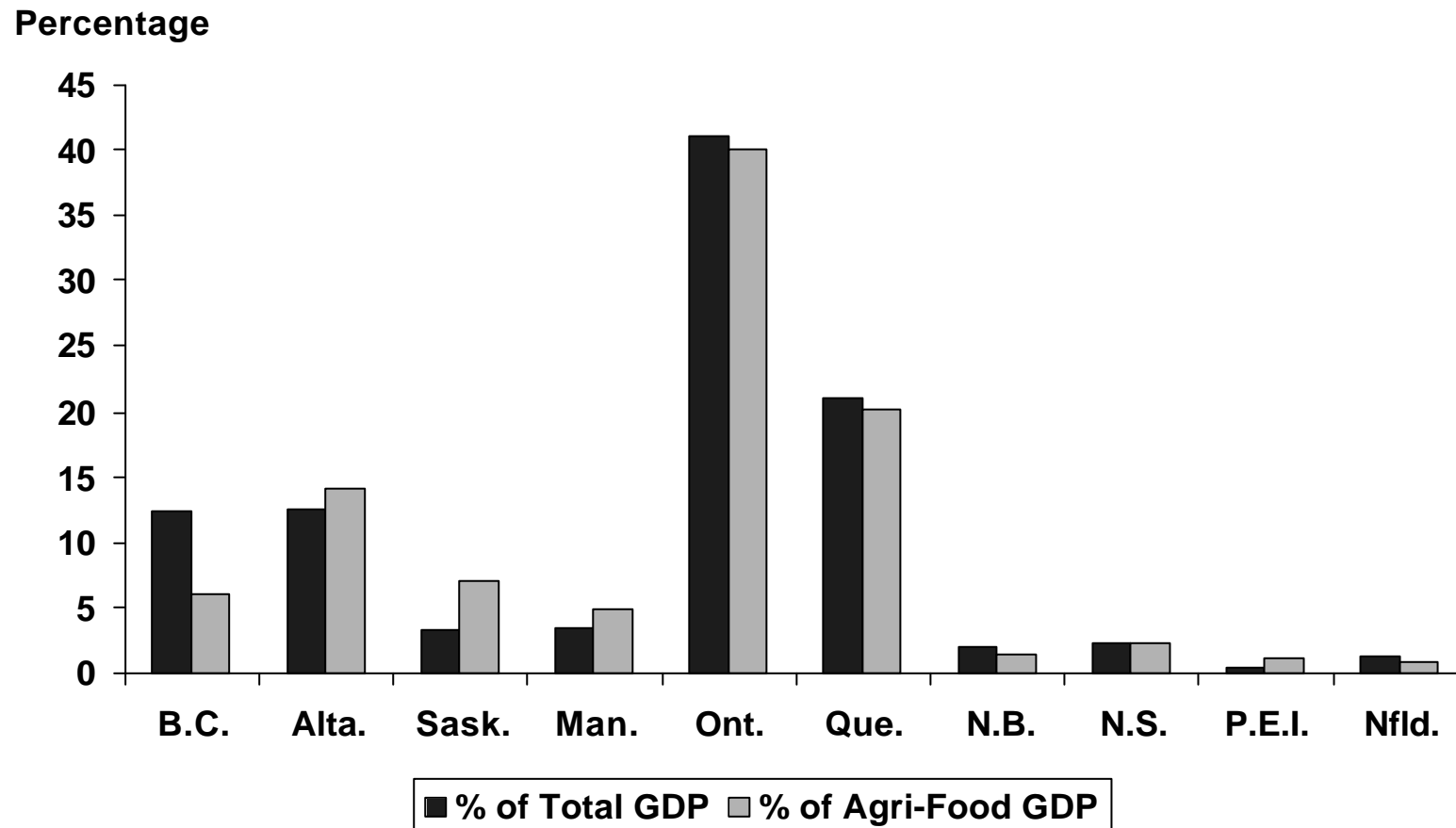
Agri-Food Sector* GDP Share of Total GDP by Province, 1998



*See glossary for definition of Agri-Food Sector.

Source: Conference Board of Canada.

Provincial Shares of Canadian Total GDP and Agri-Food GDP, 1998

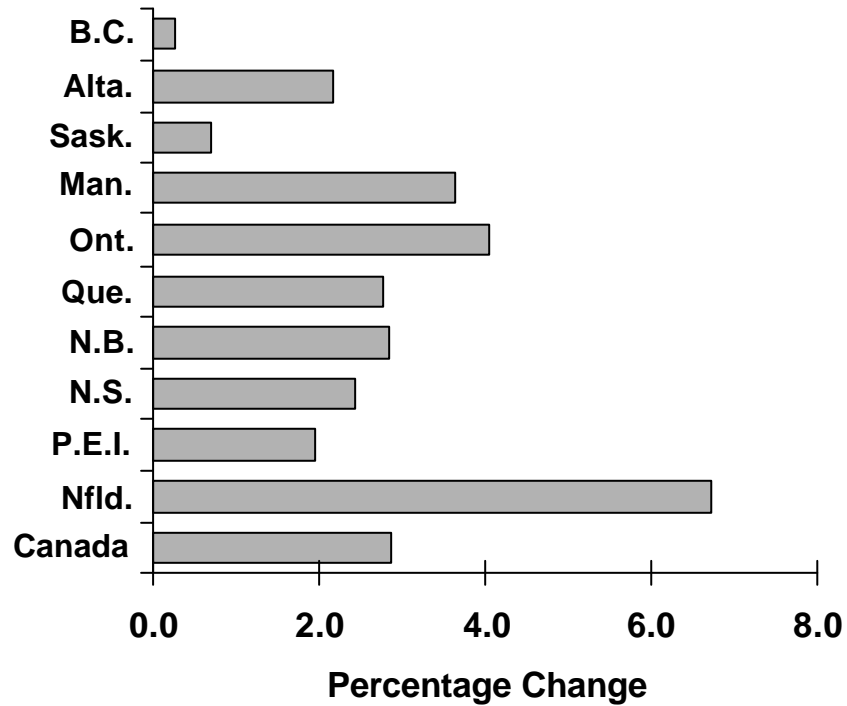


*See glossary for definition of Agri-Food Sector.

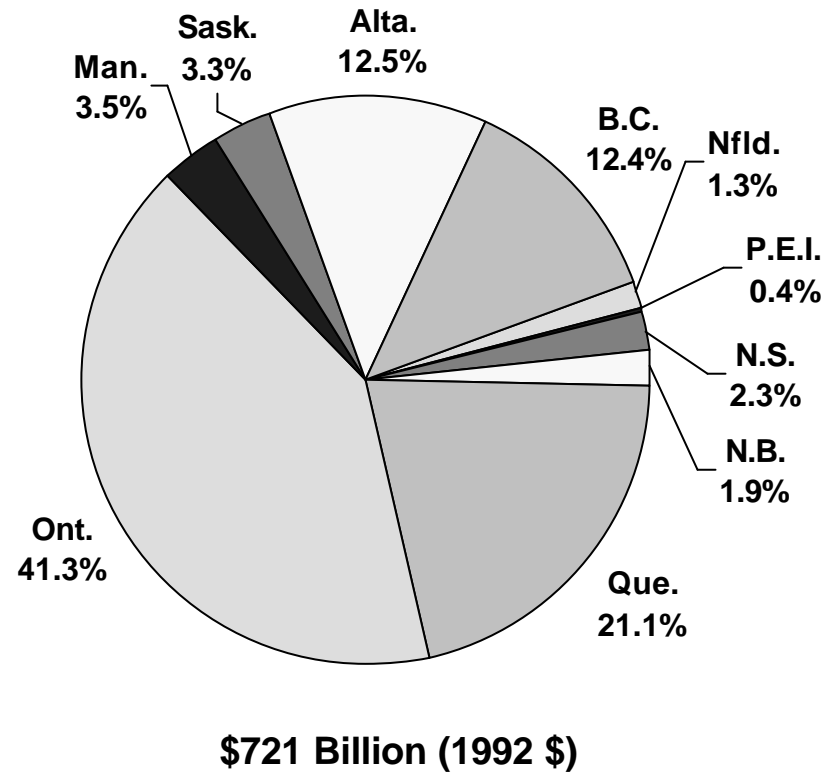
Source: Conference Board of Canada.

Canada GDP - Total Economy

**Total Economy GDP
Growth from 1997 to 1998**



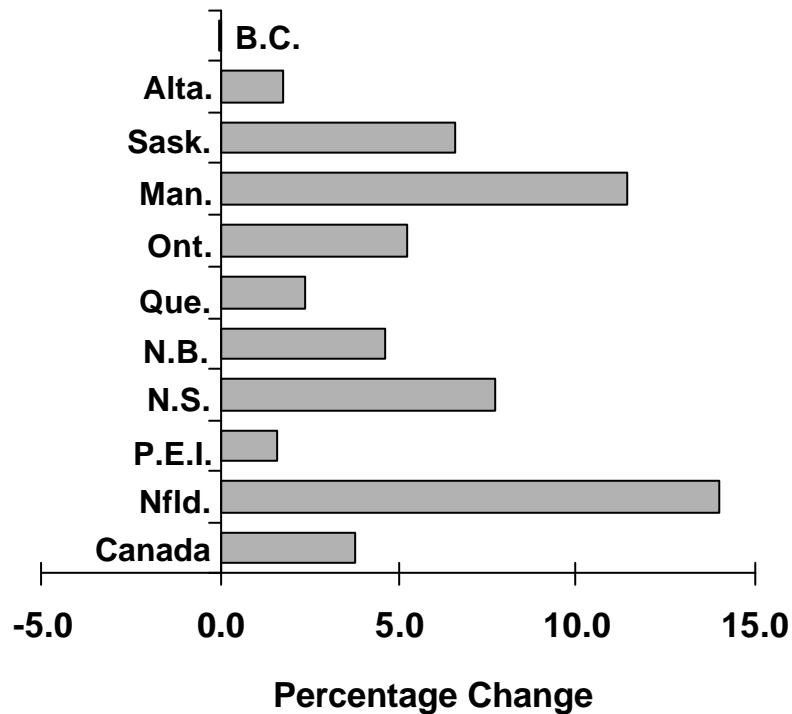
**Provincial Shares of
Total Economy GDP, 1998**



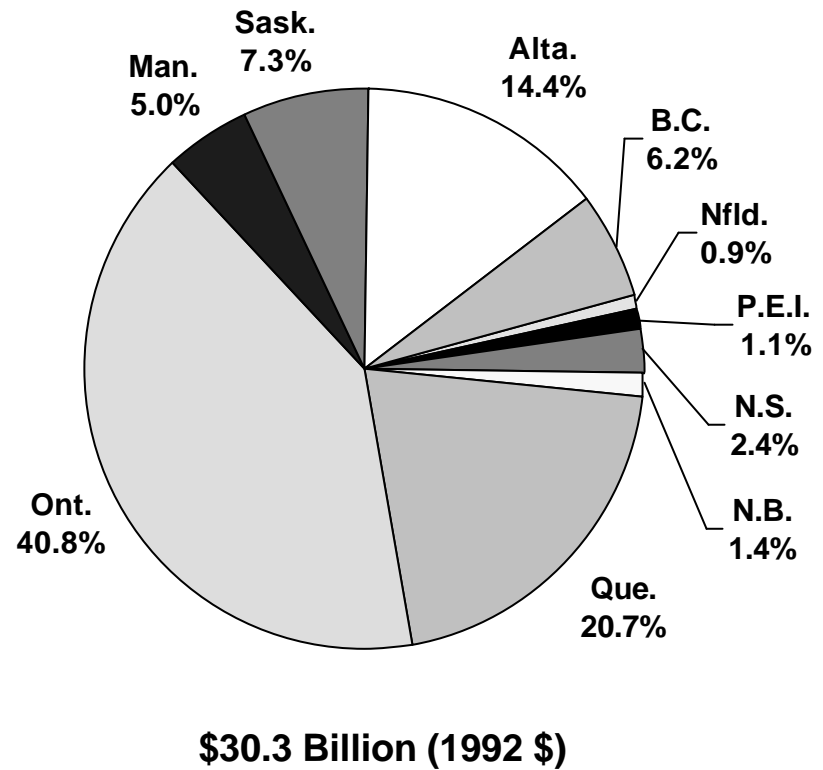
Canada

Agri-Food Sector* GDP, 1998

**Agri-Food Sector GDP
Growth from 1997 to 1998**



**Provincial Shares of
Total Agri-Food Sector GDP, 1998**

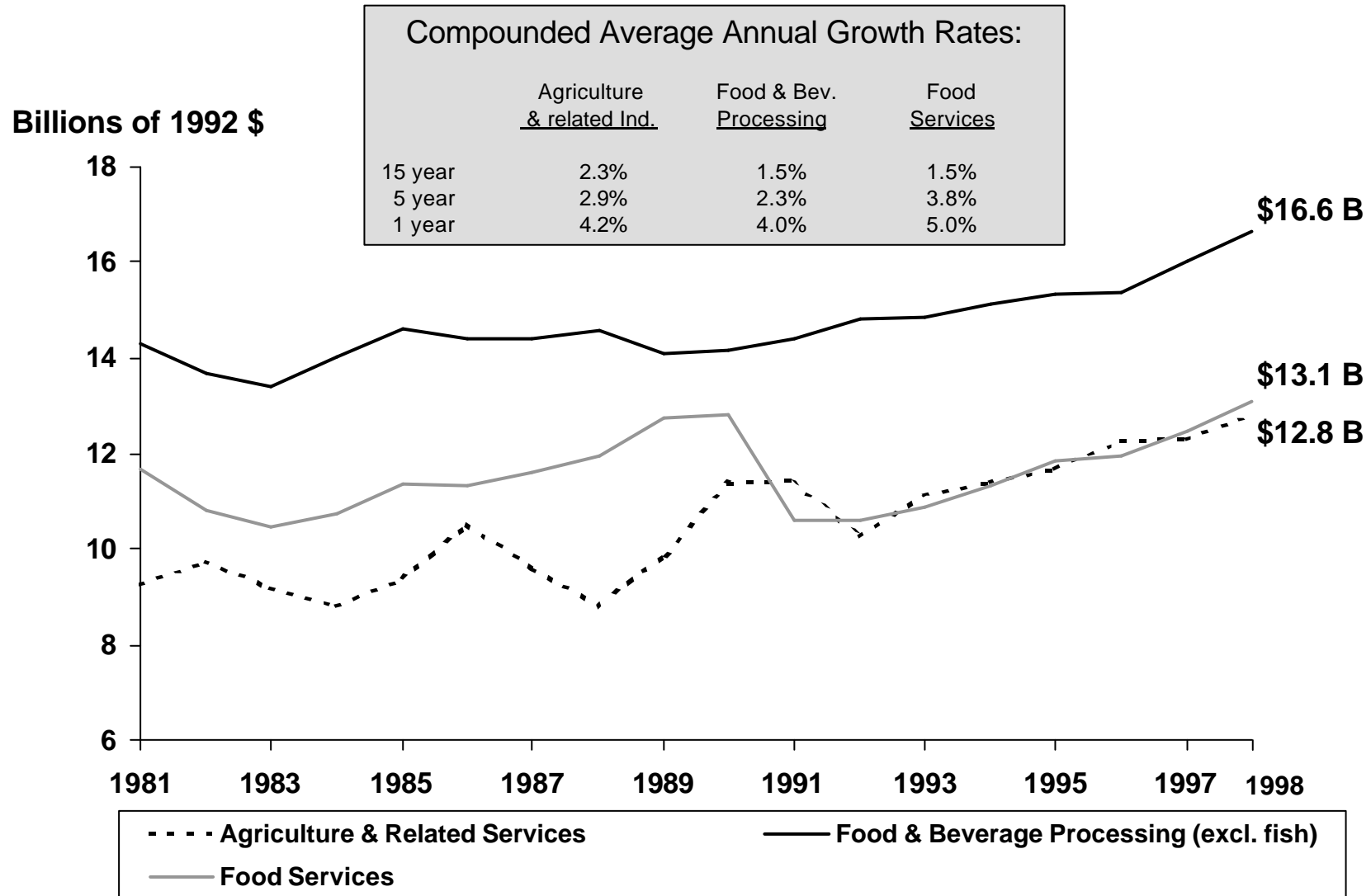


*See glossary for definition of Agri-Food Sector.

Source: Conference Board of Canada.

Canada

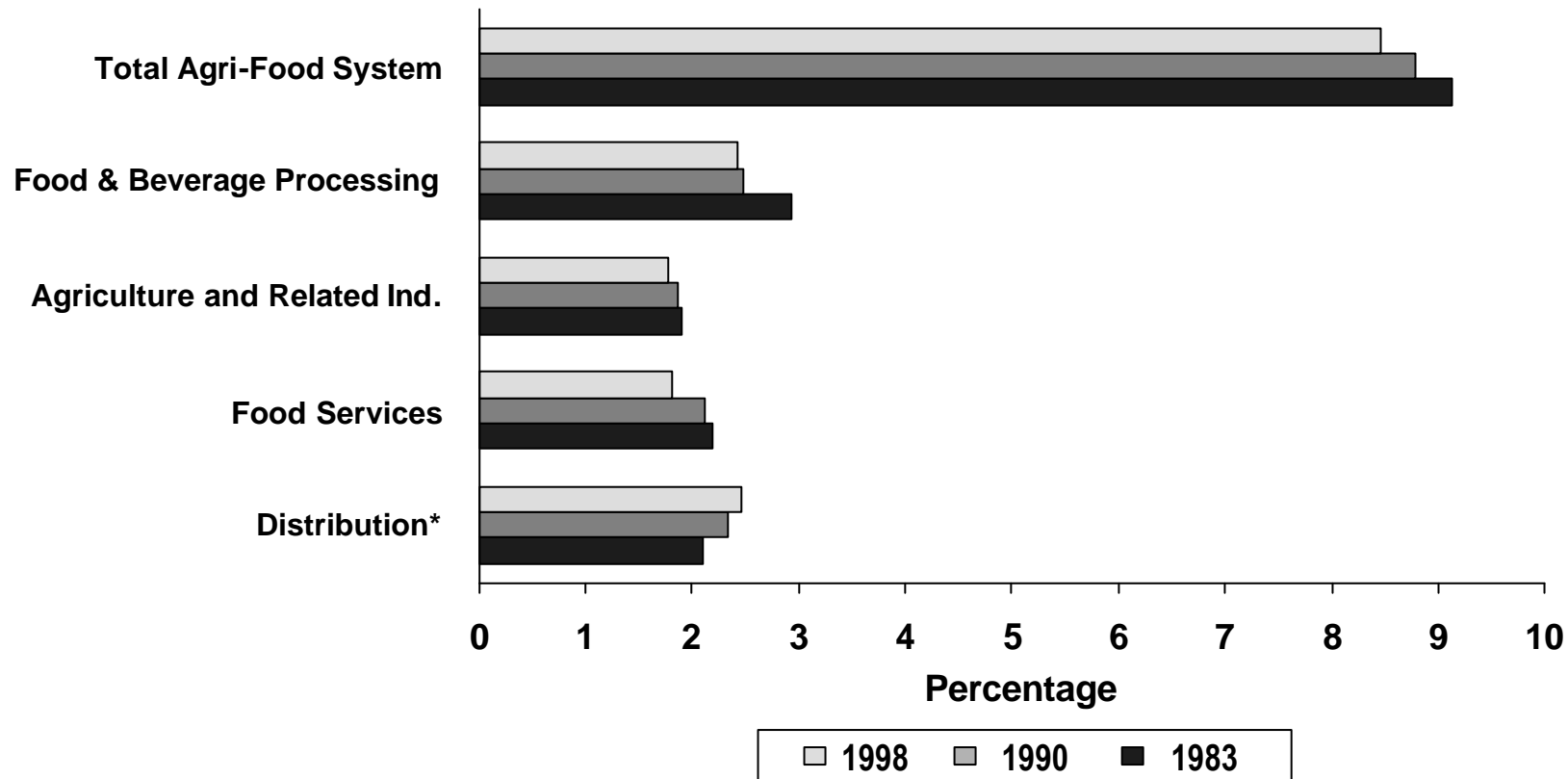
Real GDP Growth of Agri-Food, 1981-1998



Source: Statistics Canada CANSIM Matrix 4677, (updated February 2000).

Canada

Agri-Food System GDP Share Relative to Total Economy

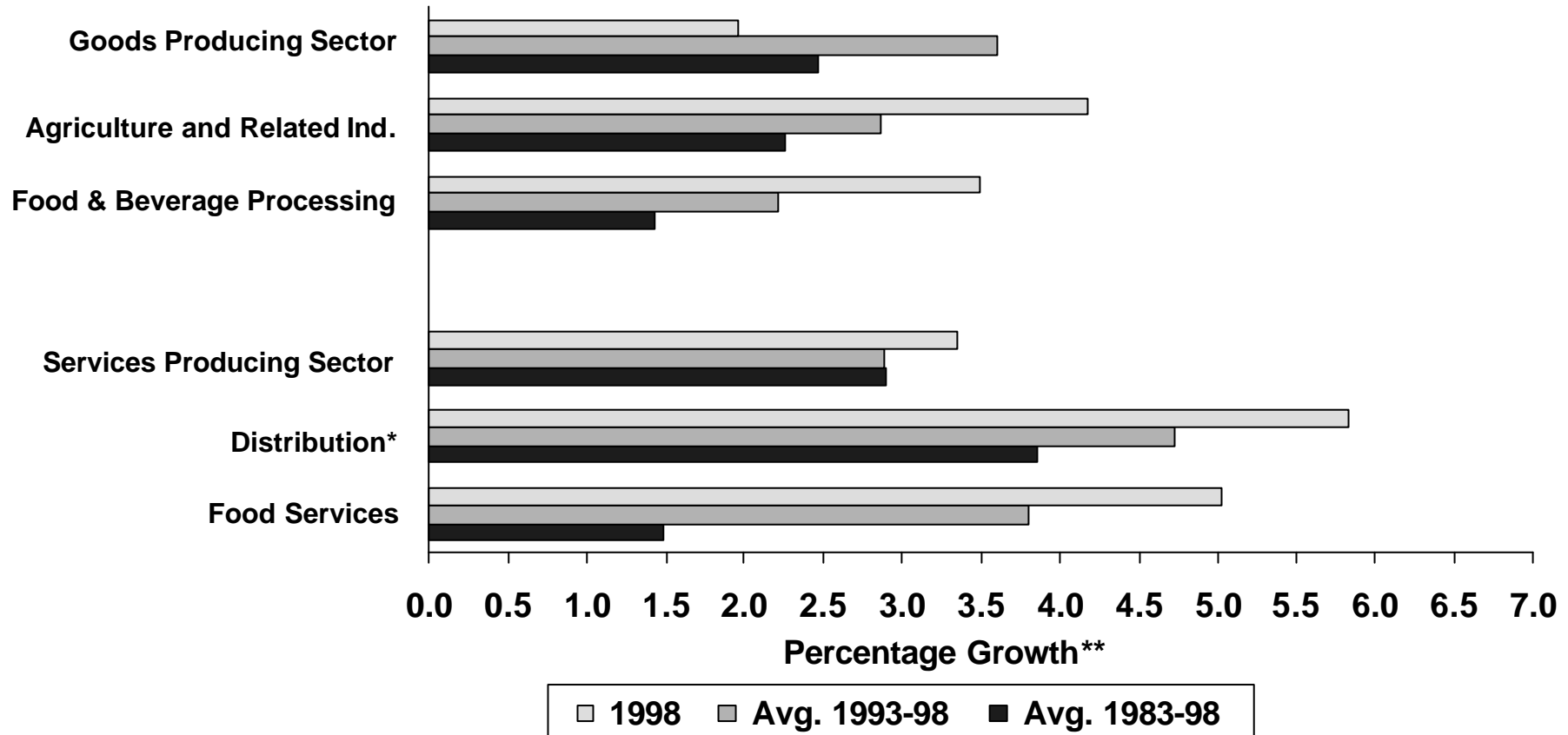


*Estimates based on employment numbers. Distribution includes wholesale and retail.

Source: Statistics Canada, CANSIM Matrix 4677.

Graph 1-8

Real Growth in Agri-Food System GDP Relative to Total Economy GDP



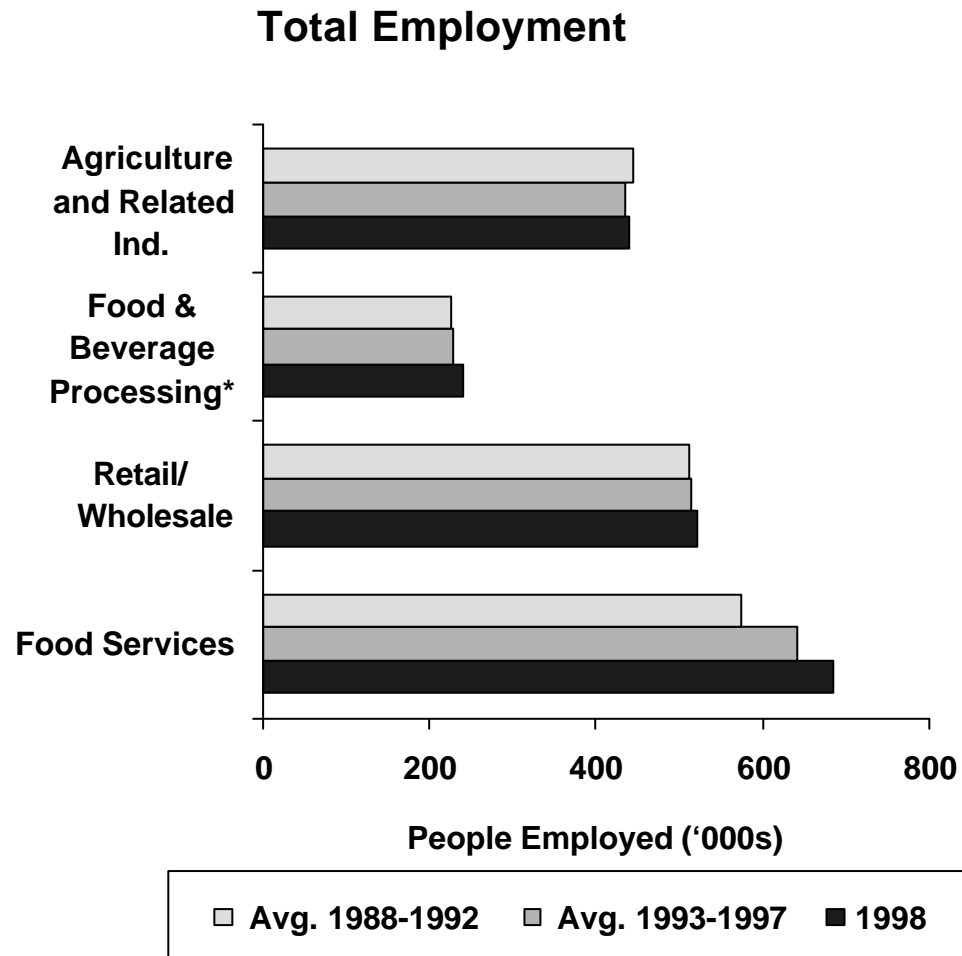
*Estimates based on employment numbers. Distribution includes wholesale and retail.

**Compounded average annual GDP growth rate.

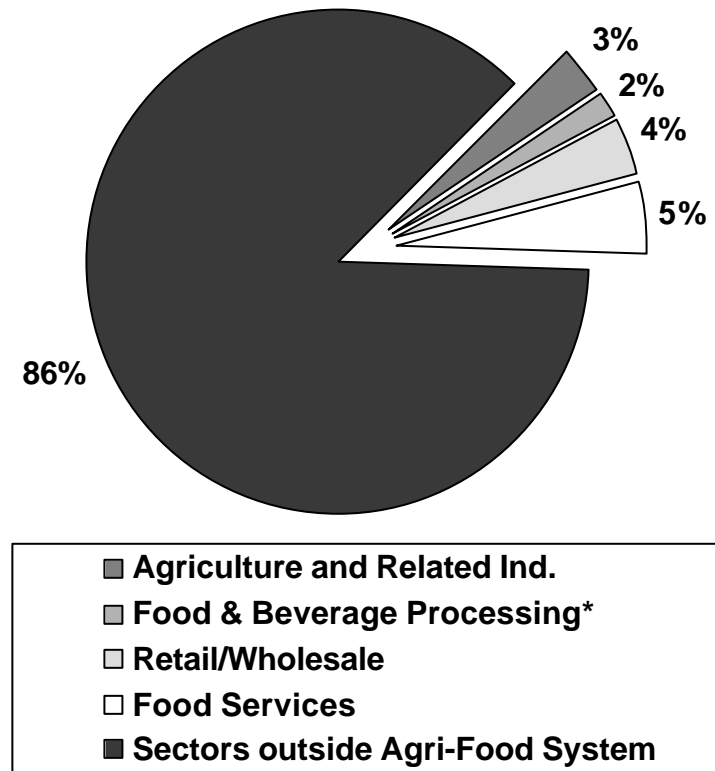
Source: Statistics Canada, CANSIM Matrix 4677.

Canada

Agri-Food System Employment



Agri-Food System Employment as Share of Total Employment, 1998



*Excludes fish processing.

Source: Statistics Canada, Labour Force Survey.

Glossary of Terms

Agri-Food System

Includes the primary agriculture sector and related service industries (e.g. veterinary and crop dusting services), the food & beverage, tobacco & non-food processing sector, the distribution sector (wholesale & retail) and the food services sector.

Agri-Food Sector

Includes agriculture and related service industries and food and beverage processing industries.

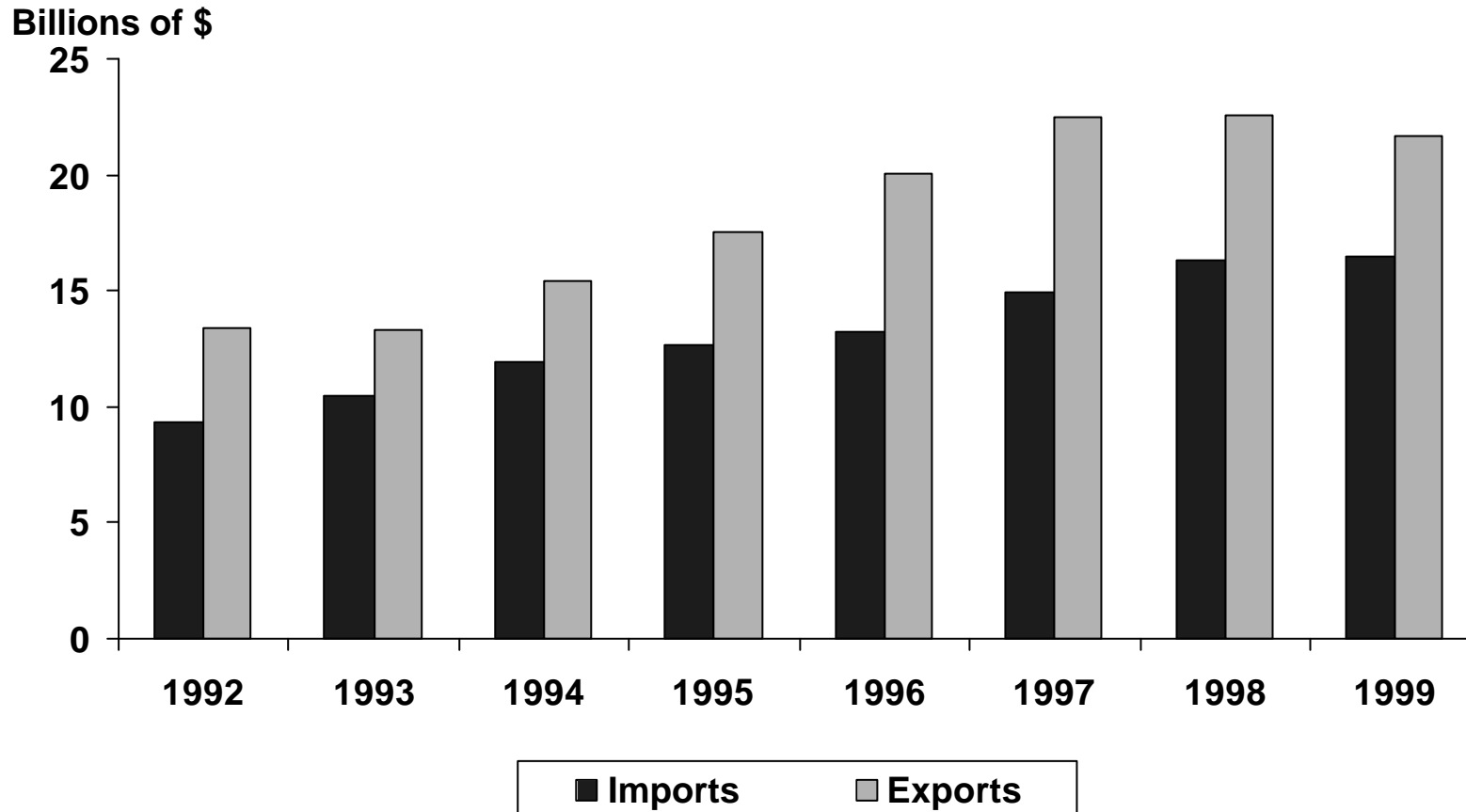
GDP (Gross Domestic Product)

Total value of final goods and services produced within a nation's border during a year.

Canadian Agri-Food Trade

Graph 2-1

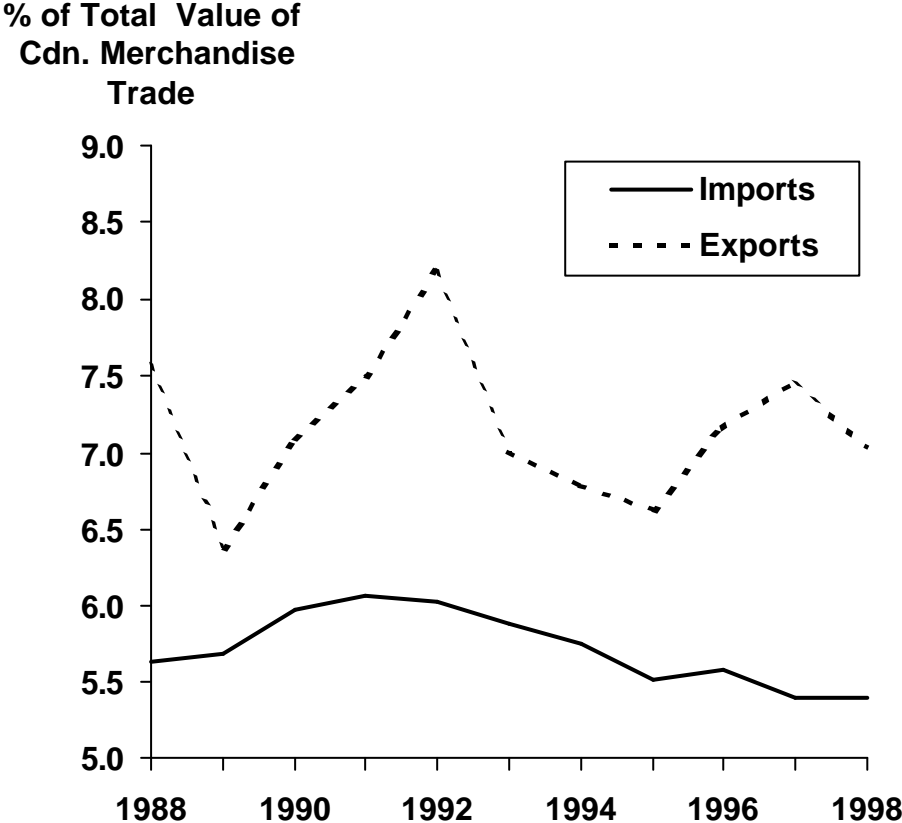
Canadian Agri-Food Trade (Imports and Exports)



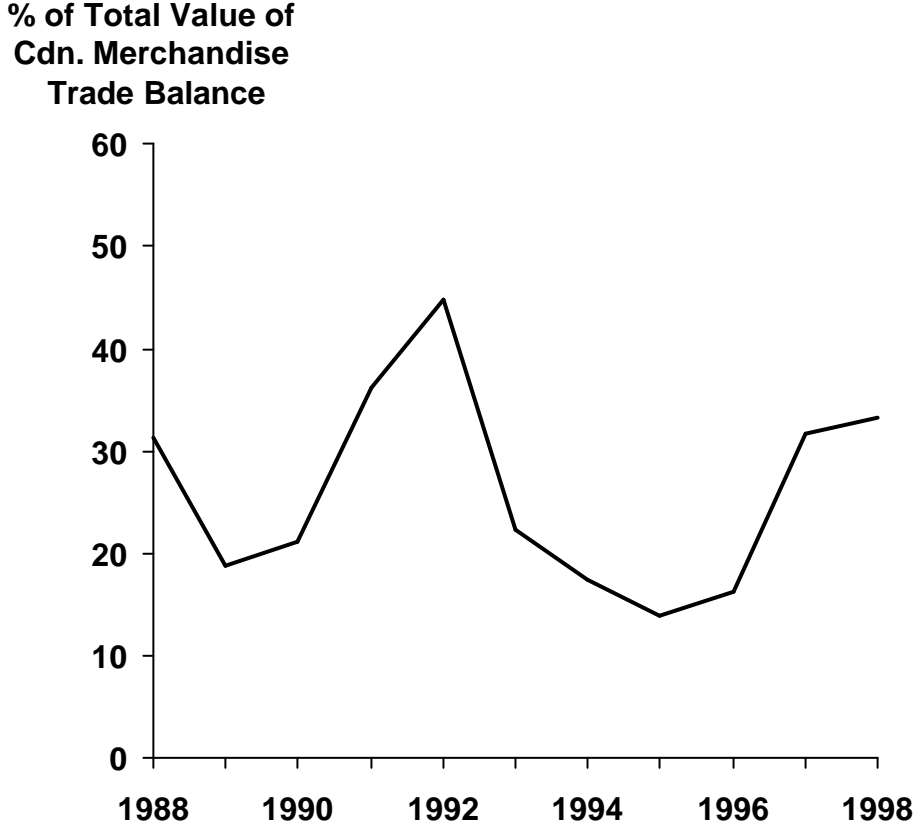
Source: AAFC Trade Data Retrieval System.

Canadian Agri-Food Share of Total Trade

Imports and Exports



Trade Balance

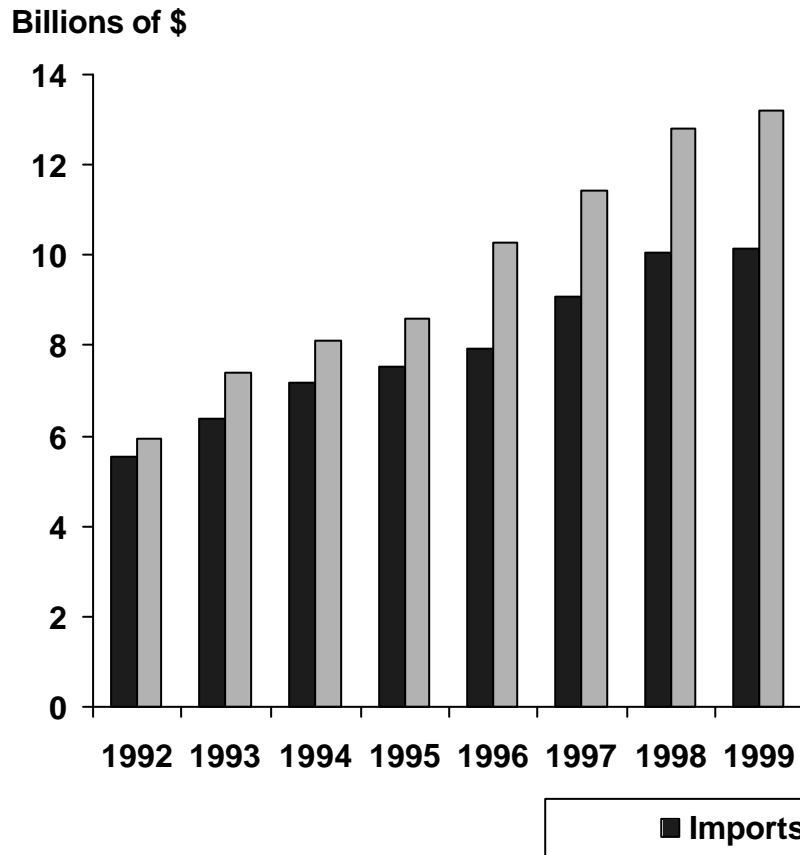


Source: Statistics Canada, CANSIM Matrices 3651, 3685 and AAFC's Trade Data Retrieval System. Calculations by AAFC.

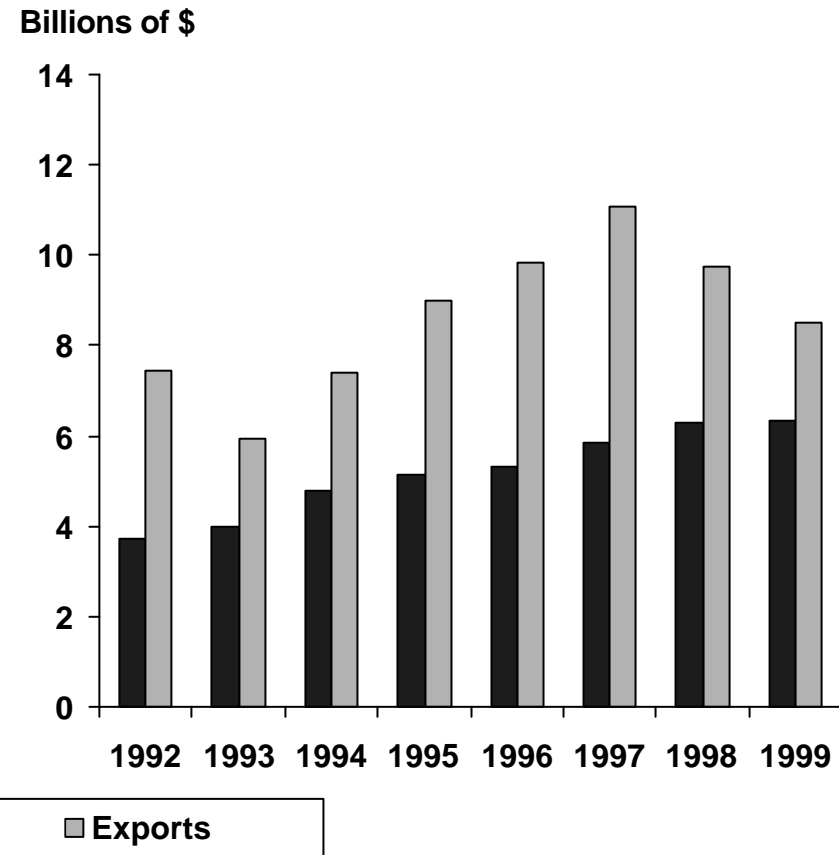
Graph 2-3

Canada's Agri-Food Trade with the US and the Rest of the World

Trade with the US

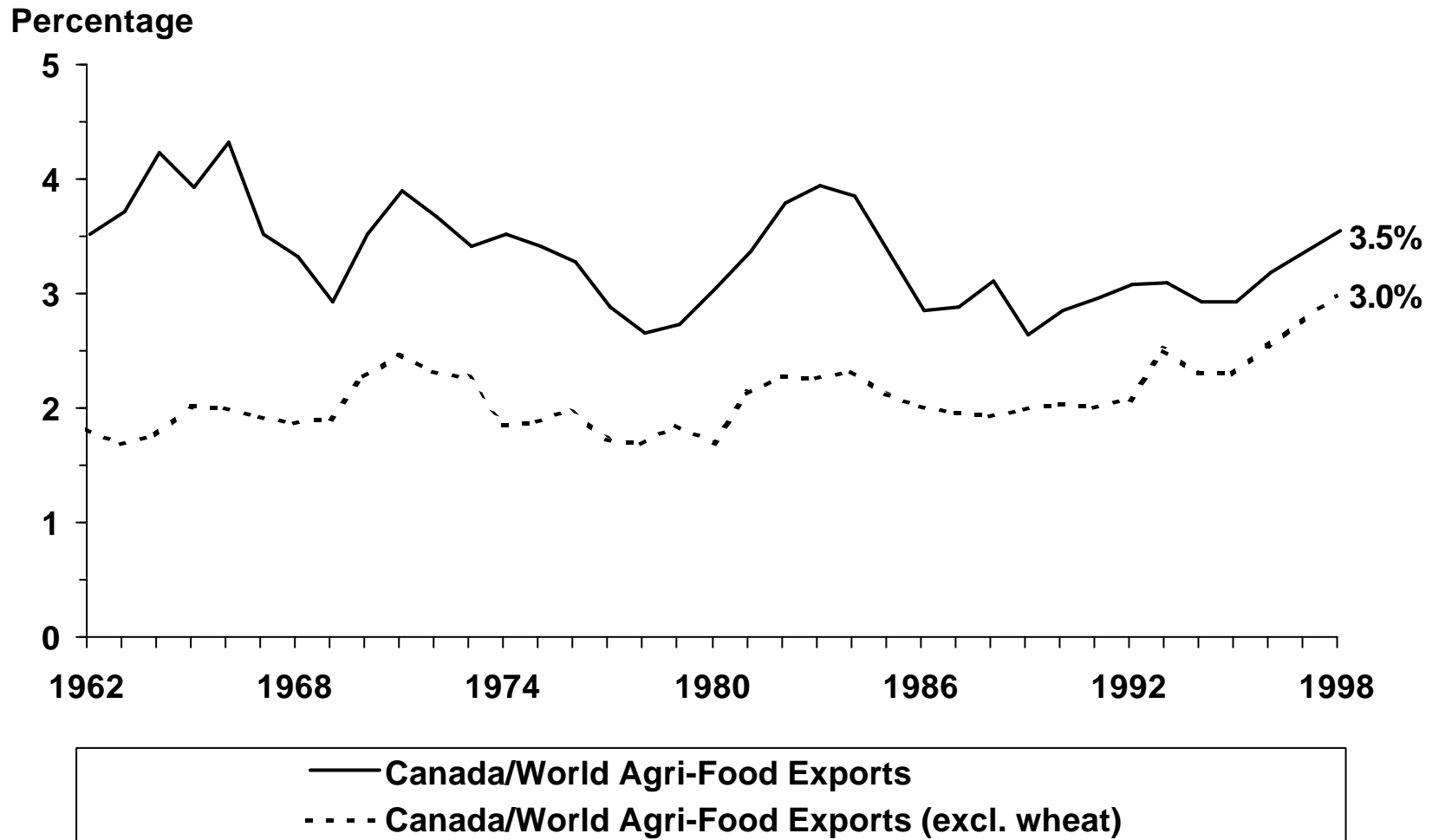


Trade with the Rest of the World



Source: AAFC Trade Data Retrieval System.

Canada's Agri-Food Exports as a Share of World Agri-Food Exports

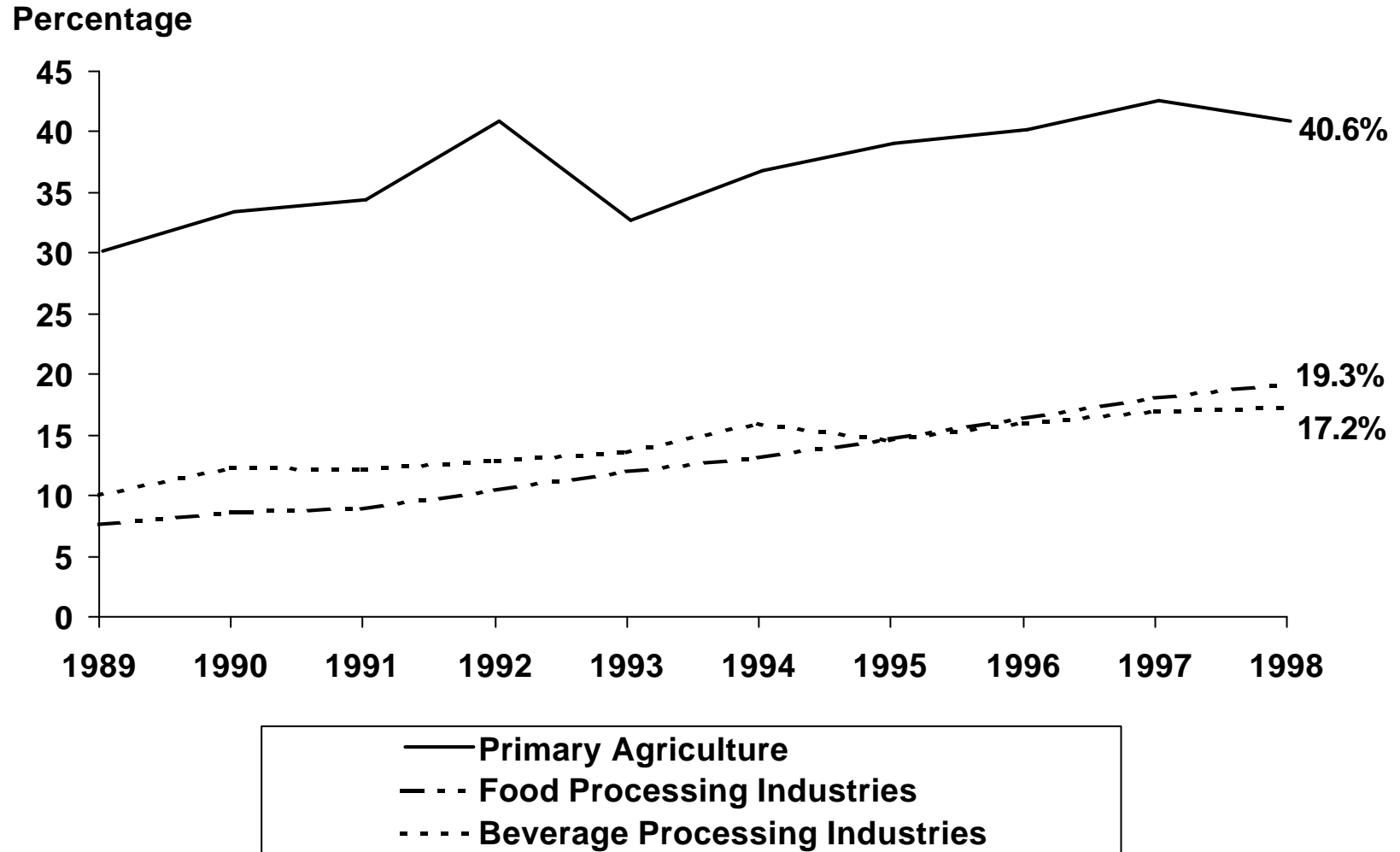


Source: FAO Database.

Graph 2-4

Graph 2-5

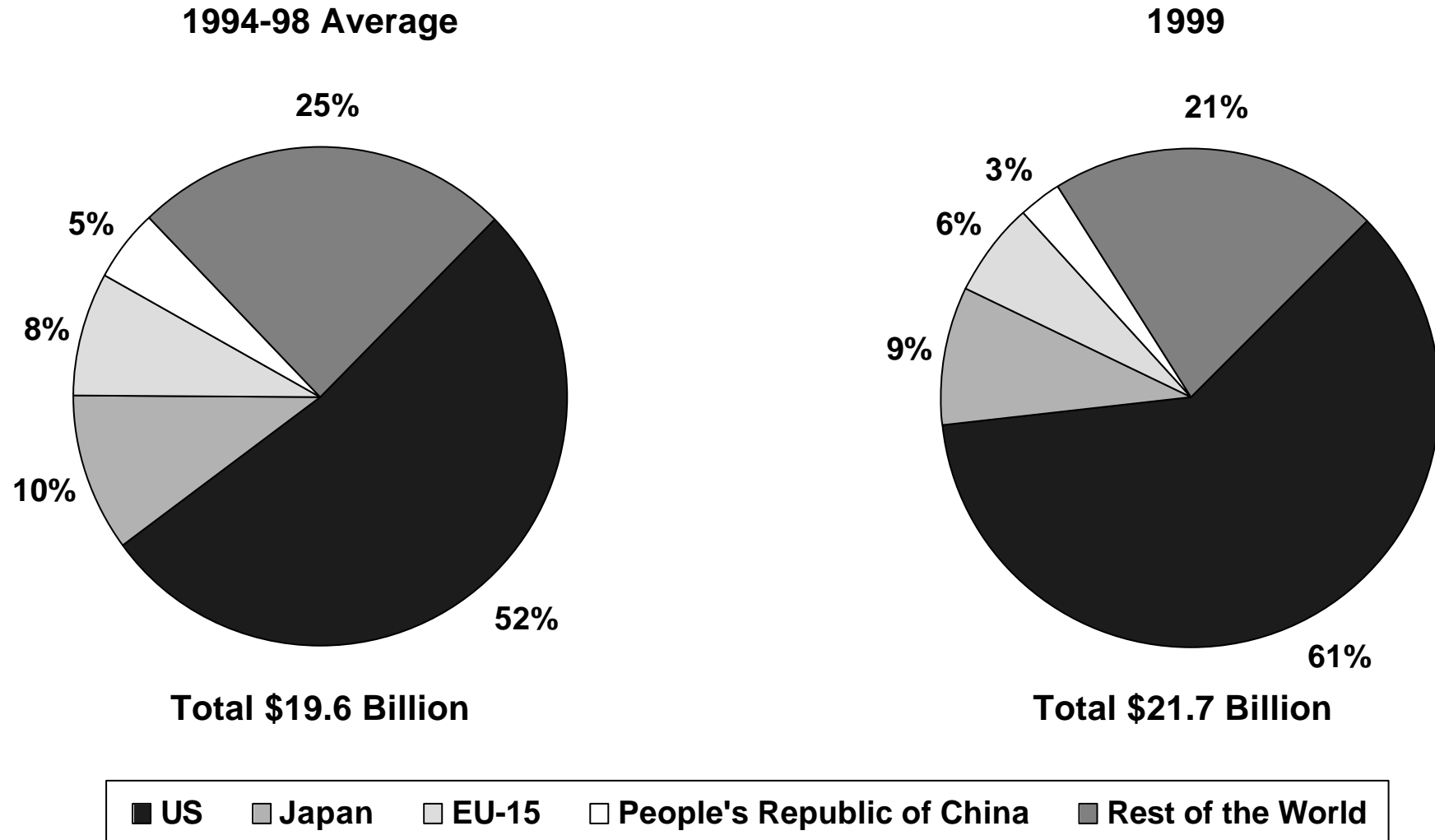
Export Intensity*



*See glossary for definition.

Sources: Industry Canada, Strategis Trade Data; Statistics Canada, CANSIM Matrix 9550; AAFC-Farm Income Database, February 2000.
Calculations by AAFC.

Canadian Agri-Food Exports to Selected Destinations



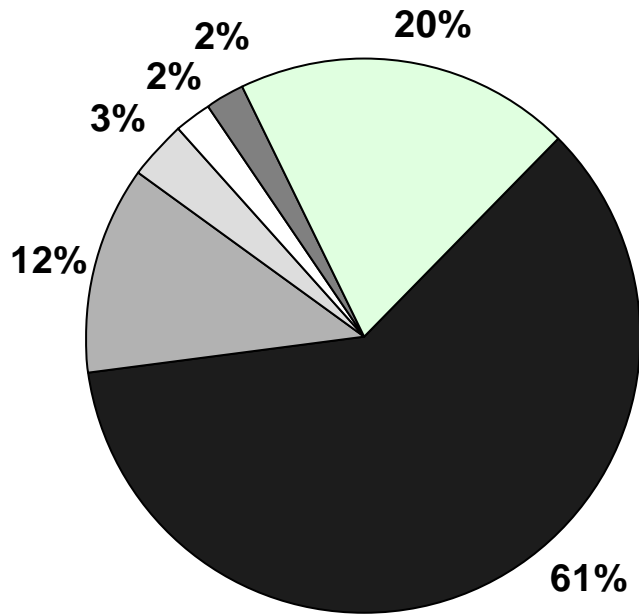
Source: AAFC Trade Data Retrieval System.

Graph 2-6

Graph 2-7

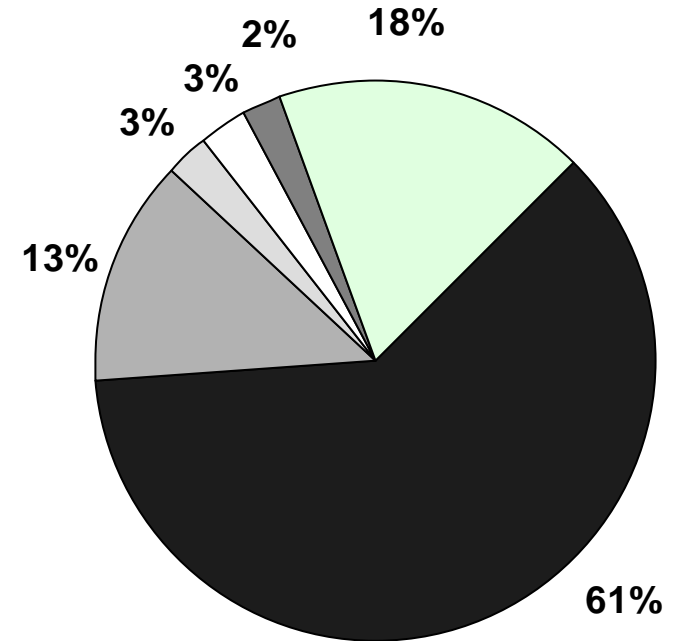
Canadian Agri-Food Imports by Country of Origin

1994-98 Average



Total \$13.8 Billion

1999



Total \$16.5 Billion

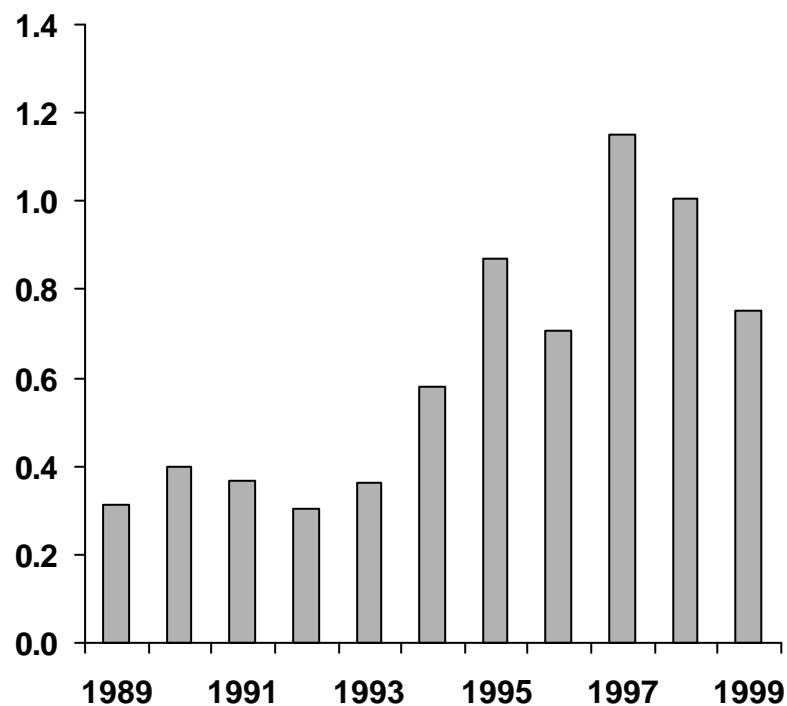


Source: AAFC Trade Data Retrieval System.

Canada's Agri-Food Trade with Africa

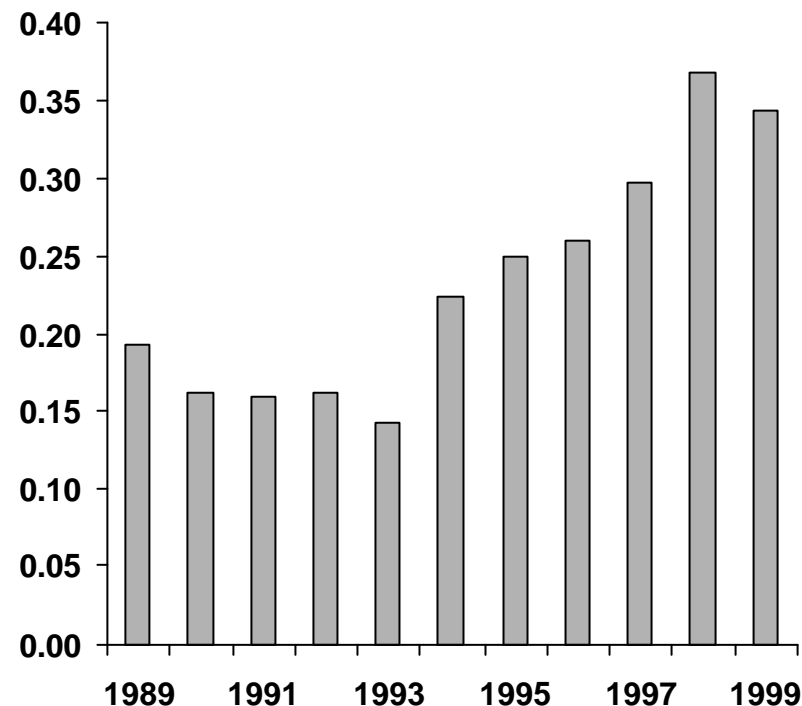
Exports

Billions of CAN \$



Imports

Billions of CAN \$



Source: Statistics Canada Merchandise Trade Database.

Graph 2-9

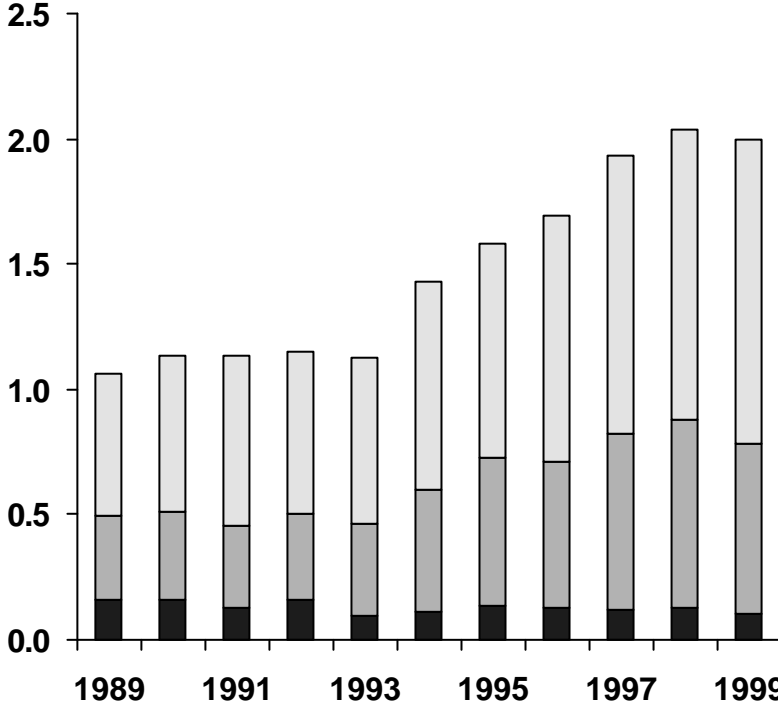
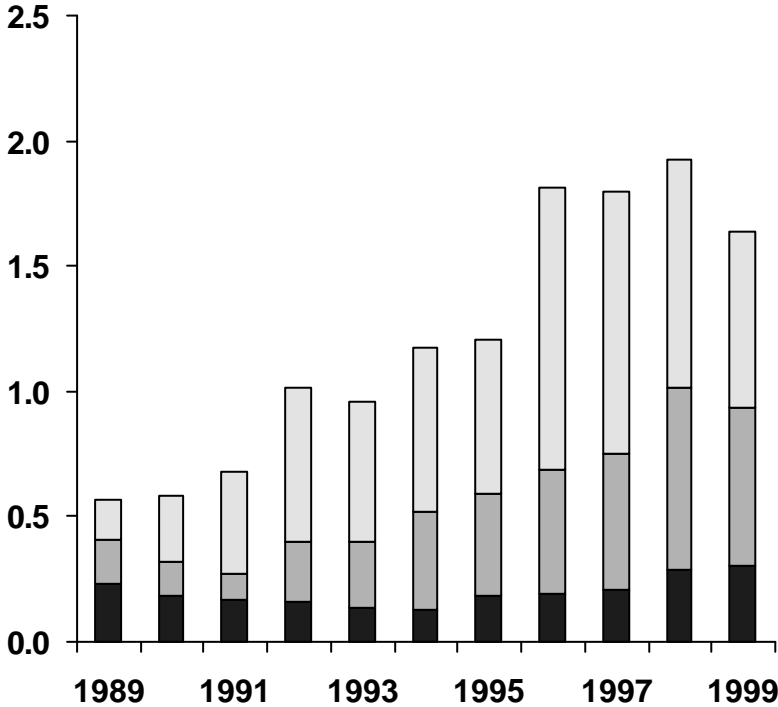
Canada's Agri-Food Trade with Major Destinations of the Americas (other than the US)

Exports

Imports

Billions of CAN \$

Billions of CAN \$



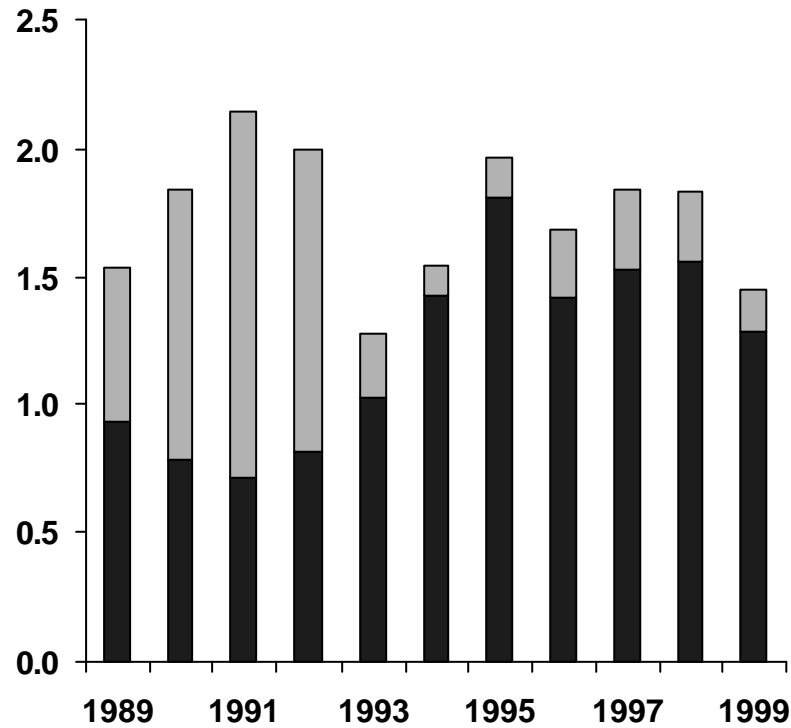
■ The Caribbean ■ Central America (incl. Mexico) □ South America

Source: Statistics Canada Merchandise Trade Database.

Canada's Agri-Food Trade with Europe

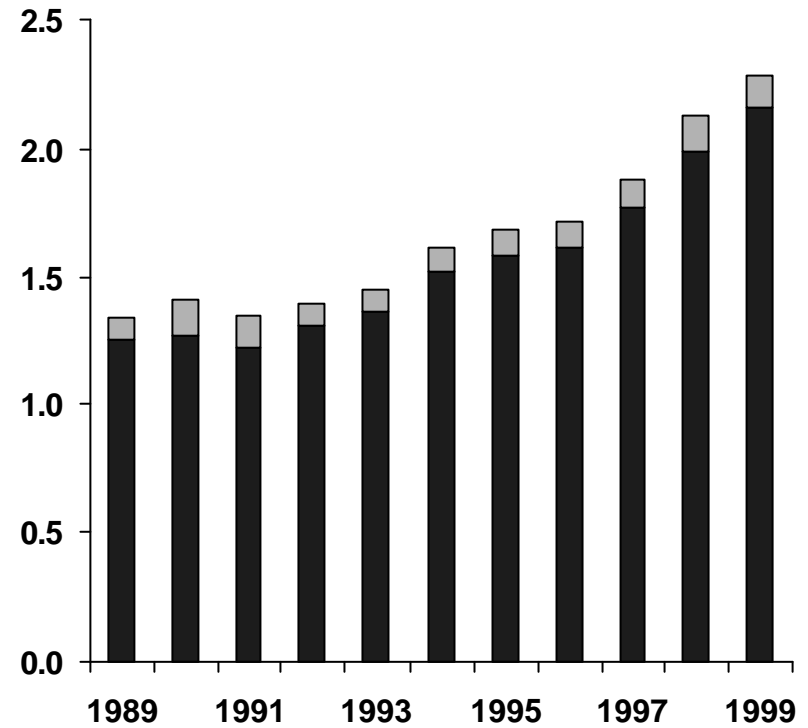
Exports

Billions of CAN \$



Imports

Billions of CAN \$

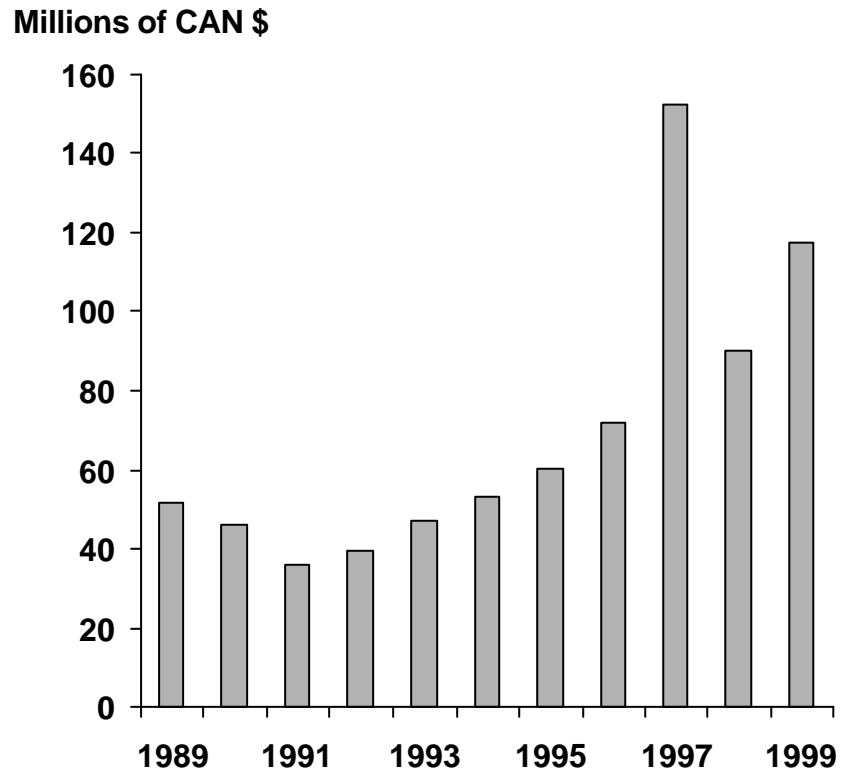


■ EU-15 ■ Rest of Europe

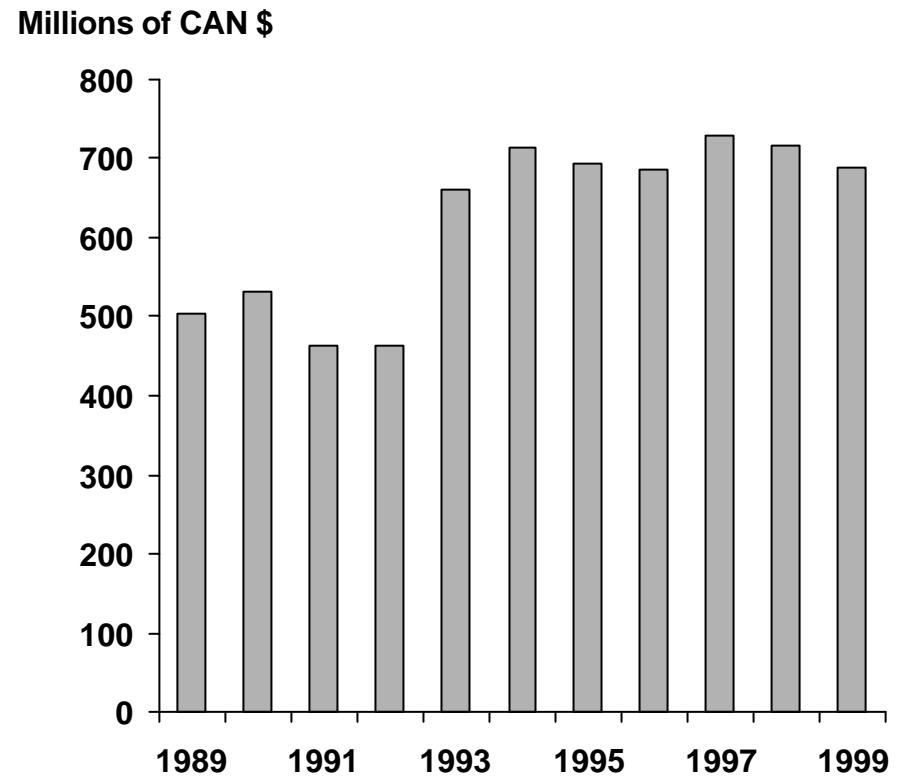
Source: Statistics Canada Merchandise Trade Database.

Canada's Agri-Food Trade with Oceania

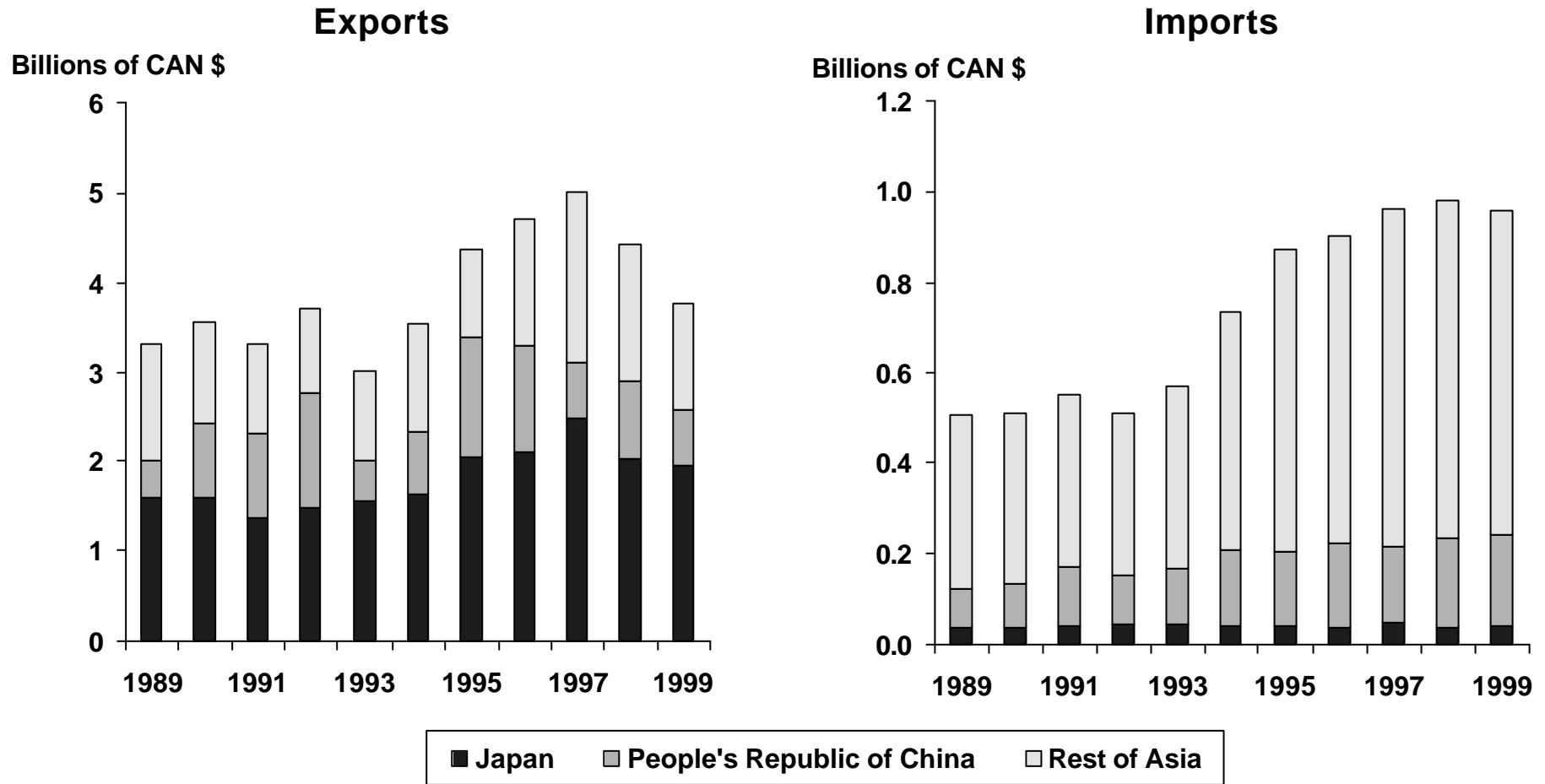
Exports



Imports



Canada's Agri-Food Trade with Asia

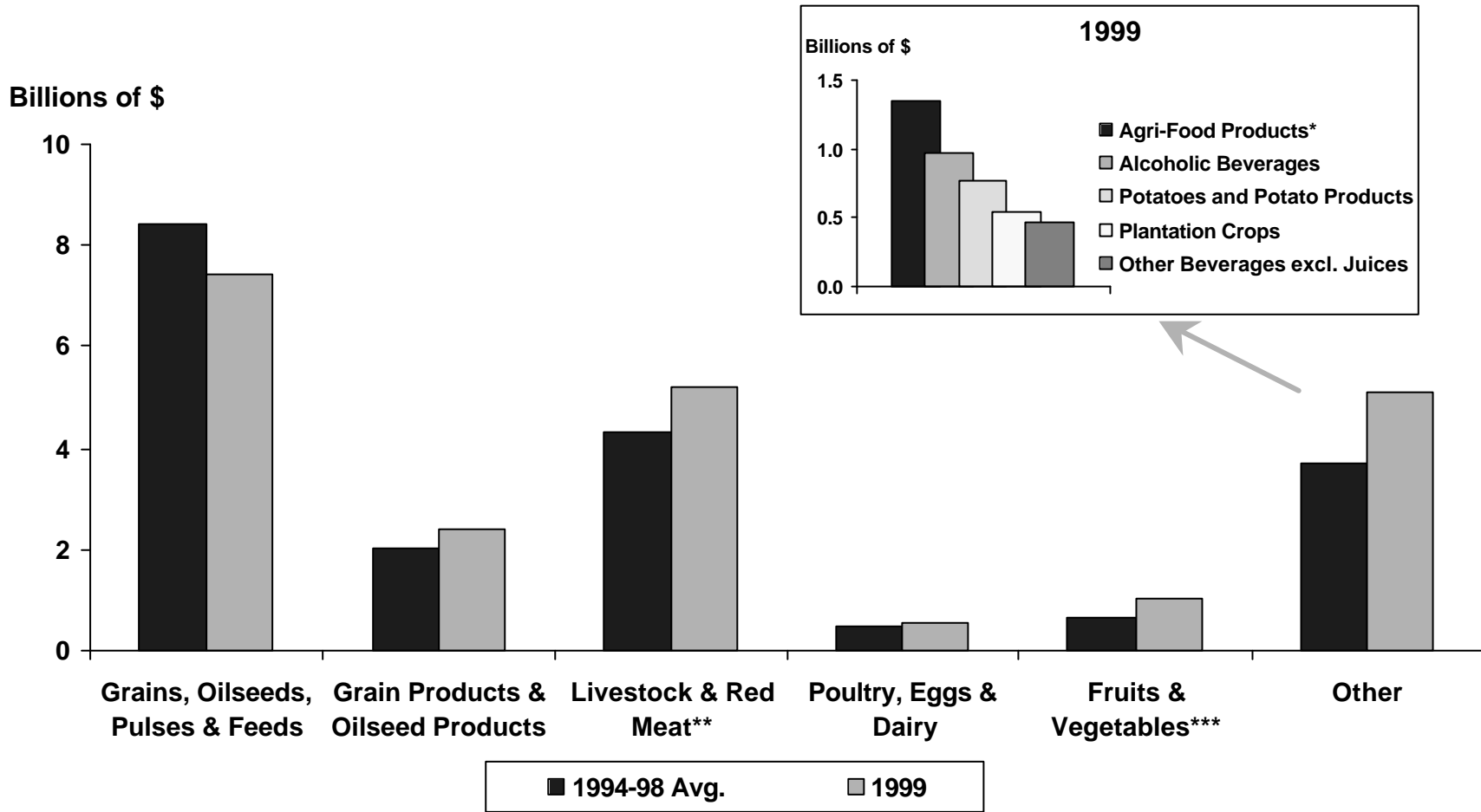


Source: Statistics Canada Merchandise Trade Database.

Graph 2-12

Graph 2-13

Canada's Agri-Food Exports of Selected Commodity Groups

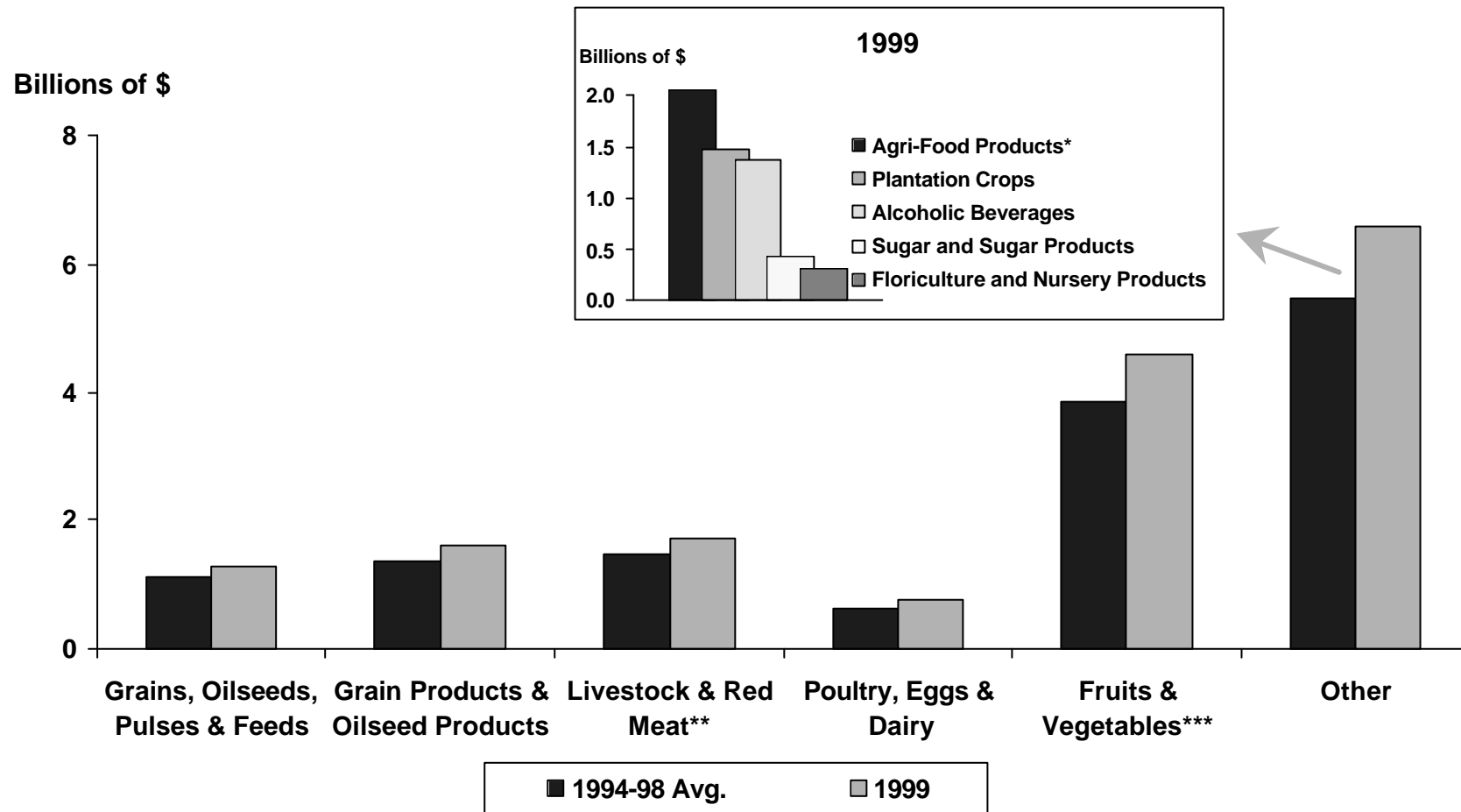


* Agri-Food Products includes honey, spices, chocolates/sugar confectionery (incl. Nut pastes), food/material for food preps incl. Condiments, and other products not elsewhere specified.

** Livestock & Red Meat includes other animal products such as undressed furs, raw wool, hides and skins, animal oils and fats, and other products of animal origin.

*** Fruits & Vegetables includes nuts, but excludes potatoes and potato products. "Other" is defined in the glossary.

Canada's Agri-Food Imports of Selected Commodity Groups



* Agri-Food Products includes honey, spices, chocolates/sugar confectionery (incl. Nut pastes), food/material for food preps incl. Condiments, and other products not elsewhere specified.

** Livestock & Red Meat includes other animal products such as undressed furs, raw wool, hides and skins, animal oils and fats, and other products of animal origin.

*** Fruits & Vegetables includes nuts, but excludes potatoes and potato products. "Other" is defined in the glossary.

Source: AAFC Trade Data Retrieval System.

Graph 2-14

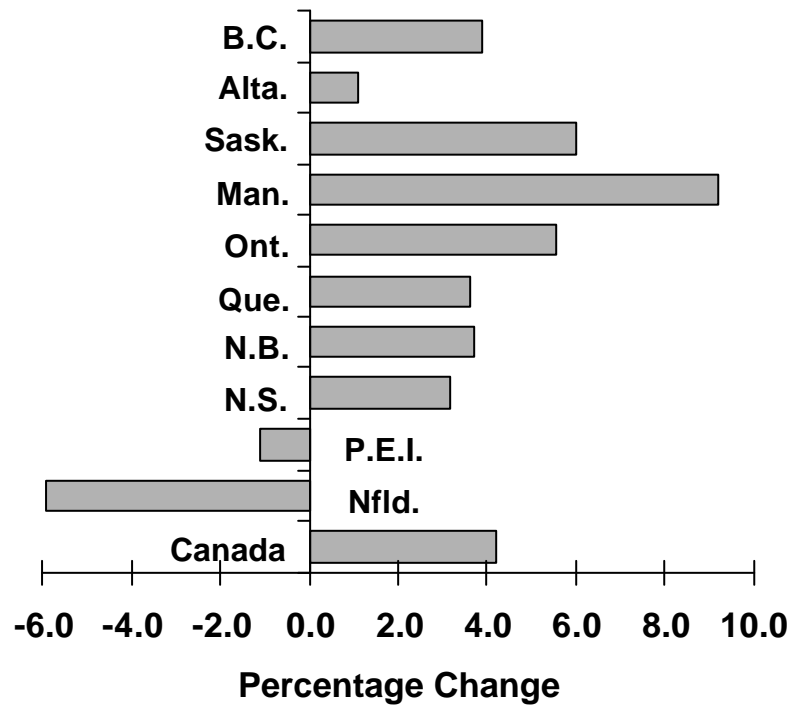
Glossary of Terms

Trade Balance	Value of exports less value of imports.
Other Commodity Group	Includes potatoes & products, seeds for sowing, maple products, sugar & products, raw tobacco, vegetable fibres, plantation crops, floriculture & nursery products, essential oils, other agri-food products, alcoholic beverages, other beverages excluding juices, manufactured tobacco products, undenatured ethyl alcohol >80% vol.
Export Intensity	<p>The value of agri-food exports as a percentage of total value received from the production of the agri-food products.</p> <p><i>Primary Agriculture:</i> Exports divided by farm market receipts</p> <p><i>Food Processing Industries:</i> Exports divided by value of shipments</p> <p><i>Beverage Processing Industries:</i> Exports divided by value of shipments.</p>

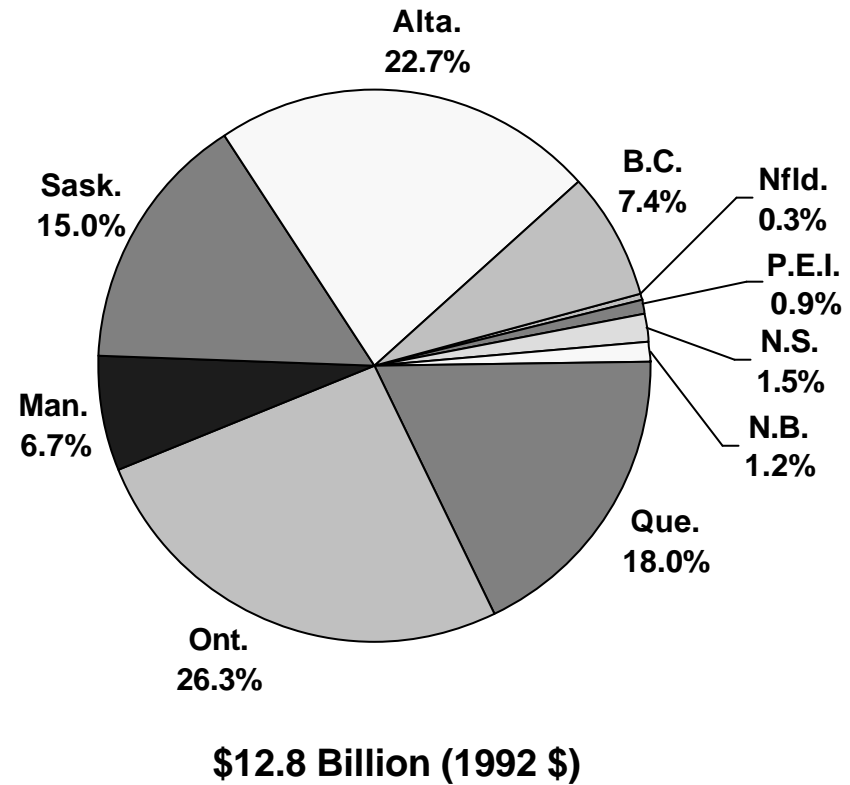
Agriculture Sector: Structure, Significance and Performance

Canada Agricultural GDP, 1998

**Agricultural GDP
Growth from 1997 to 1998**

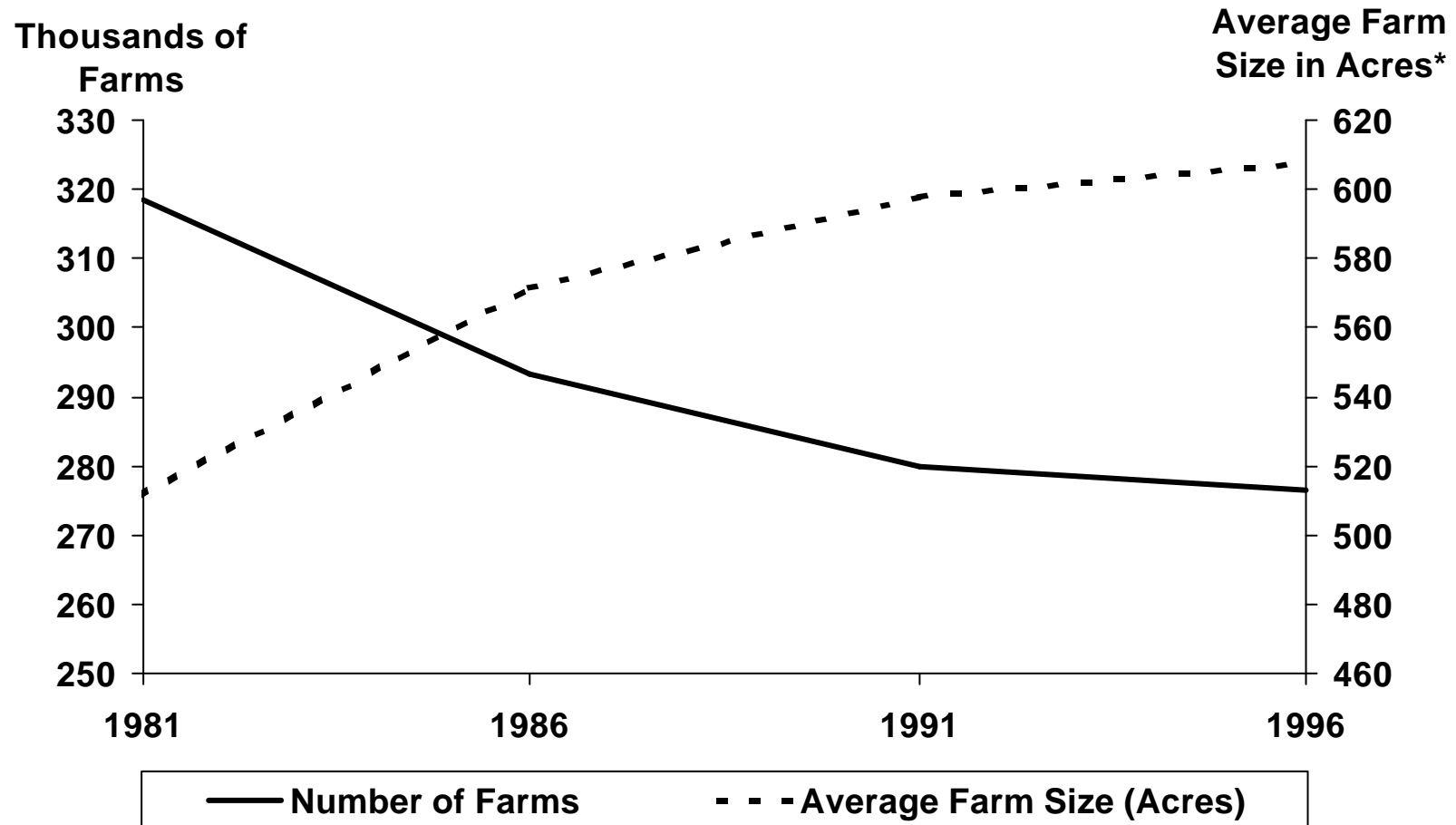


**Provincial Shares of
Total Agricultural GDP, 1998**



Source: Conference Board of Canada.

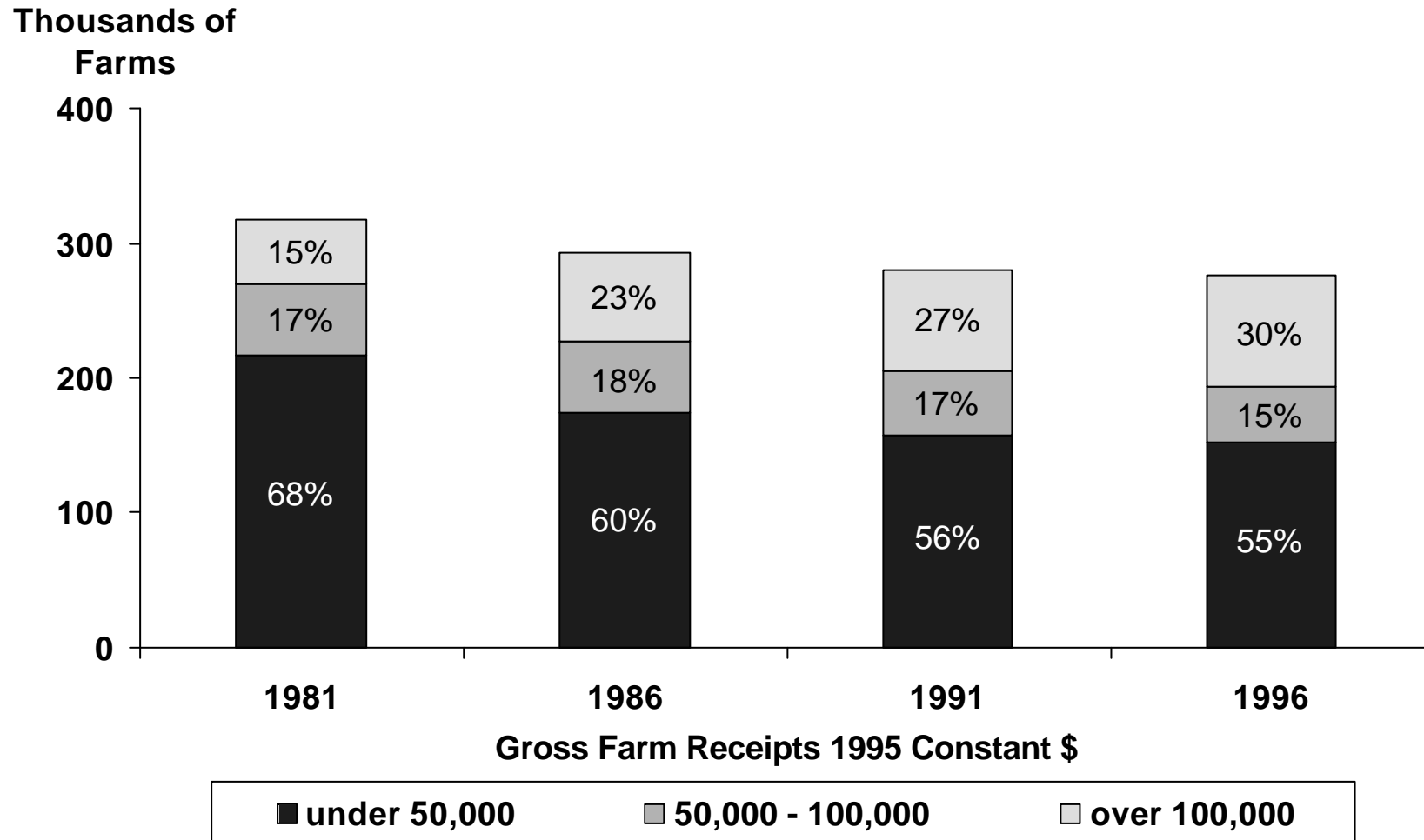
Number and Size of Census Farms



*1 acre=0.4047 hectares

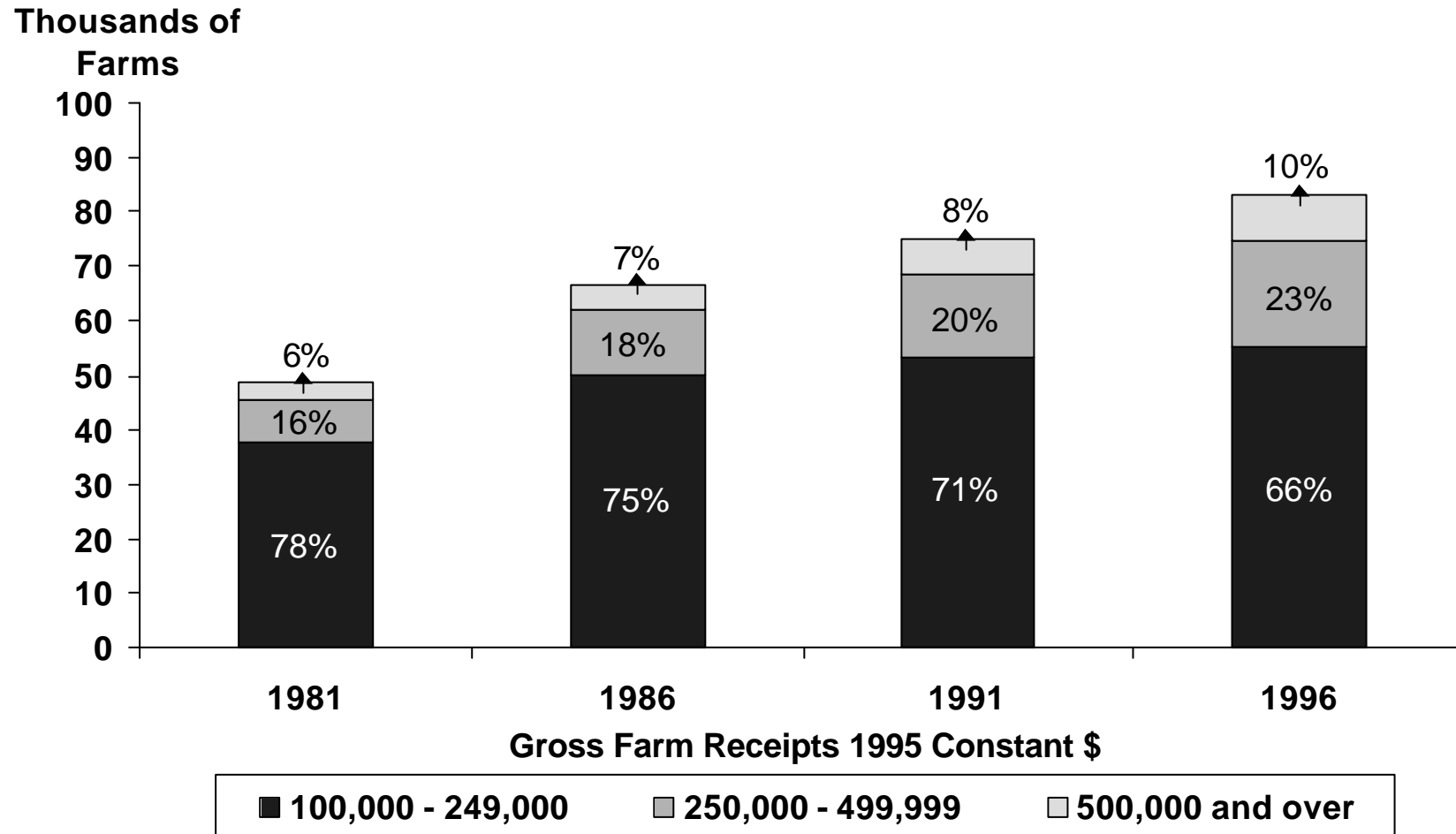
Source: Statistics Canada, Historical Overview of Canadian Agriculture, Census of Agriculture 1996.

Number of Census Farms by Revenue Class



Source: Statistics Canada, Historical Overview of Canadian Agriculture, Census of Agriculture 1996.

Number of Large Census Farms by Revenue Class

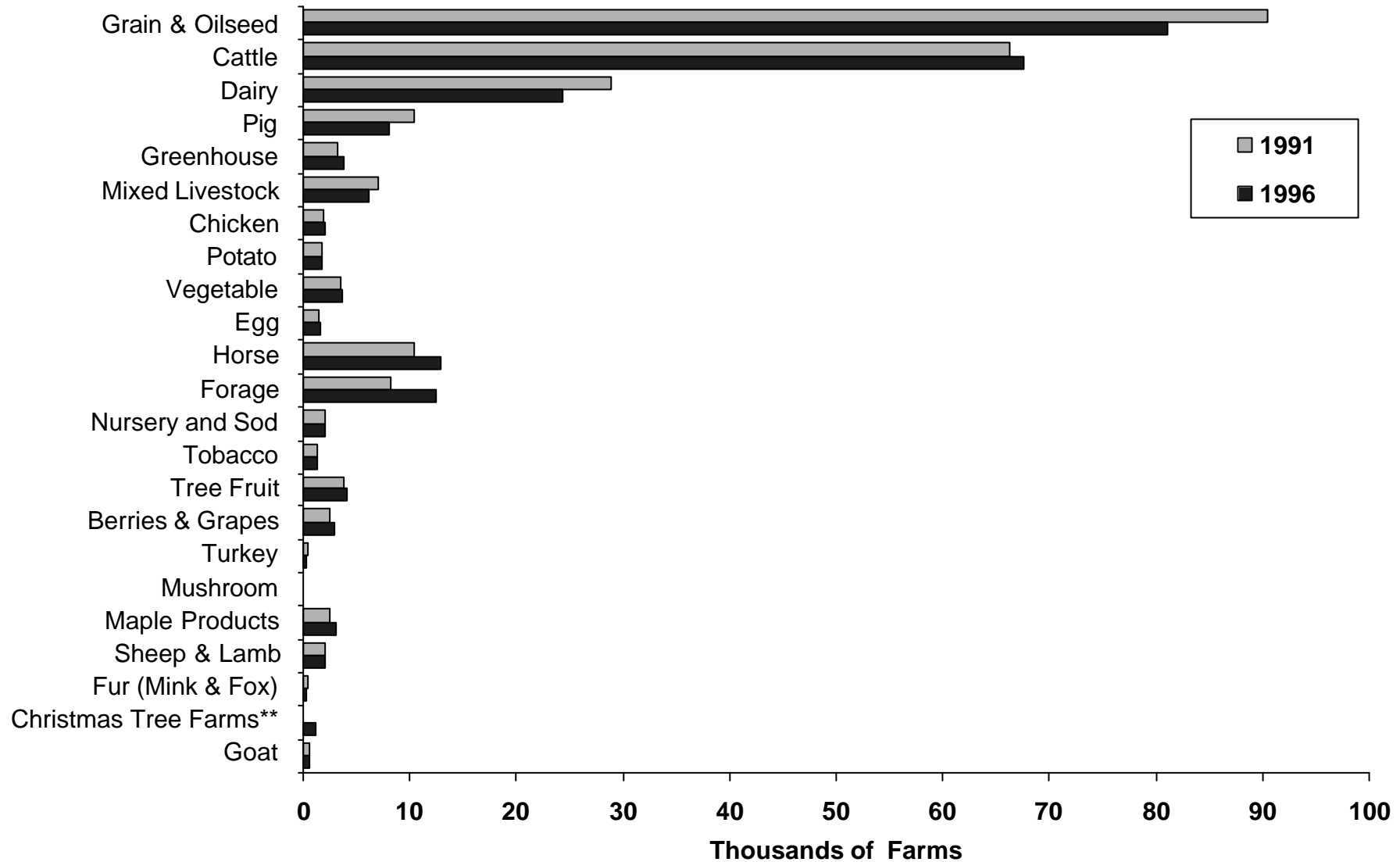


Source: Statistics Canada, Historical Overview of Canadian Agriculture, Census of Agriculture 1996.

Graph 3-4

Graph 3-5

Number of Census Farms by Farm Type*

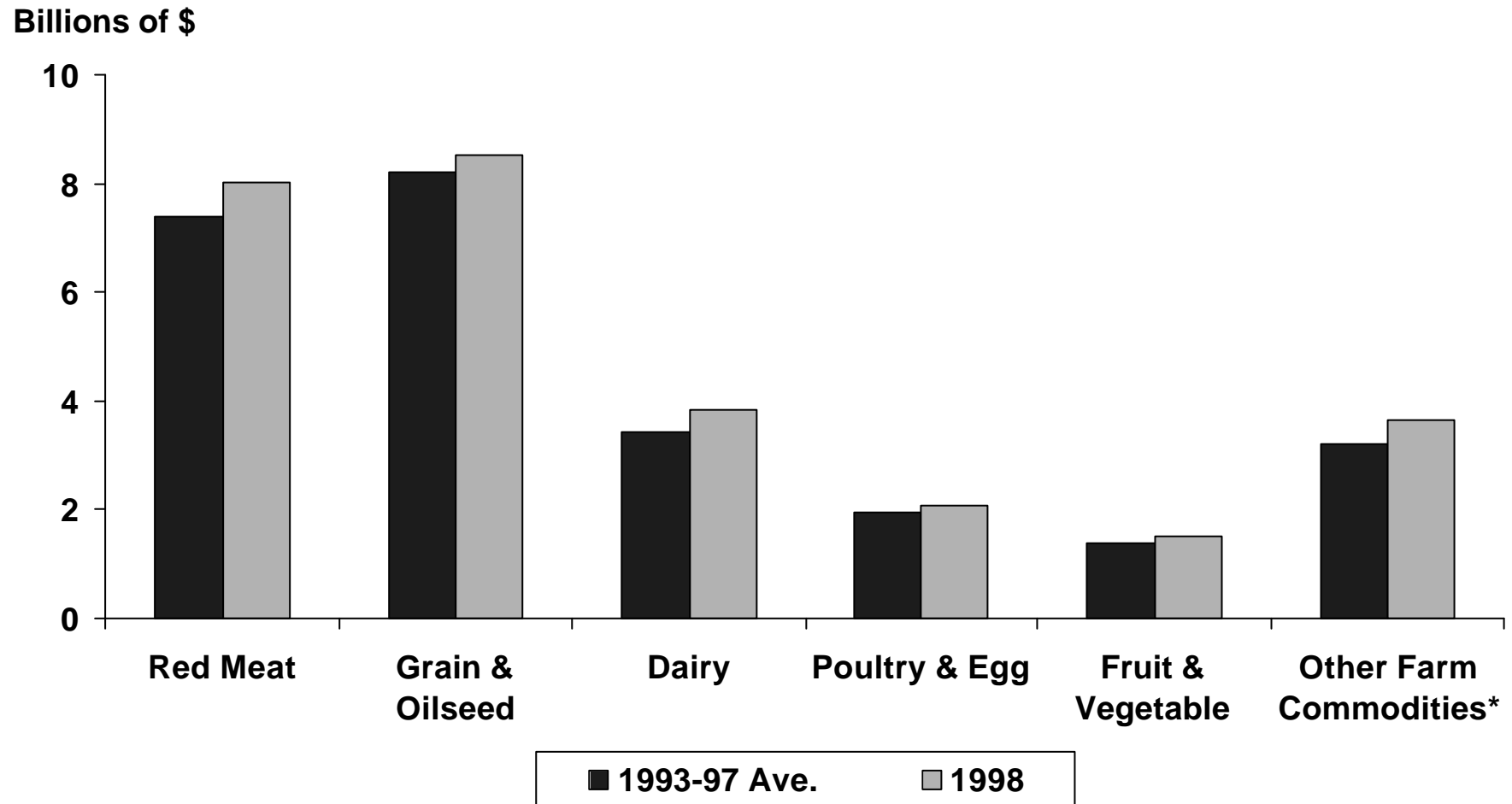


* Farm type is determined by a product contributing at least 51% to farm revenue.

** Data for Christmas tree farms was not collected before the 1996 Census of Agriculture.

Source: AAFC - Structure of Canadian Agriculture 1991 & 1996.

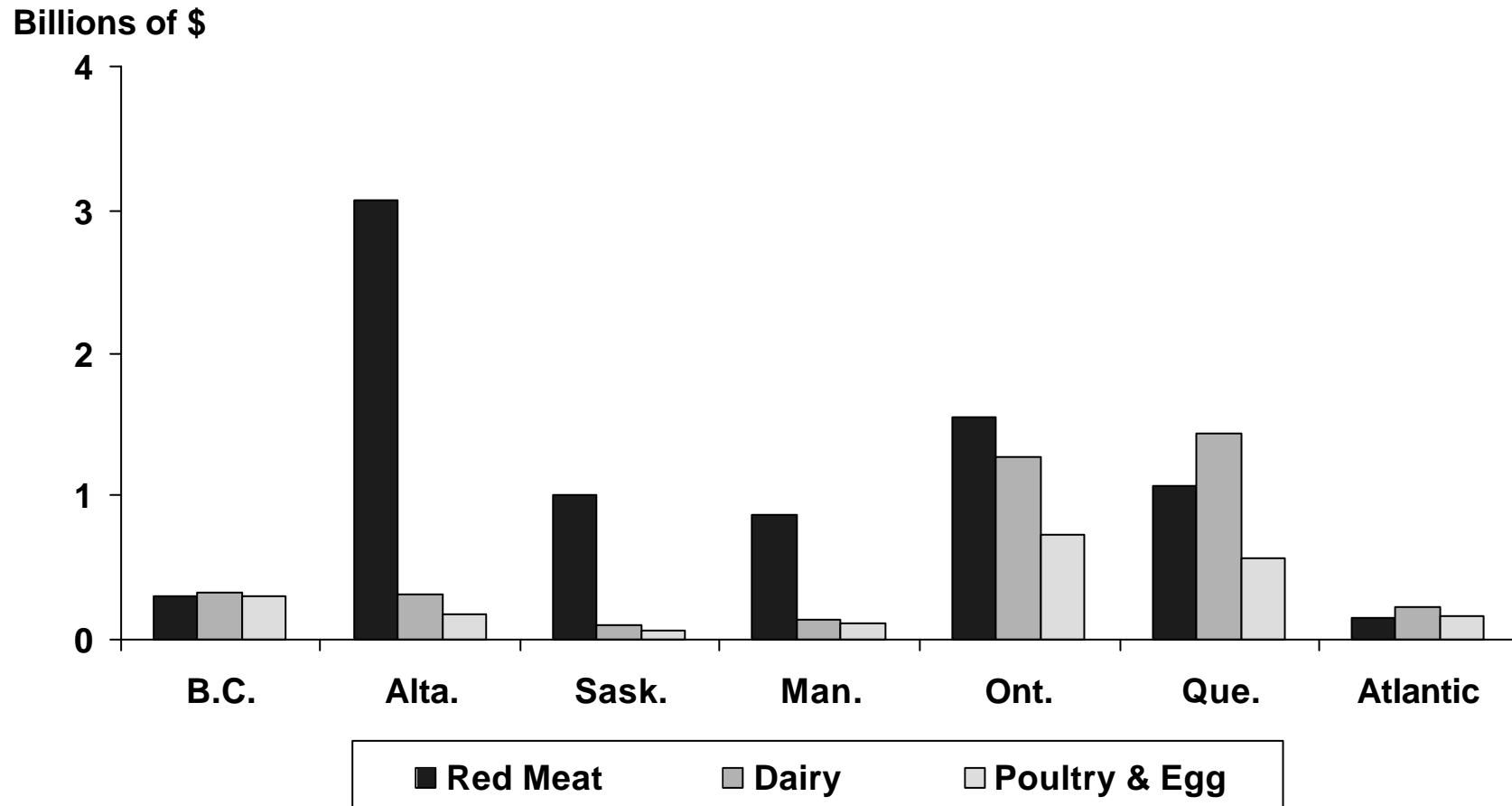
Canadian Farm Cash Market Receipts by Commodity Group



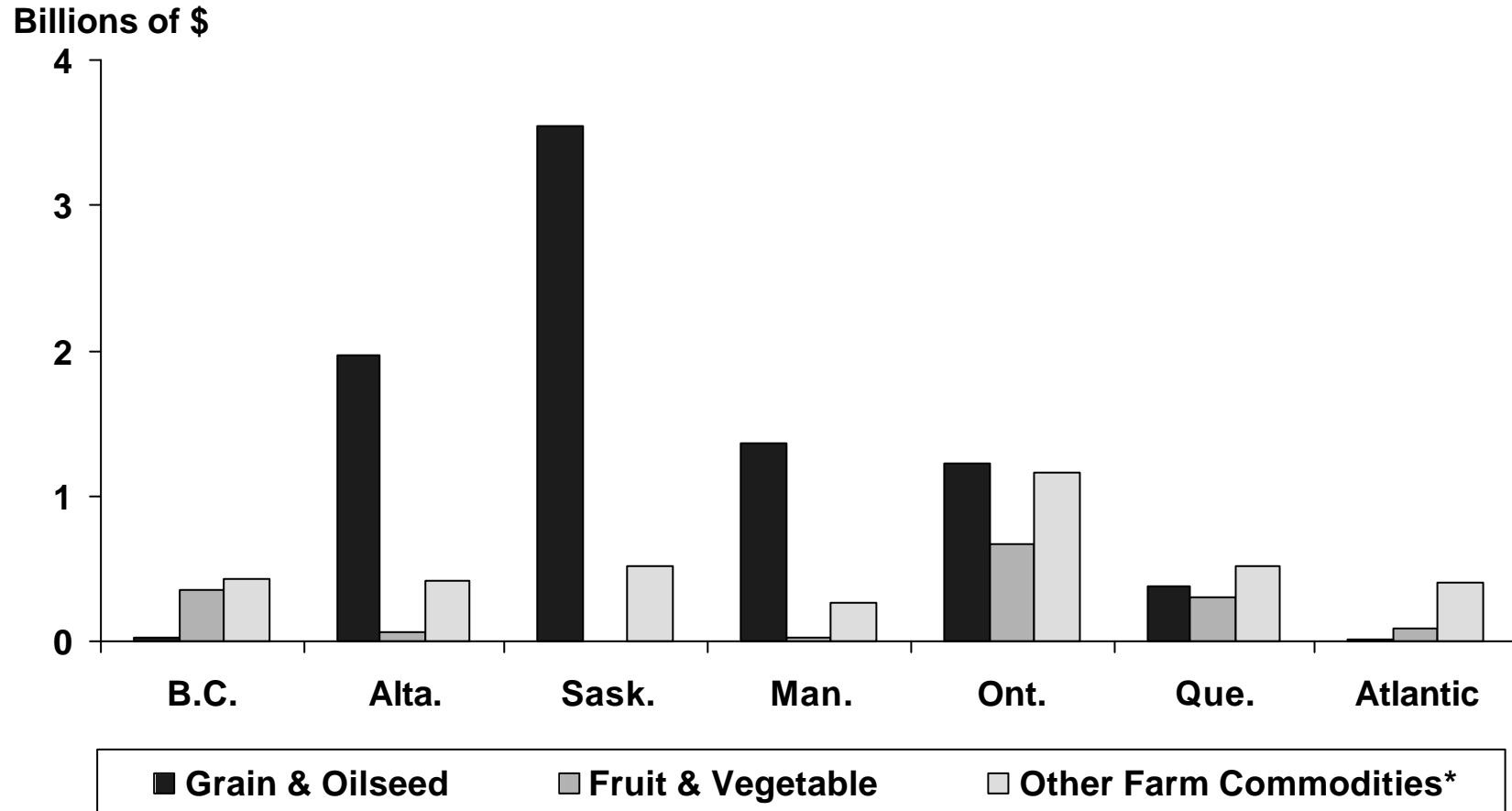
*Includes: Potatoes, Special Crops, Forage, etc.

Source: AAFC Farm Income Database, January 2000 Update.

Farm Cash Market Receipts by Commodity Group & Province, 1998



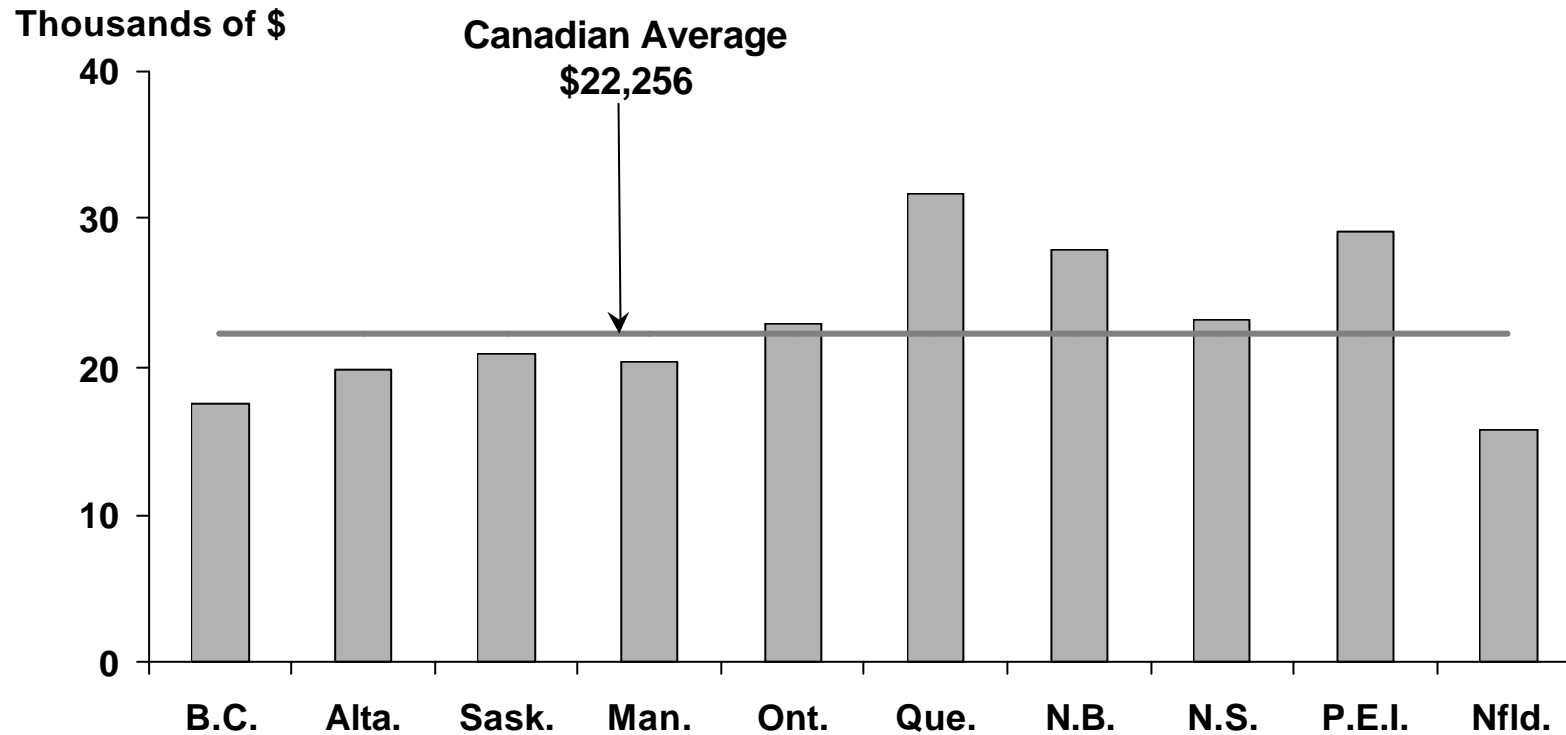
Farm Cash Market Receipts by Commodity Group & Province, 1998



*Includes: Potatoes, Special Crops, Forage, etc.

Source: AAFC Farm Income Database, January 2000 Update.

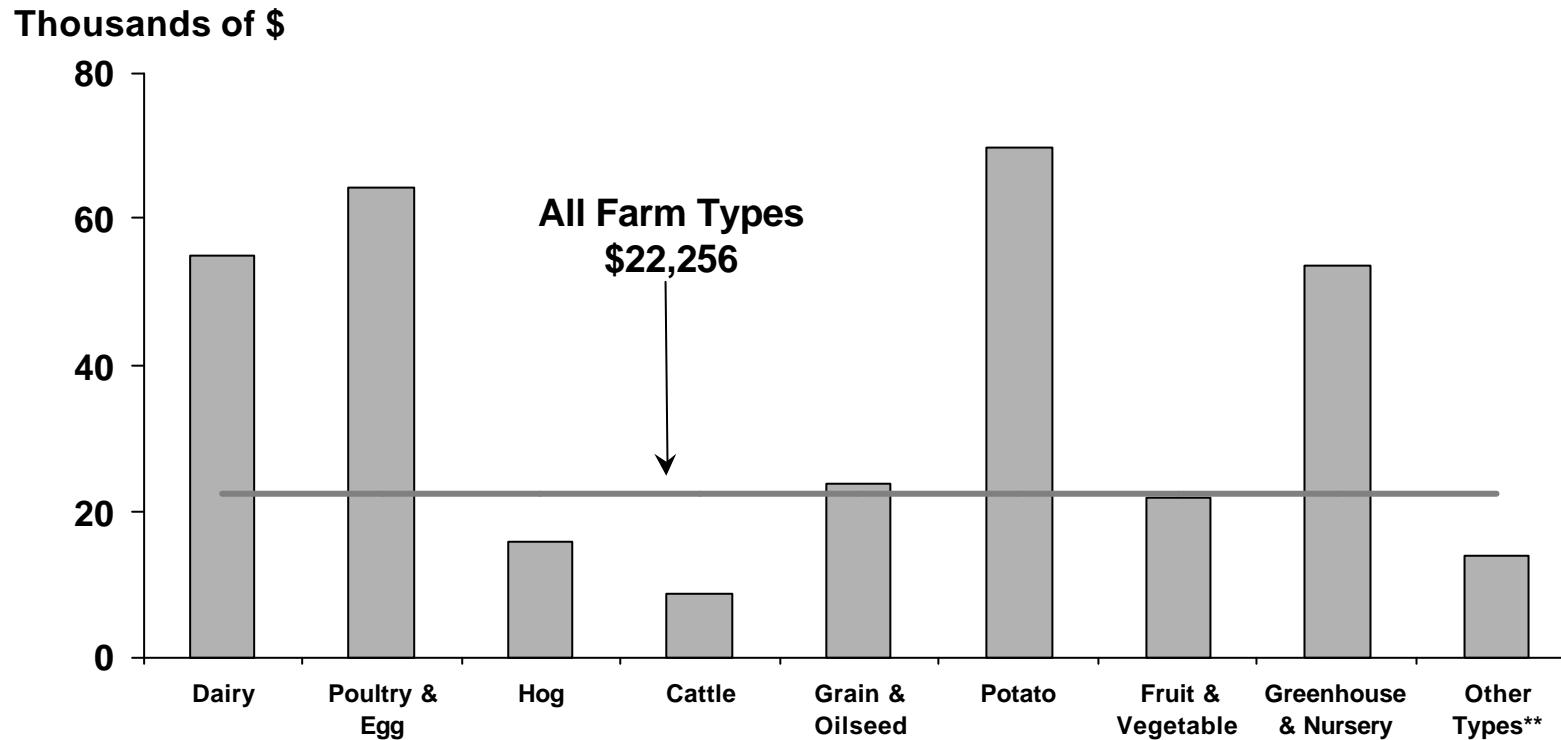
Average Provincial Net Farm Operating Income, 1998*



*Preliminary estimates

Source: Statistics Canada, Whole Farm Data Base, Taxation Data Program.

Average Net Operating Income* per Farm by Farm Type, 1998

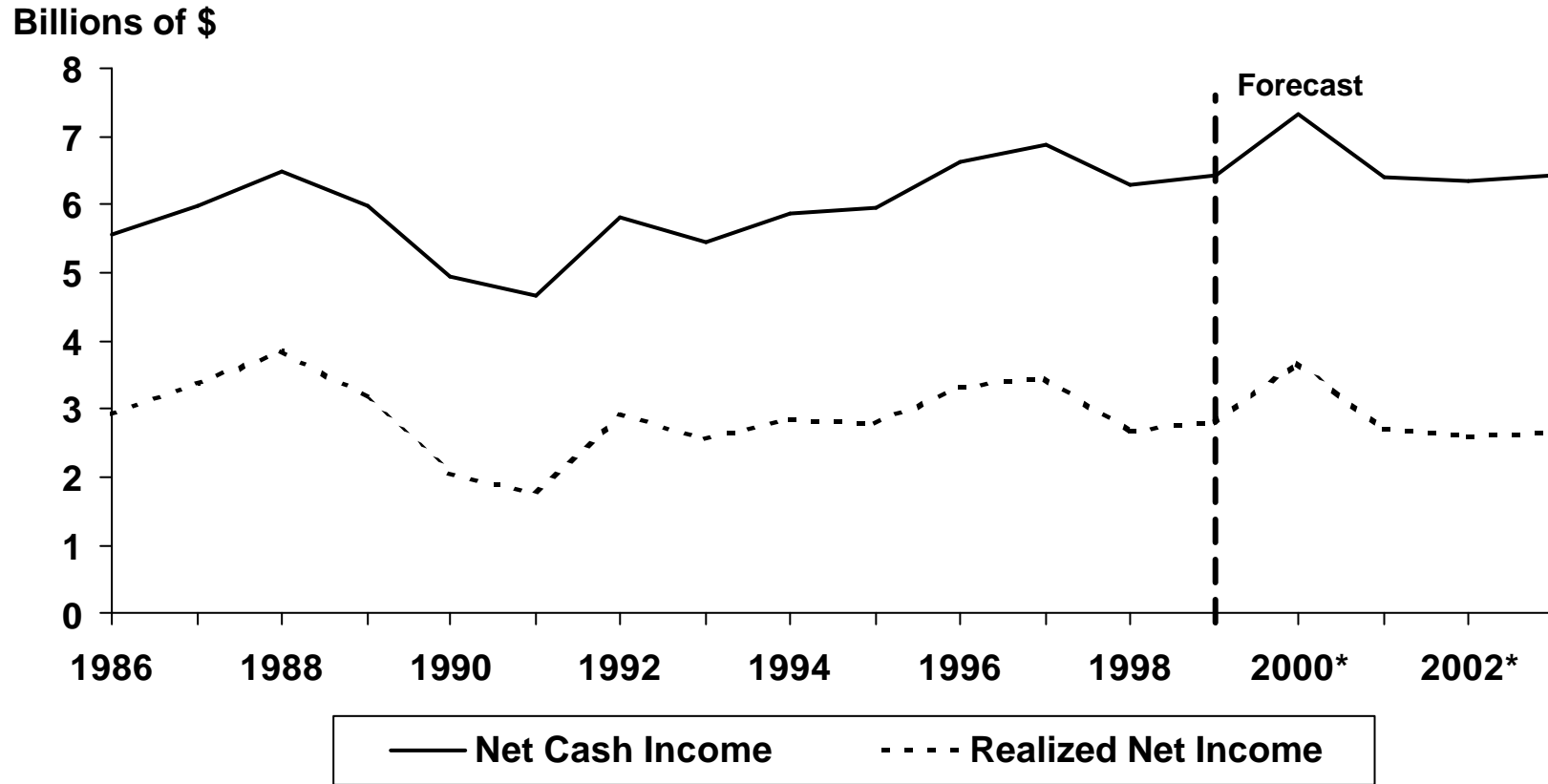


* Preliminary estimates; excludes communal farming organizations.

** Includes livestock combination, tobacco and other types.

Source: Statistics Canada, Whole Farm Data Base, Taxation Data Program.

Canadian Farm Income Forecast

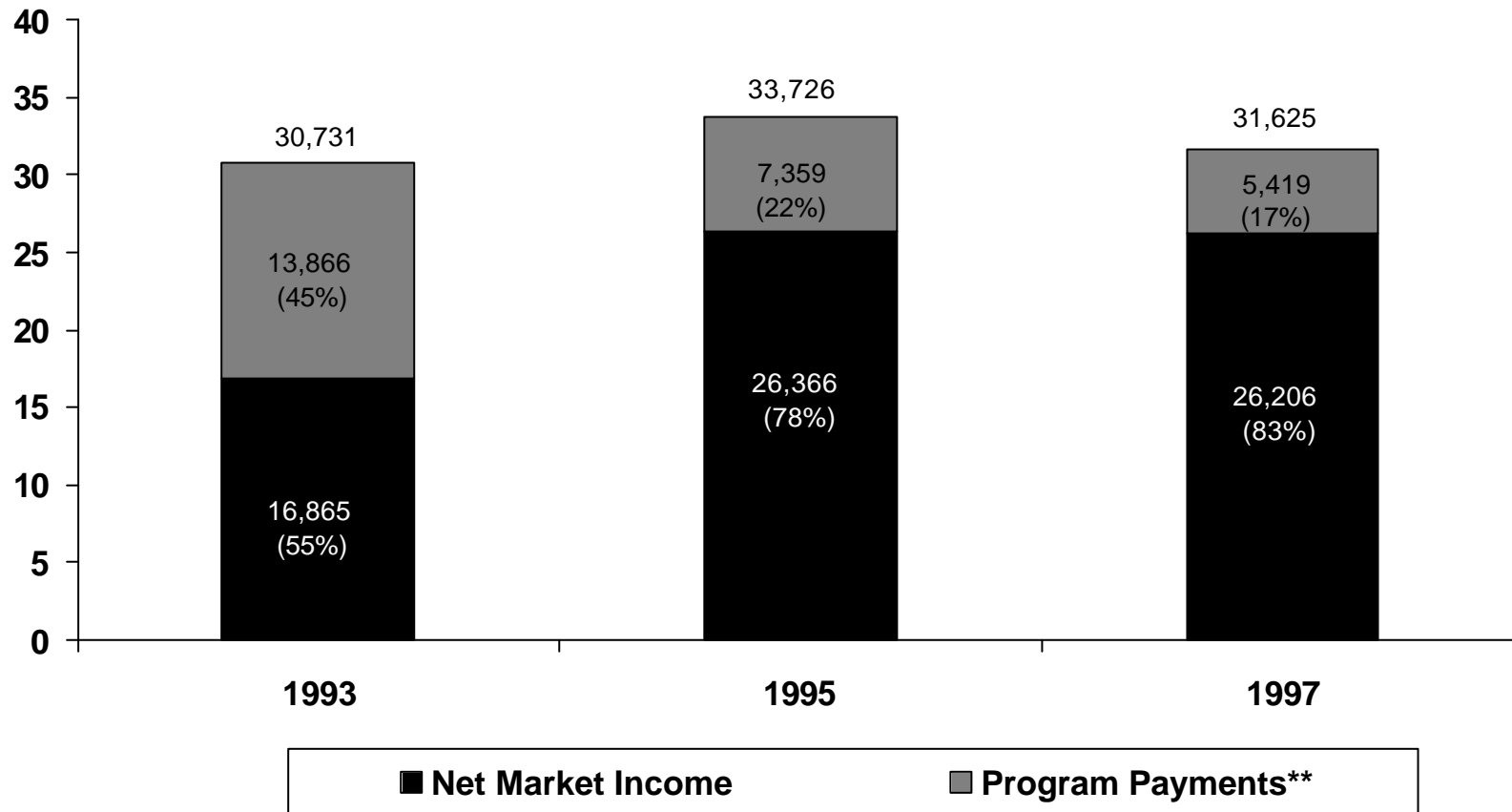


*Forecast figures for 1999 to 2003, AAFC, Policy Branch, January 2000, Update.

Sources: AAFC - Farm Income Database; historical data from Statistics Canada.

Net Operating Income* per Farm, Canada

Thousands of \$



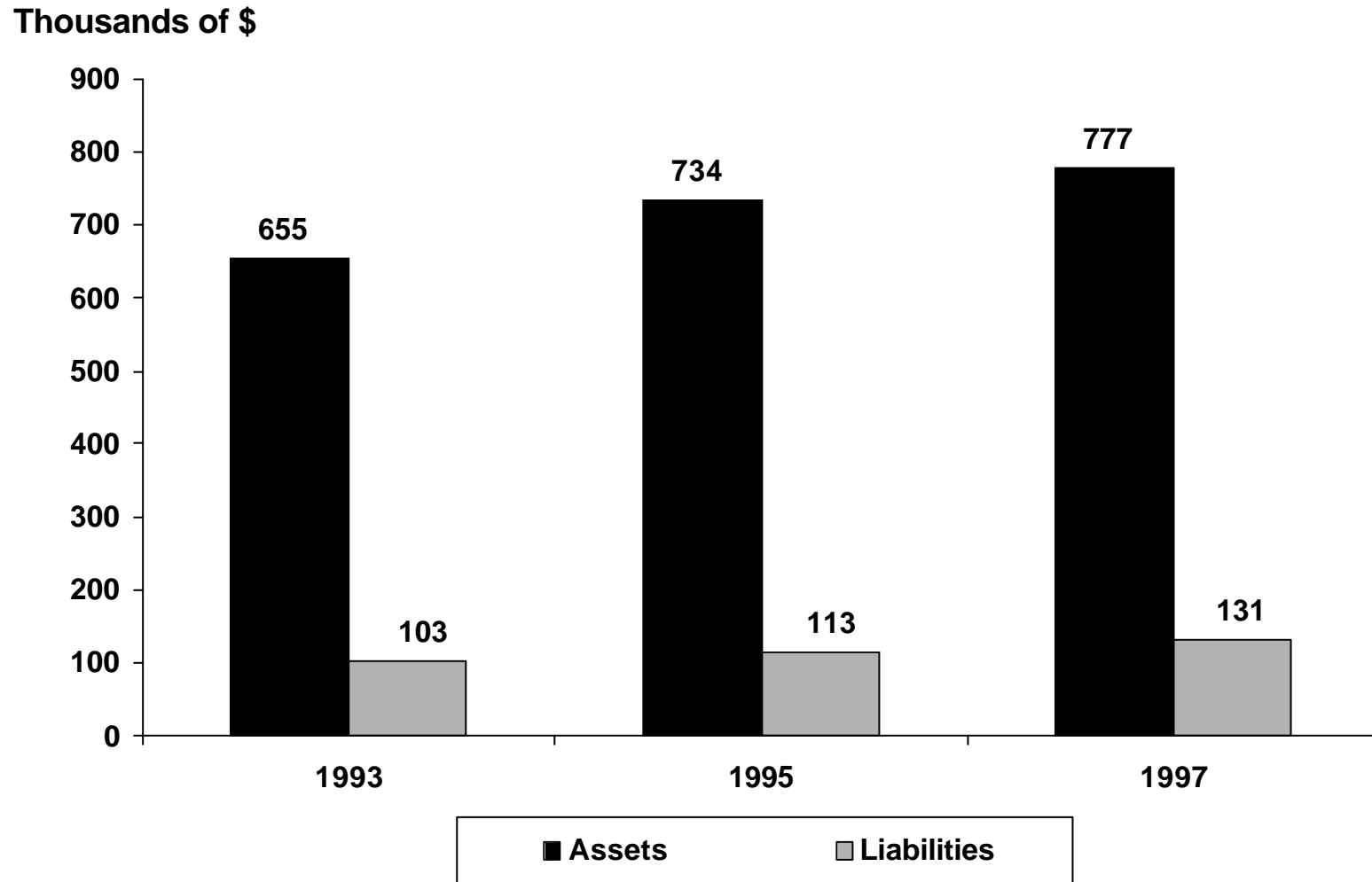
* Net operating income includes program payments but excludes NISA withdrawals.

**Program payments include income from stabilization payments (including provincial GRIP in 1993 and 1995), dairy subsidies and other programs, crop insurance proceeds and fuel and property tax rebates.

Source: AAFC, Profile of the 1998 Farm Financial Survey.

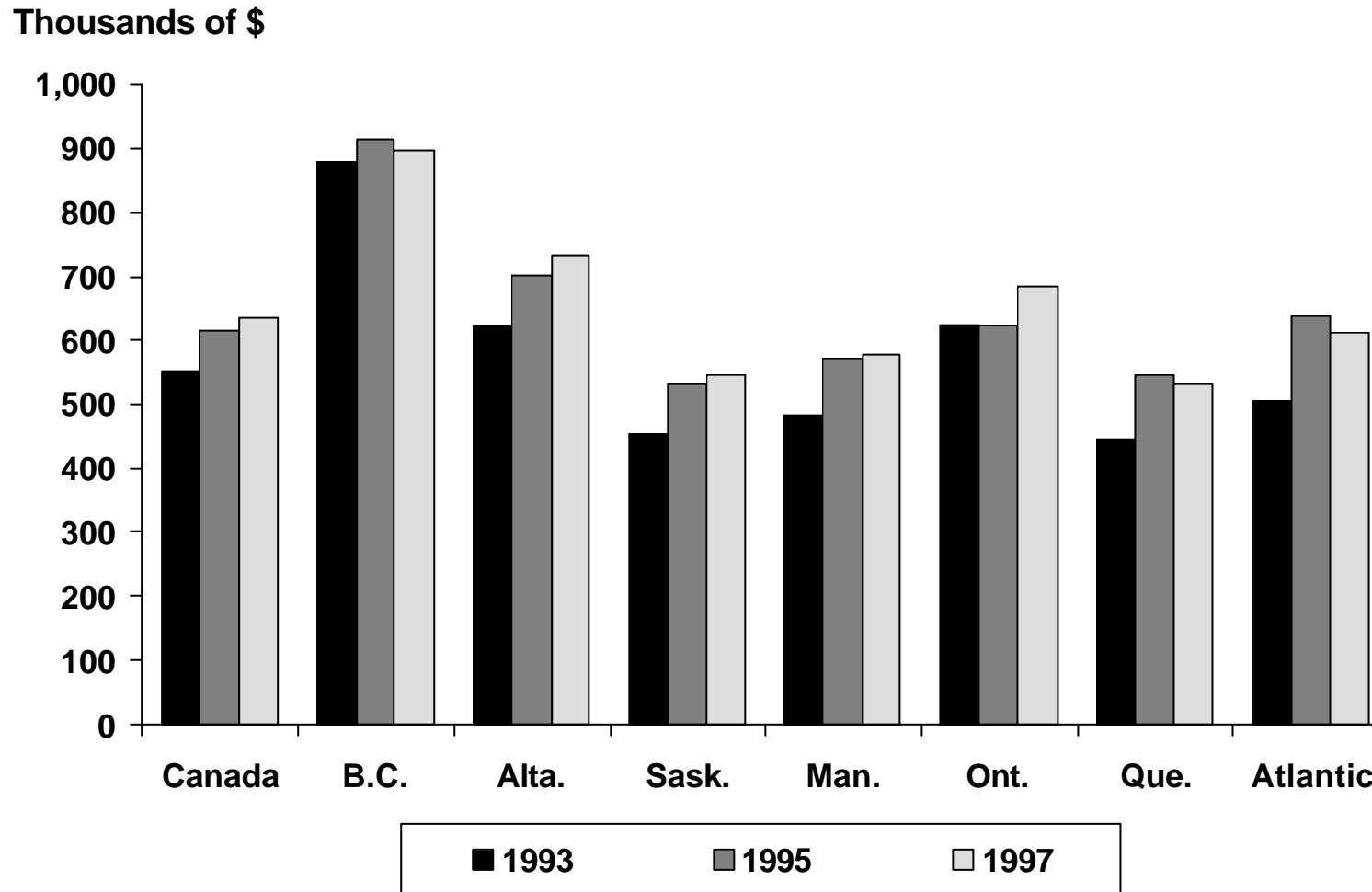
Graph 3-12

Average Farm Assets and Liabilities per Farm



Source: AAFC, 1998 Farm Financial Survey - Highlights.

Average Net Worth* per Farm by Province



*To facilitate comparison with previous years, NISA balances are not included in estimates of net worth.

Source: AAFC, Profile of the 1998 Farm Financial Survey.

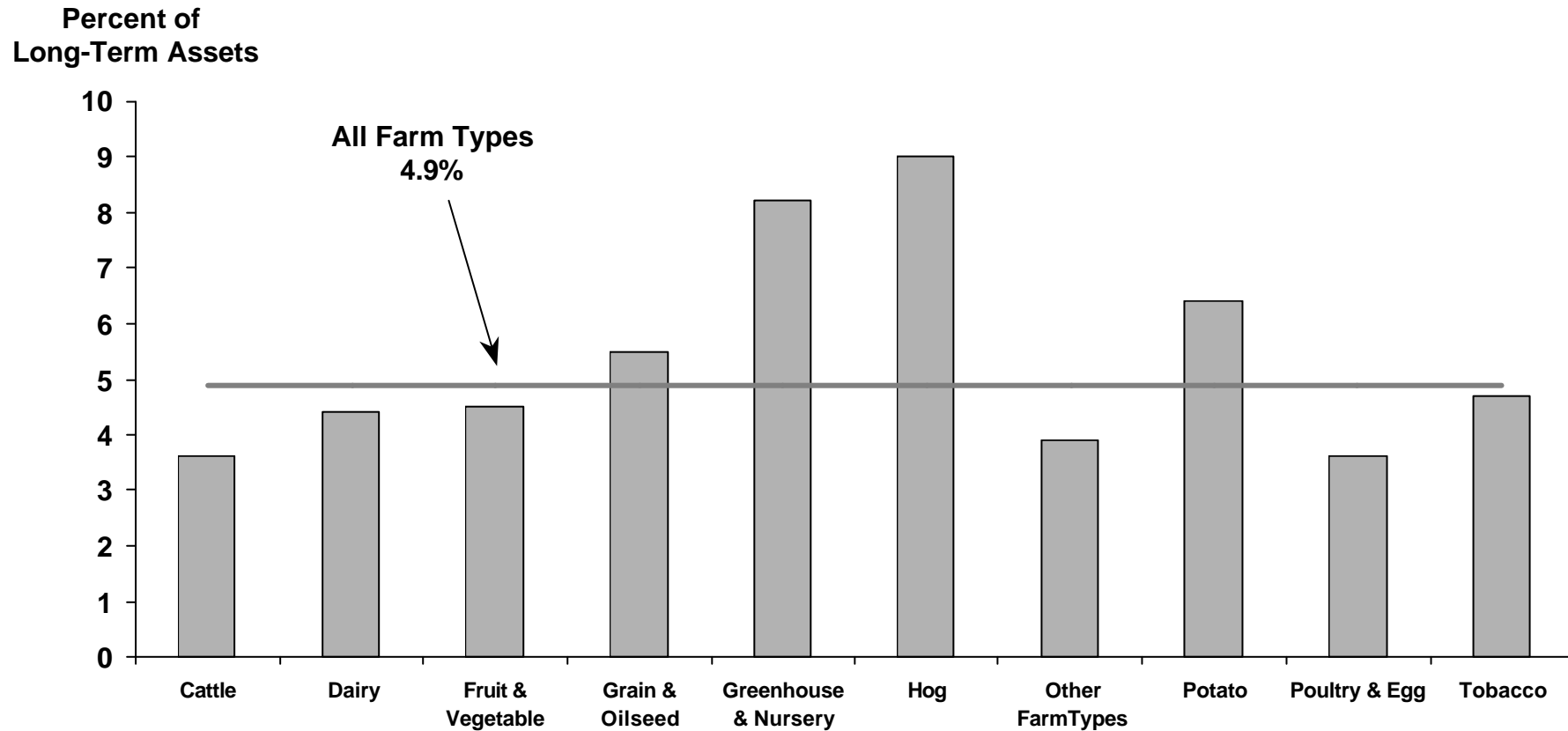
Gross Capital Investment per Farm by Type of Investment

	1993	1995	1997
Land & Buildings	\$5,146	\$6,319	\$7,342
Land Improvements	803	1,057	1,650
House Construction	1,842	2,167	1,811
Other Building Construction	3,848	4,667	6,249
Breeding & Replacement Livestock	2,651	2,603	2,724
Quota	1,684	1,476	1,791
Farm Machinery & Equipment	20,301	21,354	24,073
Other Farm Assets	1,778	1,372	2,048
TOTAL	\$38,054	\$41,014	\$47,688

Source: AAFC, Profile of the 1998 Farm Financial Survey.

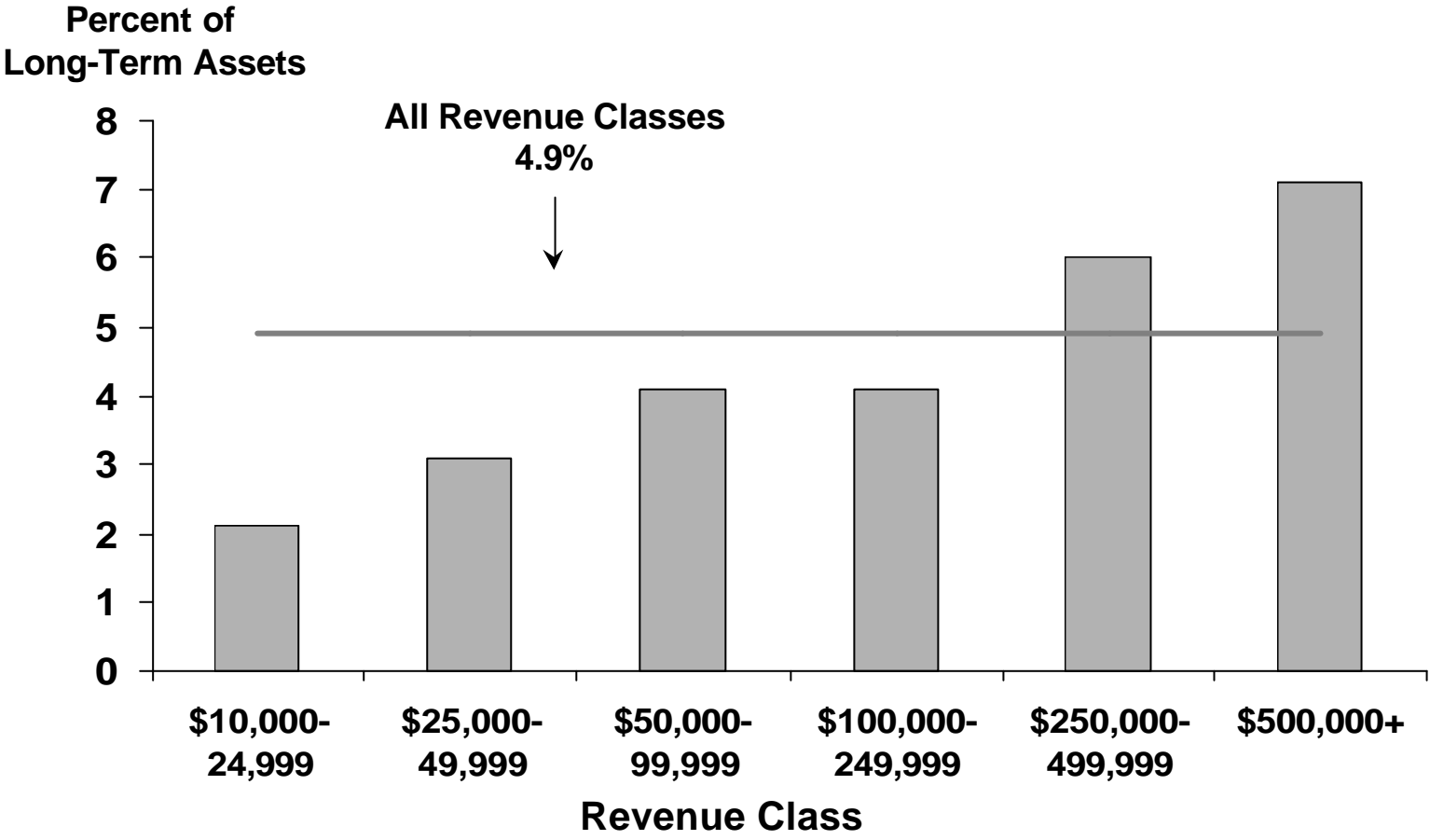
Canada

Net Capital Investment by Farm Type, 1997



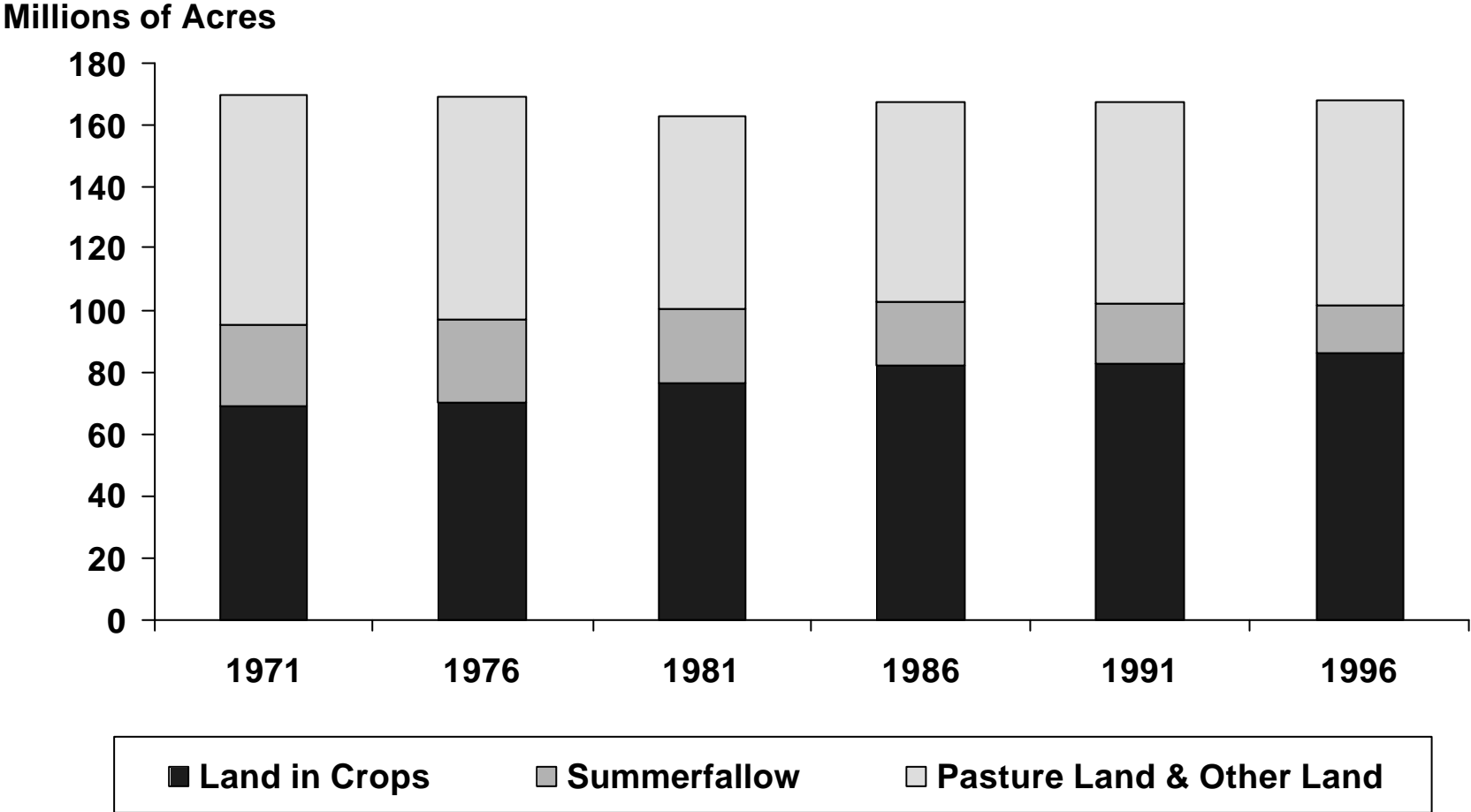
Source: Statistics Canada, Farm Financial Survey 1998.

Net Capital Investment by Farm Size, 1997



Source: Statistics Canada, Farm Financial Survey 1998.

Use of Farm Land in Canada



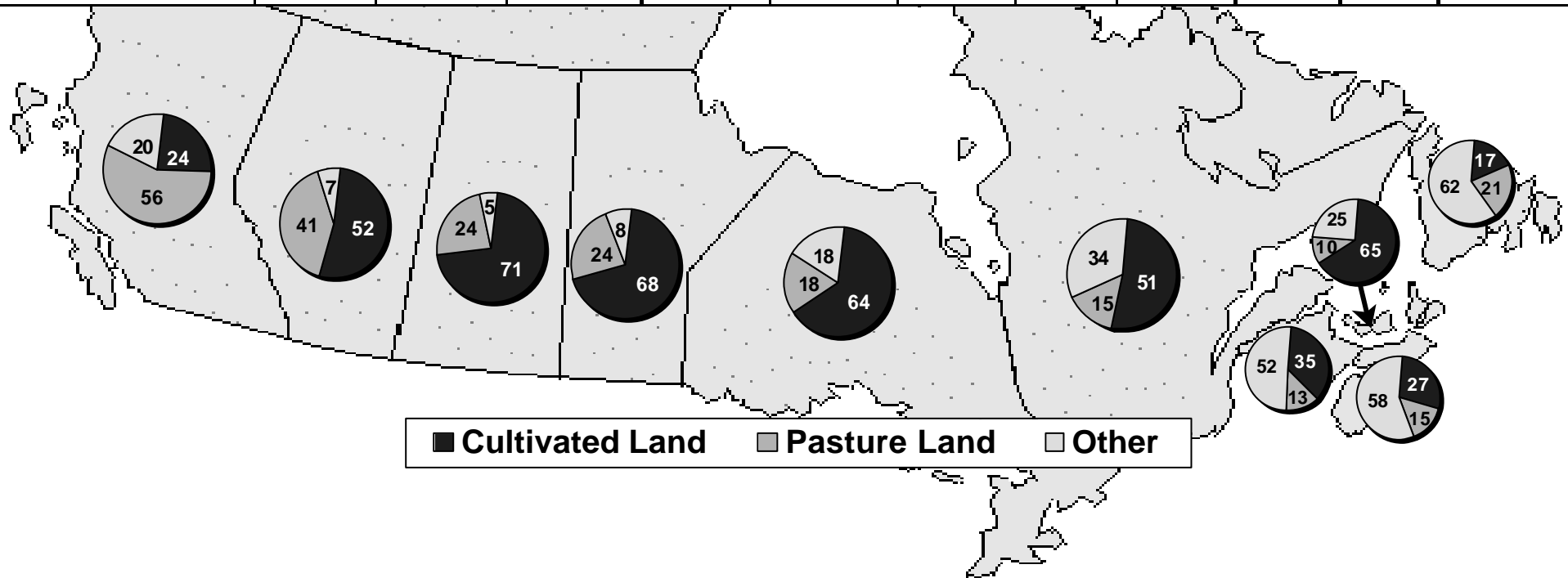
Sources: Statistics Canada - Census Overview of Canadian Agriculture: 1971-1991;
1996 Census of Agriculture National and Provincial Highlights.

Graph 3-18

Canada: Farm Land Use, 1996

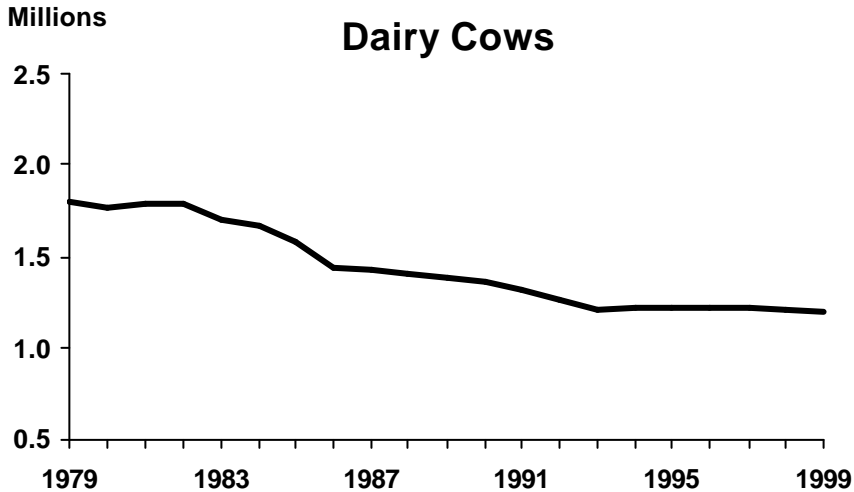
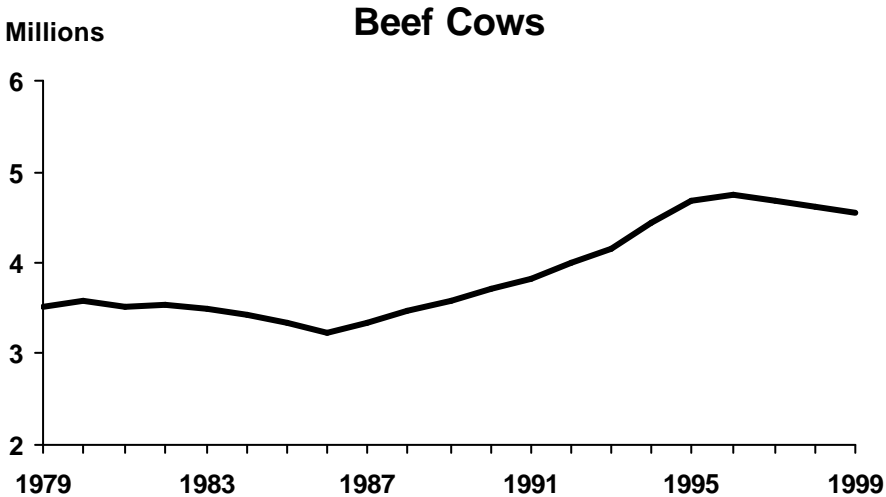
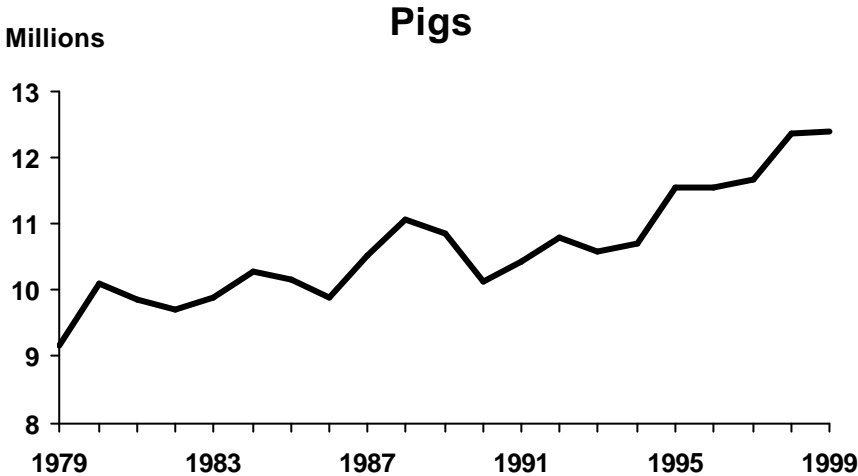
Canada's Land on Census Farms; 61% Cultivated Land, 29% Pasture Land, 10% Other Land

	B.C.	Alta.	Sask.	Man.	Ont.	Que.	N.B.	N.S.	P.E.I.	Nfld.	CAN
Acres of farm land	6,226,086	51,962,778	65,652,745	19,104,379	13,851,678	8,509,991	943,288	1,027,323	655,064	107,946	168,041,278
Percentage of Canadian farm land	3.7%	30.9%	39.1%	11.4%	8.2%	5.1%	0.6%	0.6%	0.4%	0.1%	100.0%
Percentage of Total Land Area	2.8%	32.9%	46.6%	14.1%	6.1%	2.5%	5.3%	7.9%	46.8%	0.1%	7.4%



Source: Statistics Canada, 1996 Census of Agriculture National and Provincial Highlights.

Canada Livestock Population Trends



Note: All livestock numbers are as of July 1.

Source: Statistics Canada, Agriculture Division, Livestock Survey.

Graph 3-20

Glossary of Terms

Agriculture	Includes the primary agriculture sector and related service industries (e.g. veterinary and crop dusting services).
Gross Farm Receipts	Compiled from census forms sent to all farms every five years. They include cash income from the sale of agricultural commodities as well as direct program payments to the agriculture sector.
Farm Cash Market Receipts	Include cash income from the sale of agricultural commodities, but exclude direct program payments.
Land in Crops	Includes field crops, vegetables, fruits & nursery crops. Since 1981, it has also included sod.
Other Farm Commodities	Includes sugar beets, potatoes, floriculture & nursery, tobacco, ginseng, mustard seed, sunflower seed, lentils, canary seed, dry beans, dry peas, forage & grass seed, hay & clover, maple products, forest products, misc. crops, wool, honey, fur, misc. livestock.
Farm Type	Commodity which accounts for 51% of the total farm cash receipts.

Glossary of Terms (cont'd)

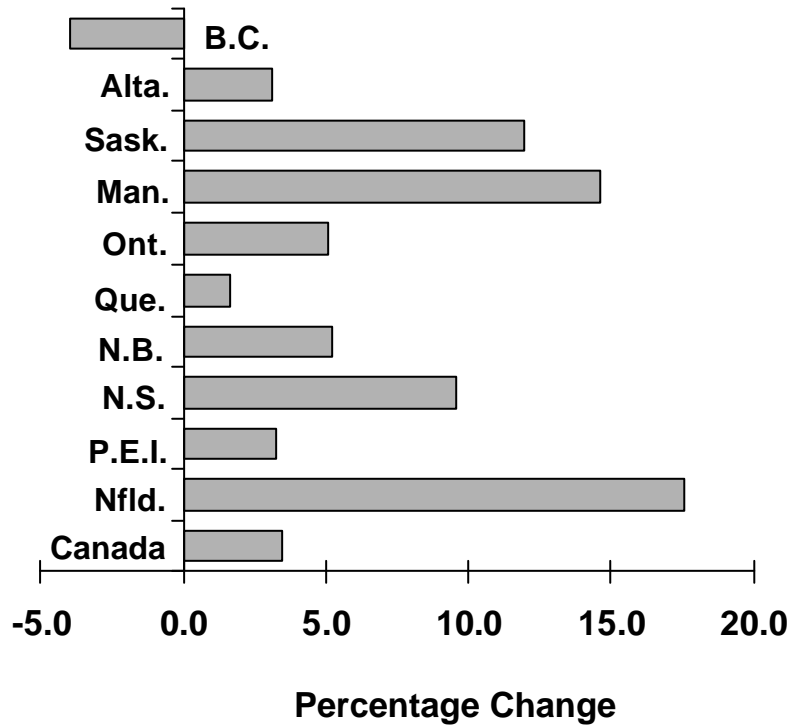
Net Cash Income	Market Receipts + Government Payments - Operating Expenses.
Realized Net Income	(Net Cash Income + Income-in-kind) - depreciation.
Net Operating Income	Equal to total operating revenues minus total operating expenses, before depreciation. Inter-farm sales are included in revenues as are agriculture payments and subsidies, excluding Net Income Stabilization Account payments.
Net Worth	Total farm assets less total liabilities.
Gross Capital Investments	Purchase or acquisition of some farm related building, structure or item from which a benefit will be derived over time such as land and buildings, land improvements, house construction or major renovation, other building construction, breeding and replacement livestock, quota, farm machinery and equipment and other farm assets including stocks, shares, bonds and reinvested dividends.
Net Capital Investments	Gross capital investments net of (capital) sales of such items as lands and buildings, machinery and equipment (including trade-ins) quota and breeding and replacement livestock.

Agri-Food Processing Sector: Structure, Significance and Performance

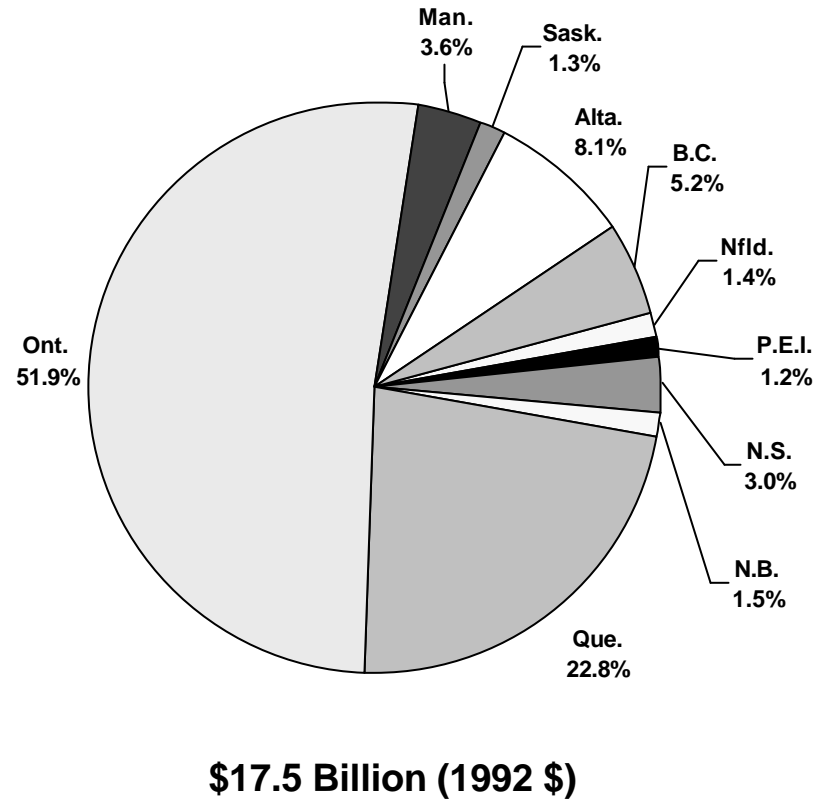
Canada

Food & Beverage Processing GDP, 1998

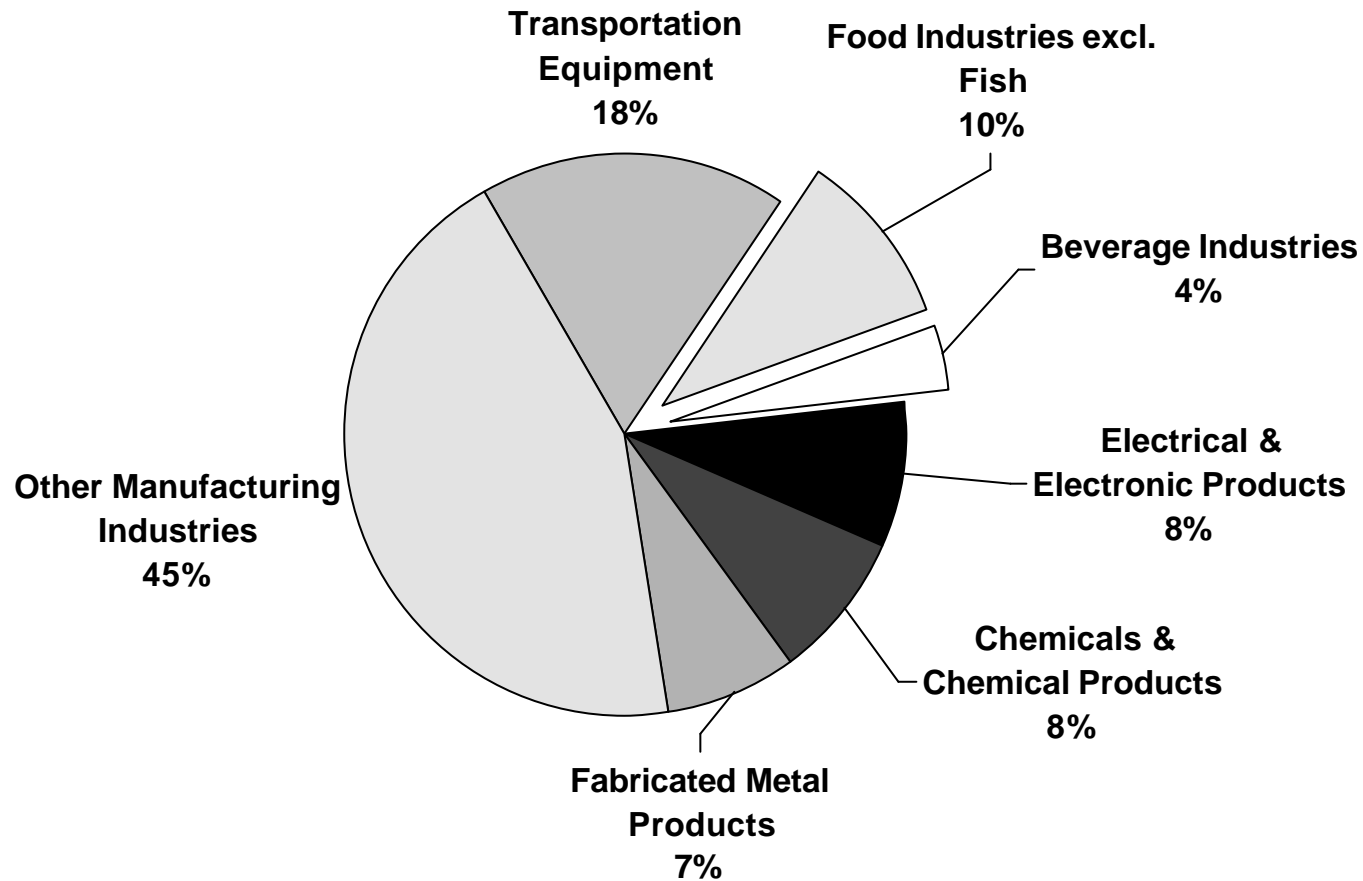
Food & Beverage Processing GDP
Growth from 1997 to 1998



Provincial Shares of
Total Food & Beverage Processing GDP,
1998



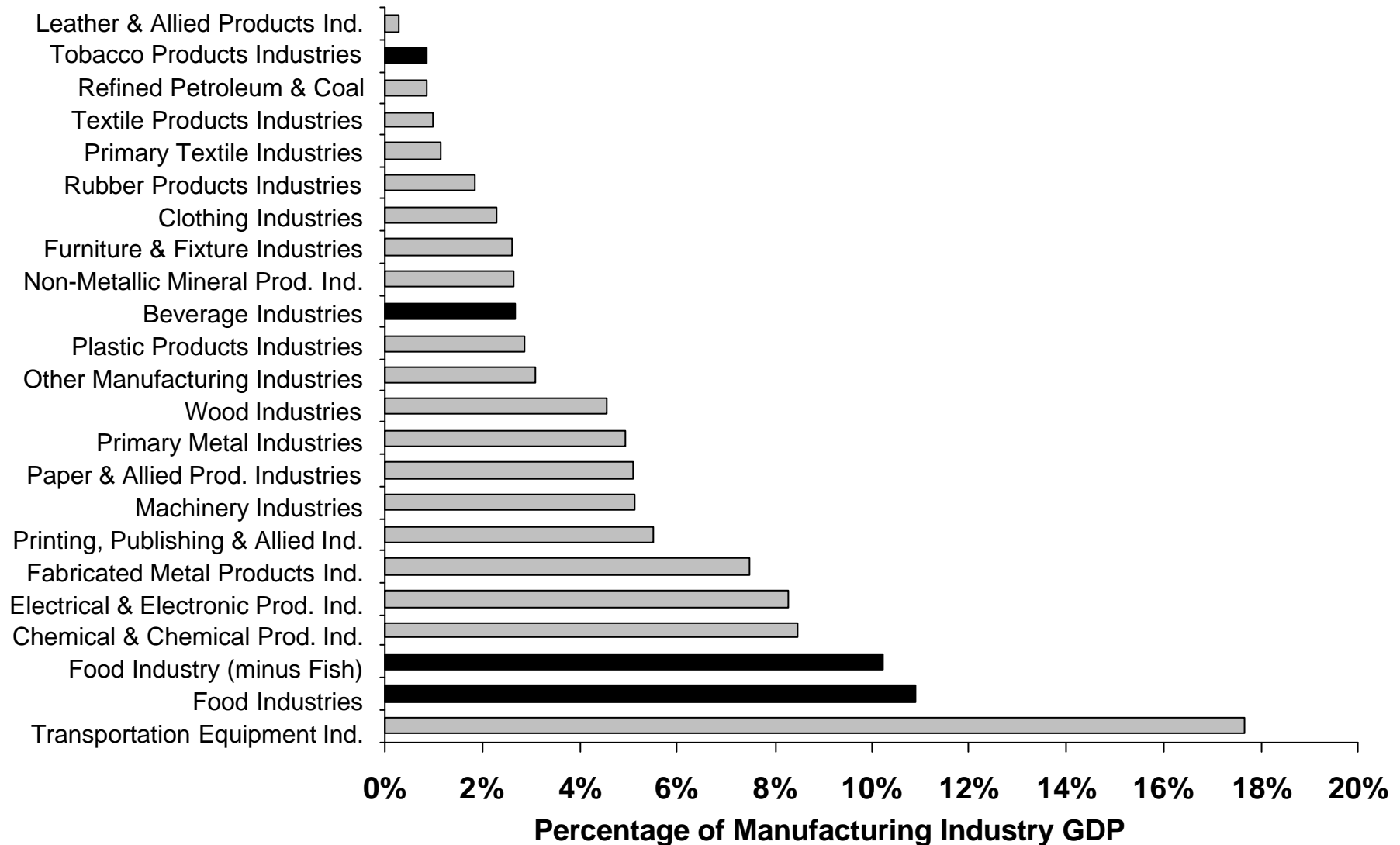
Distribution of Total Manufacturing GDP by Sector, 1998



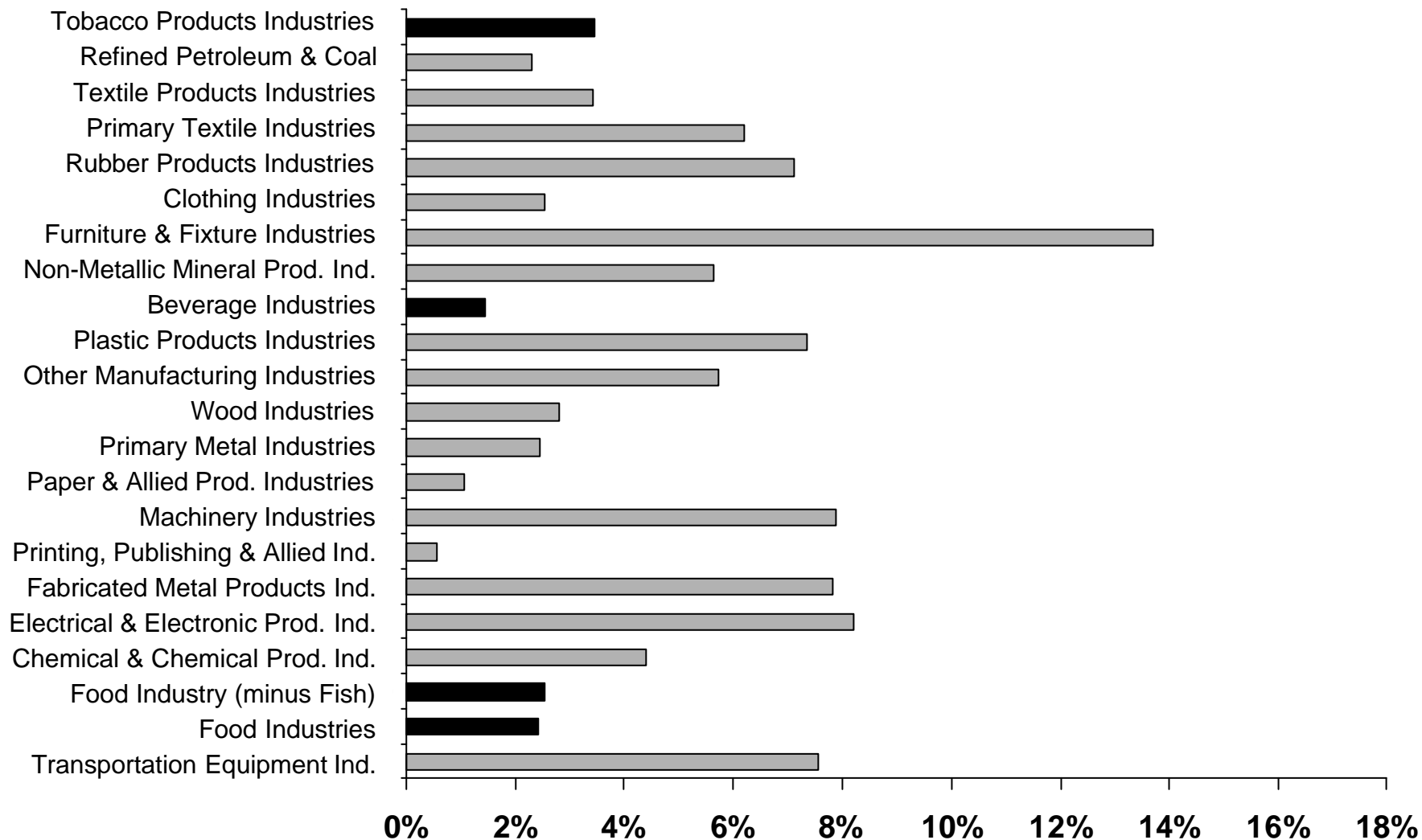
Manufacturing Industry GDP \$128.9 Billion (1992 \$)

Source: Statistics Canada, CANSIM Matrix 4677 (updated February 2000).

Distribution of Manufacturing GDP by Major Industries in Canada, 1998



Compounded Average Annual GDP Growth Rate of Major Manufacturing Industries in Canada, 1993-98



(Overall Manufacturing Industries Compounded Average Annual GDP Growth Rate : 4.97%)

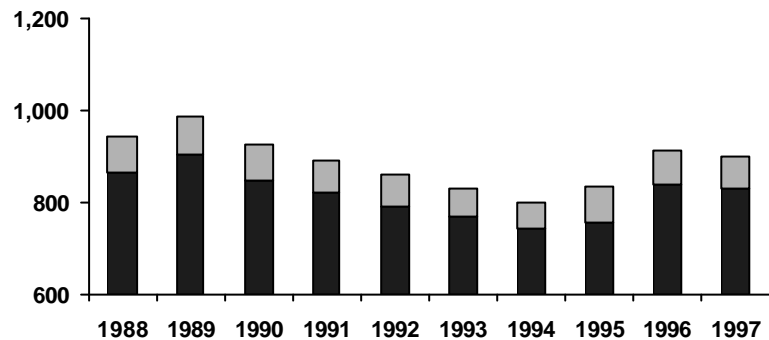
Note: Leather & Allied Products growth rate was -4.4% for the period 1993-98.

Source: Statistics Canada, CANSIM matrix 4677, February 2000.

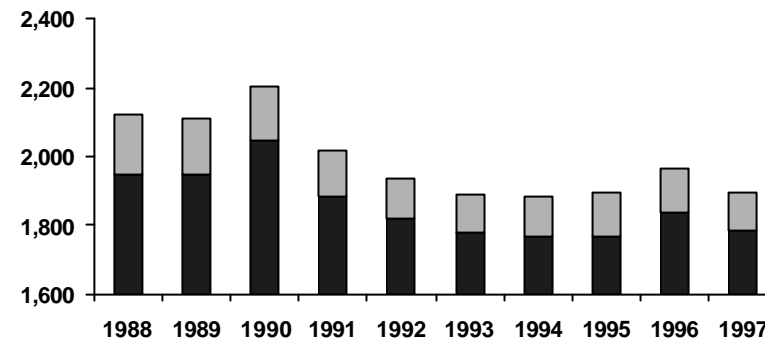
Graph 4-4

Number of Processing Establishments

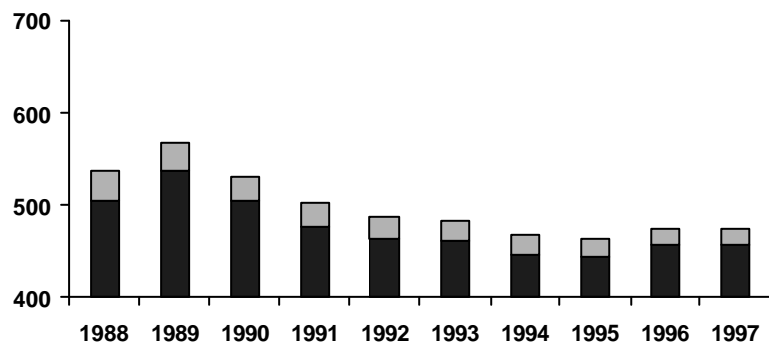
Western Canada



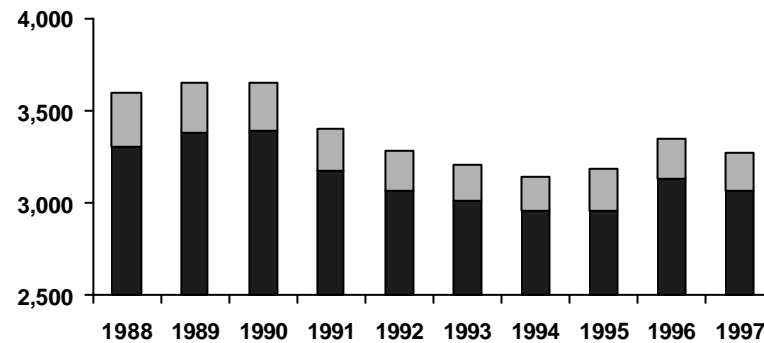
Central Canada



Atlantic Canada



Canada



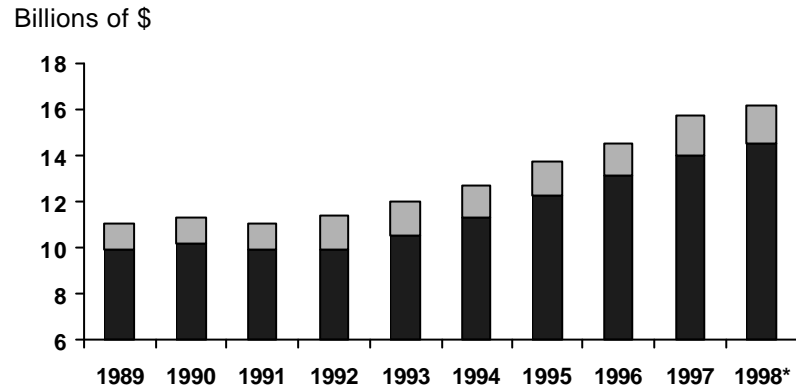
■ Food Processing* ■ Beverage Processing

*Includes fish.

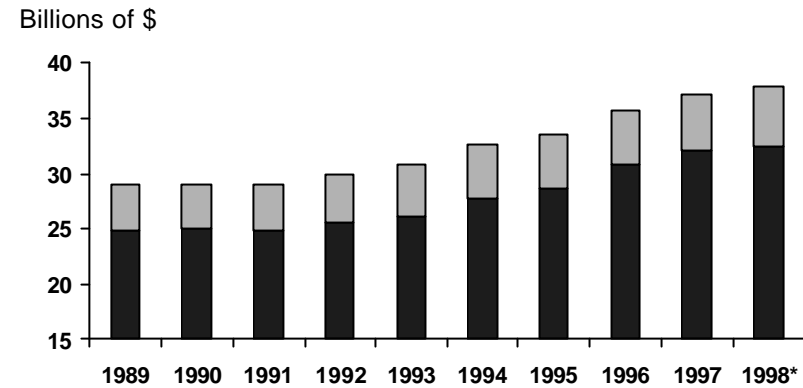
Source: Statistics Canada, CANSIM Matrix 5379 & 5401, Annual Survey of Manufacturers.

Value of Shipments

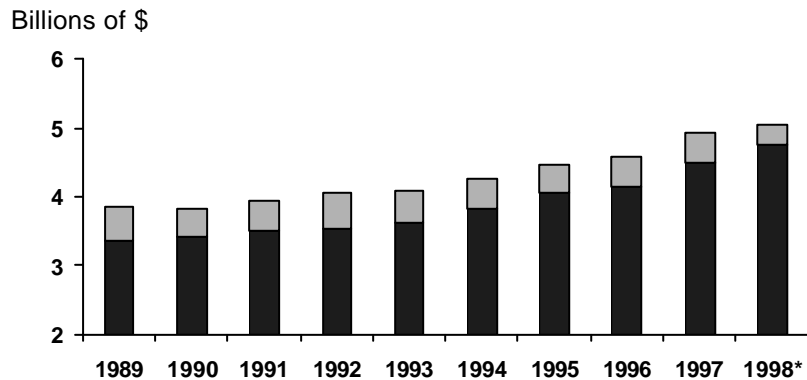
Western Canada



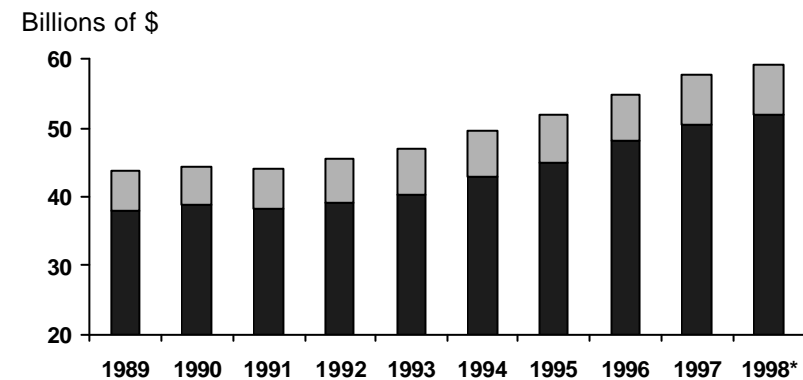
Central Canada



Atlantic Canada



Canada



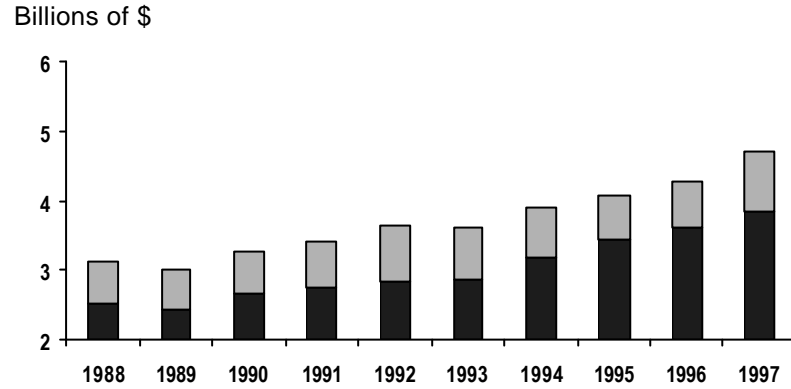
Food Processing**
 Beverage Processing

* 1998 figures are based on seasonally adjusted monthly shipments, CANSIM Matrix 9551, 9583-9592.

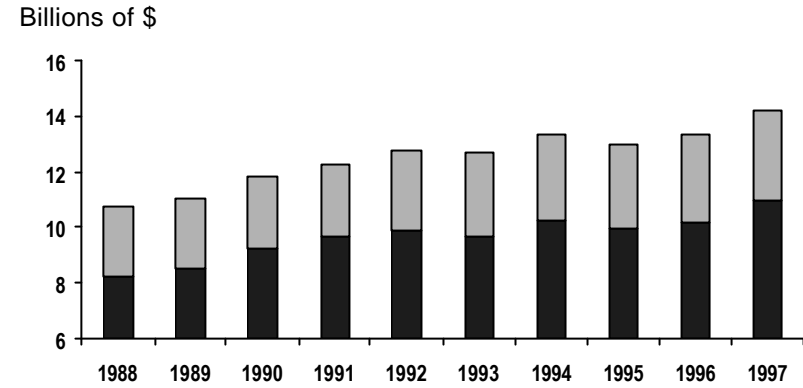
**Includes fish.

Manufacturing Value-Added

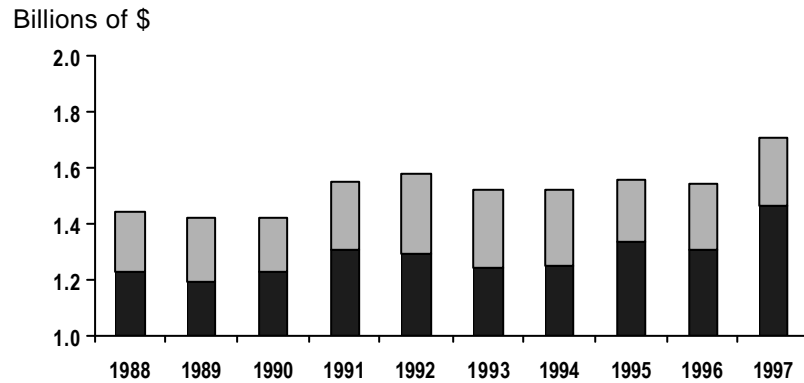
Western Canada



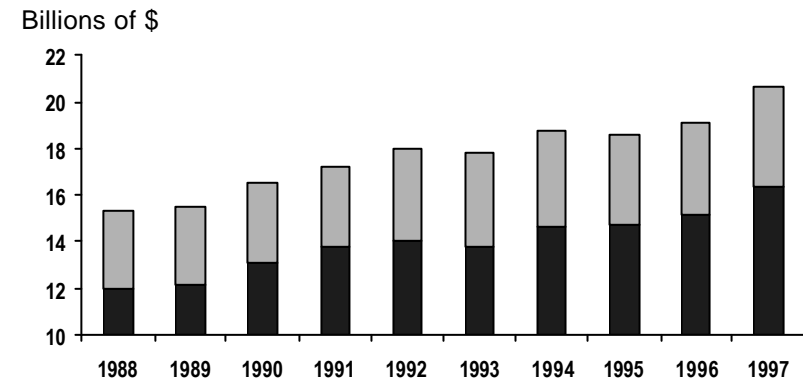
Central Canada



Atlantic Canada



Canada

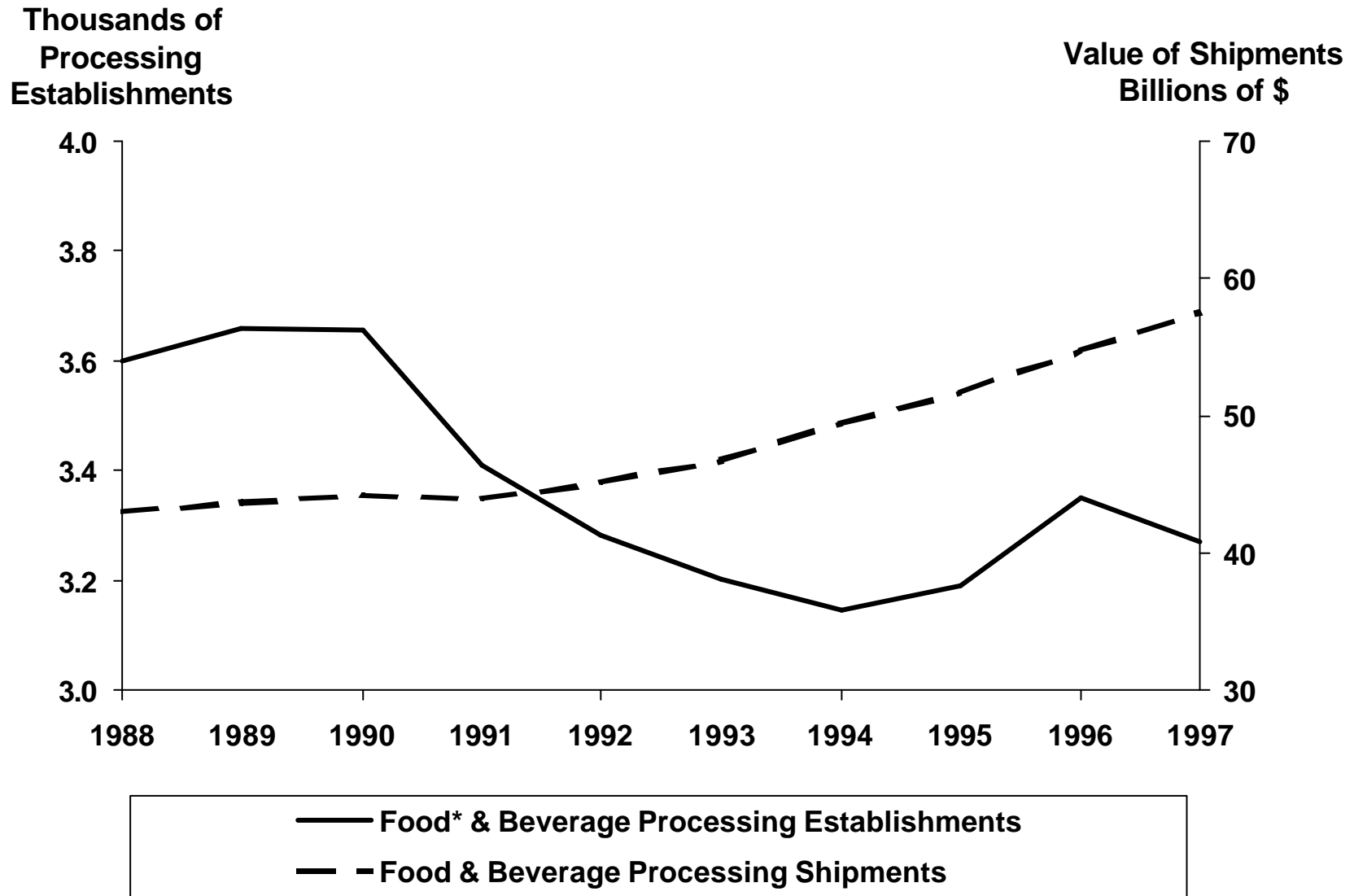


■ Food Processing* **■ Beverage Processing**

*Includes fish.

Source: Statistics Canada, CANSIM Matrix 5379 & 5401, Annual Survey of Manufacturers.

Number of Processing Establishments and Value of Shipments, Canada, 1988-1997

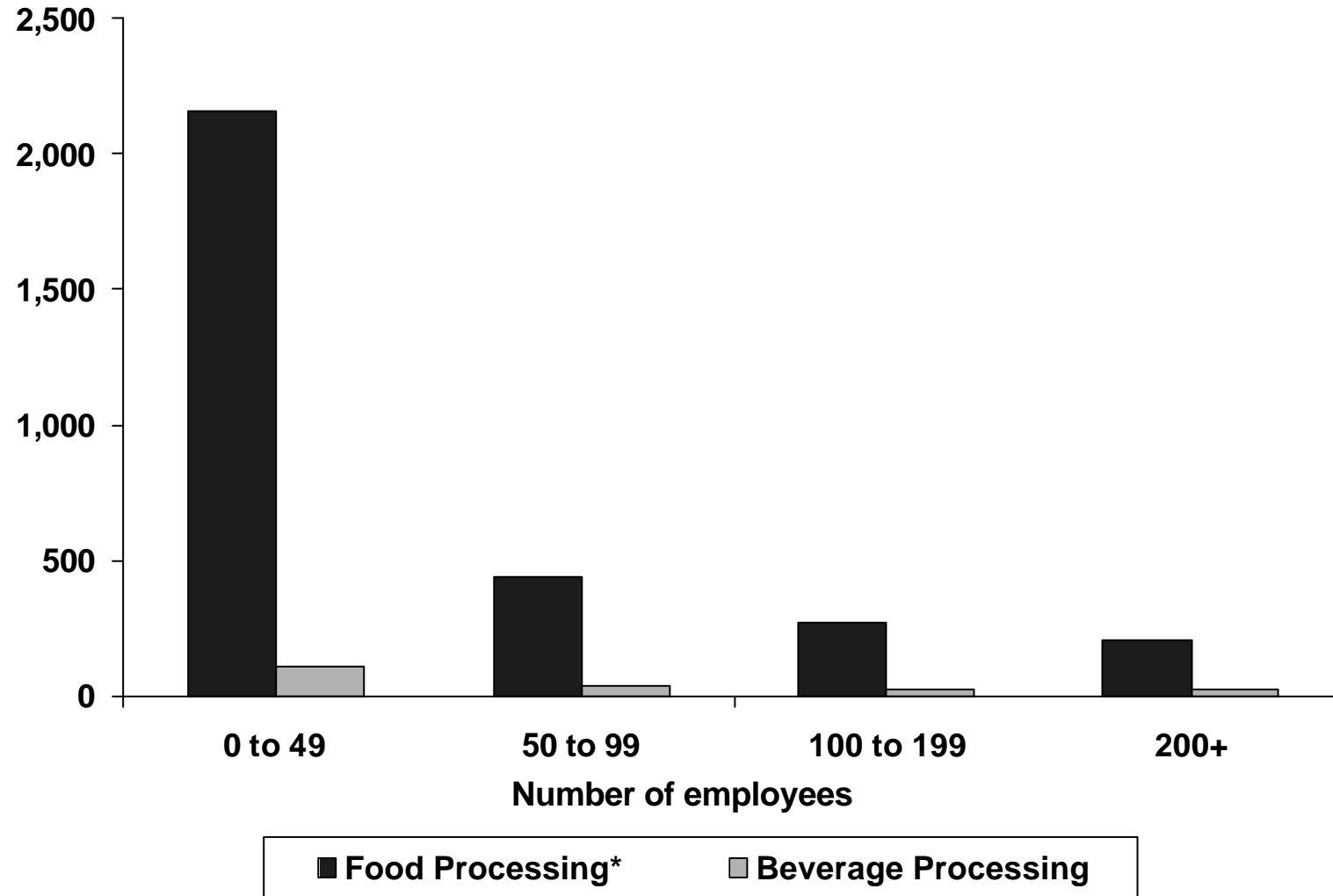


*Includes fish.

Source: Statistics Canada, CANSIM Matrix 5379 & 5401, Annual Survey of Manufacturers.

Graph 4-8

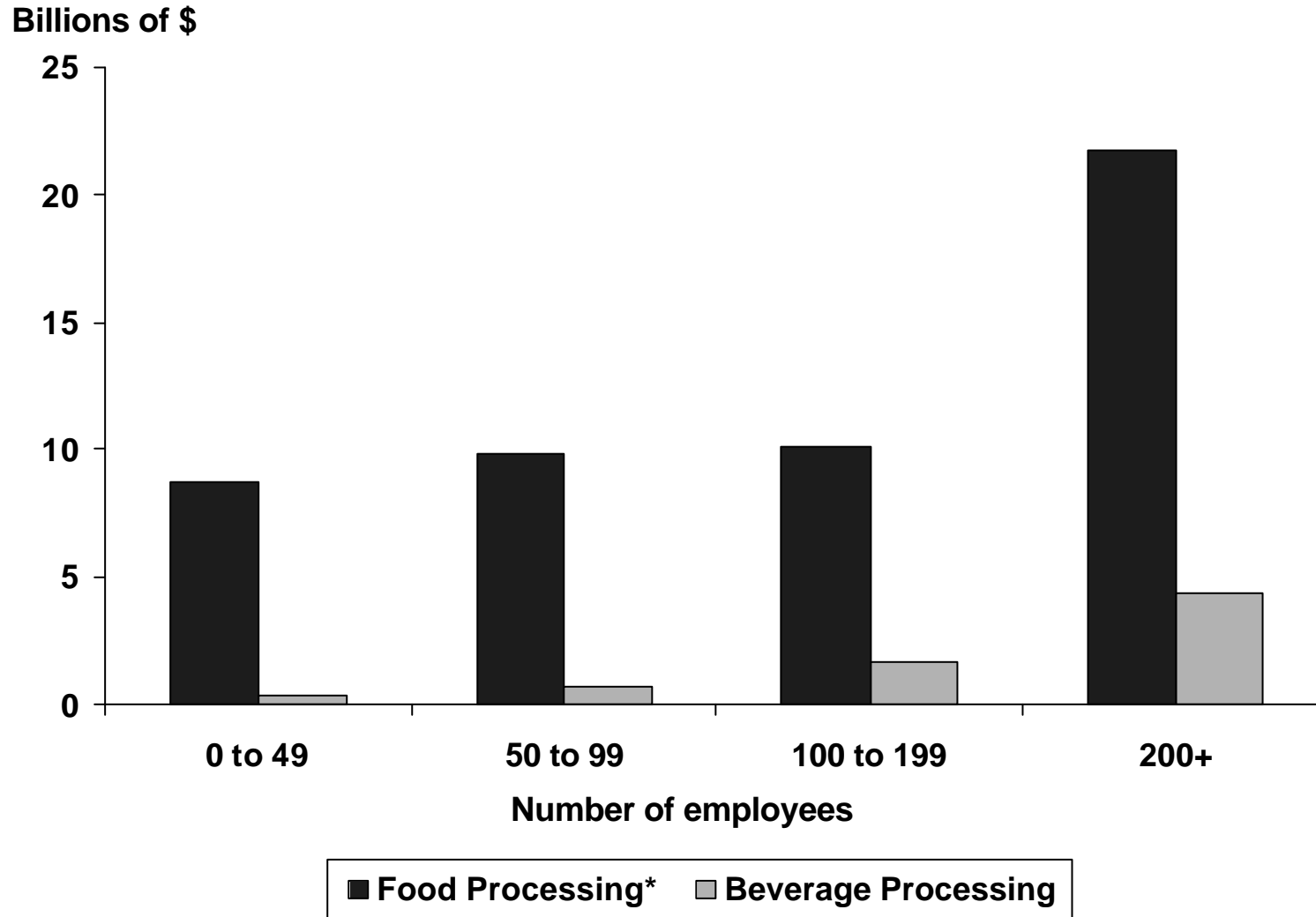
Number of Processing Establishments by Employment Categories, Canada - 1997



*Includes fish.

Source: Statistics Canada.

Value of Shipments by Employment Categories, Canada - 1997

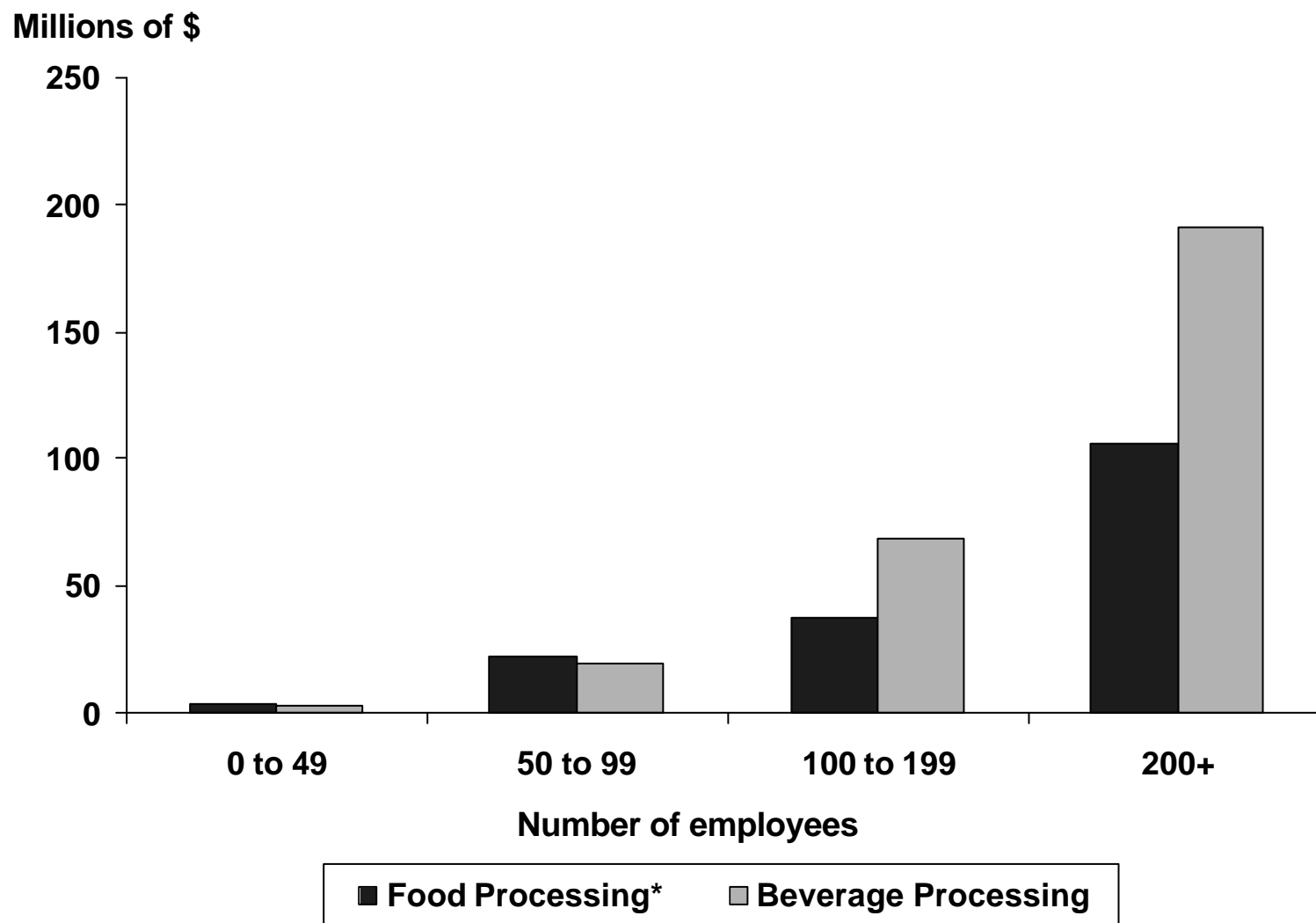


*Includes fish.

Source: Statistics Canada.

Graph 4-10

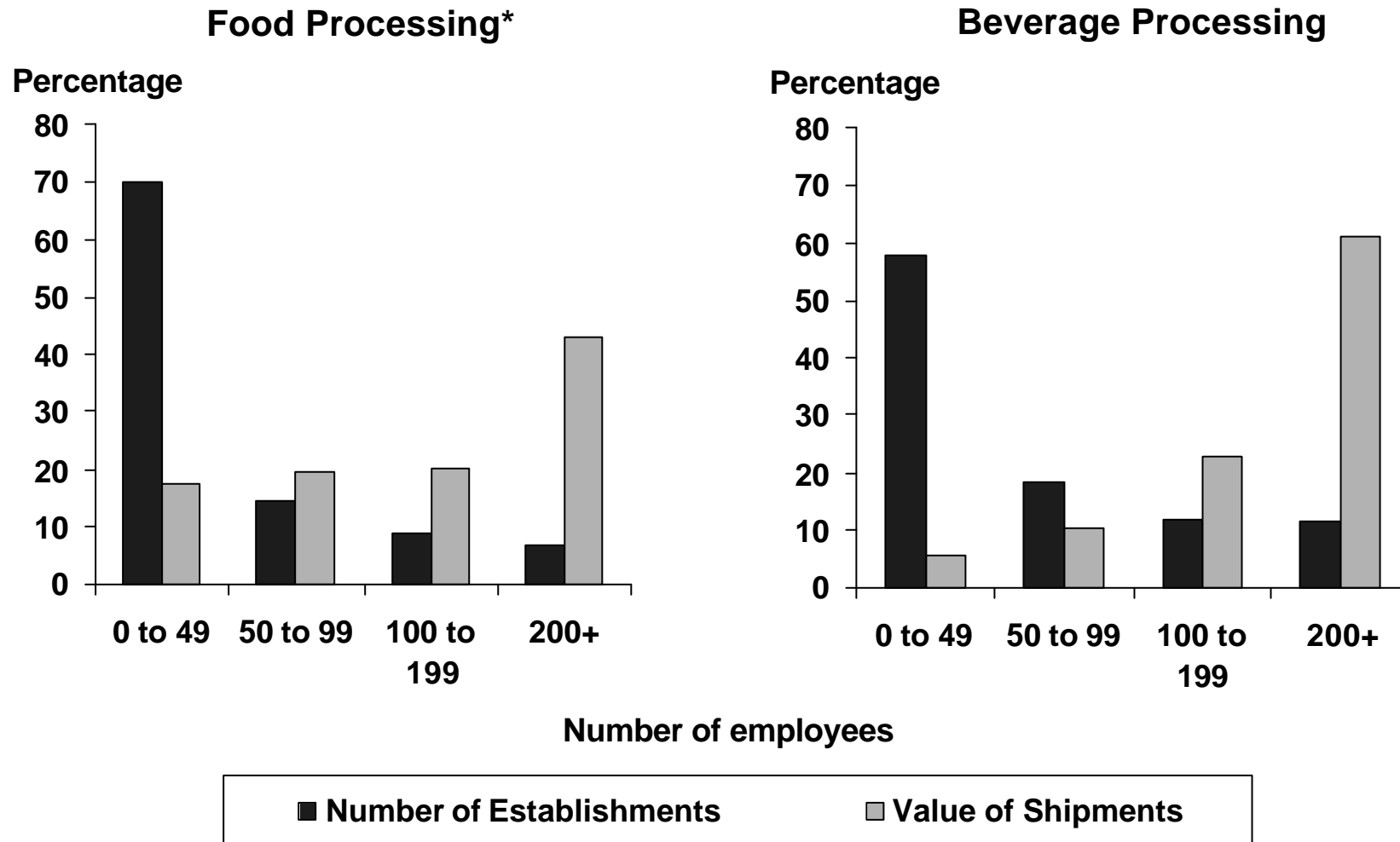
Value of Shipments per Establishment by Employment Categories, Canada - 1997



*Includes fish.

Source: Statistics Canada.

Distribution of Establishments and Value of Shipments By Employment Categories, Canada - 1997

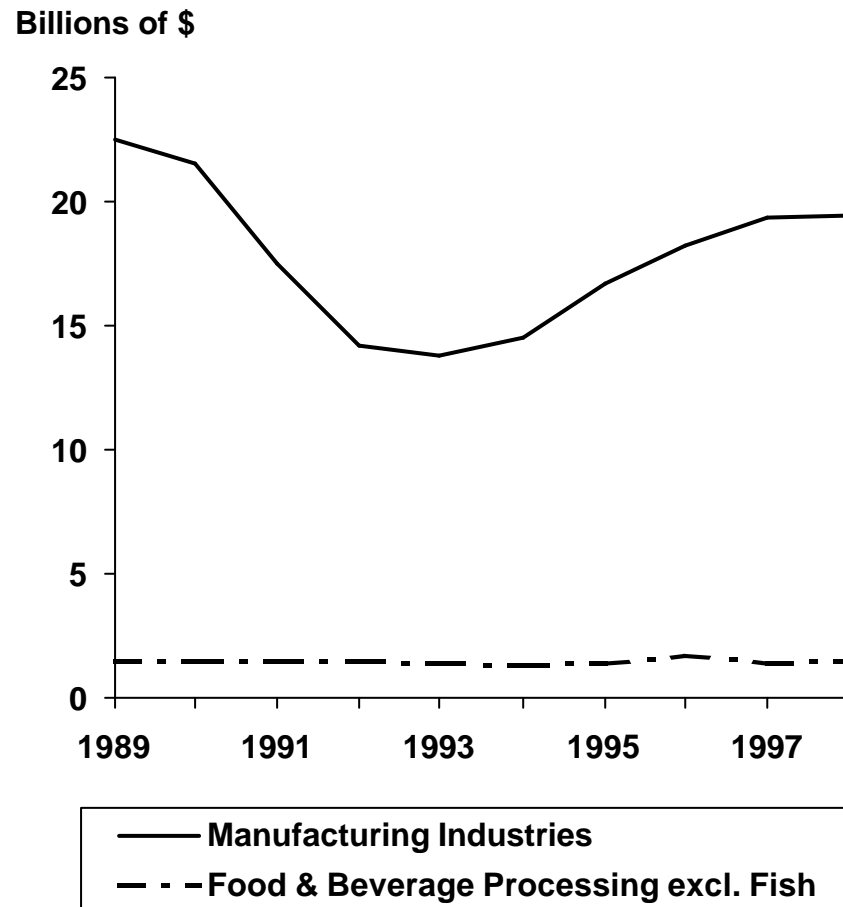


*Includes fish.

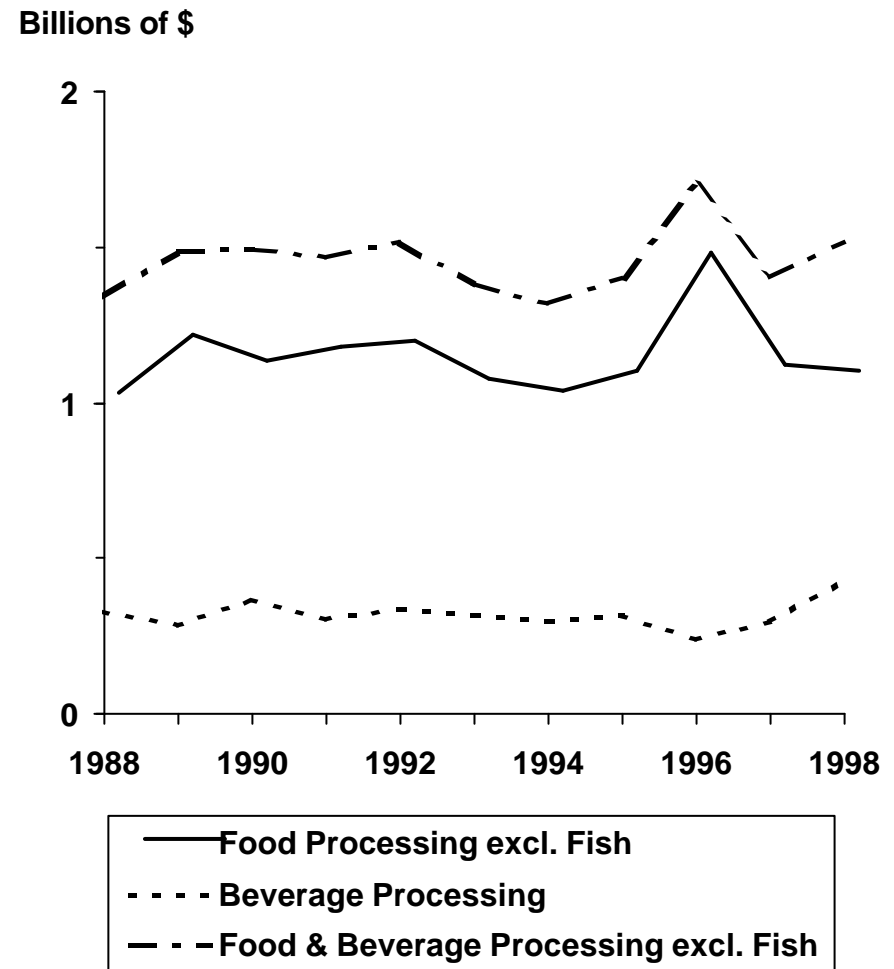
Source: Statistics Canada.

Capital Investment

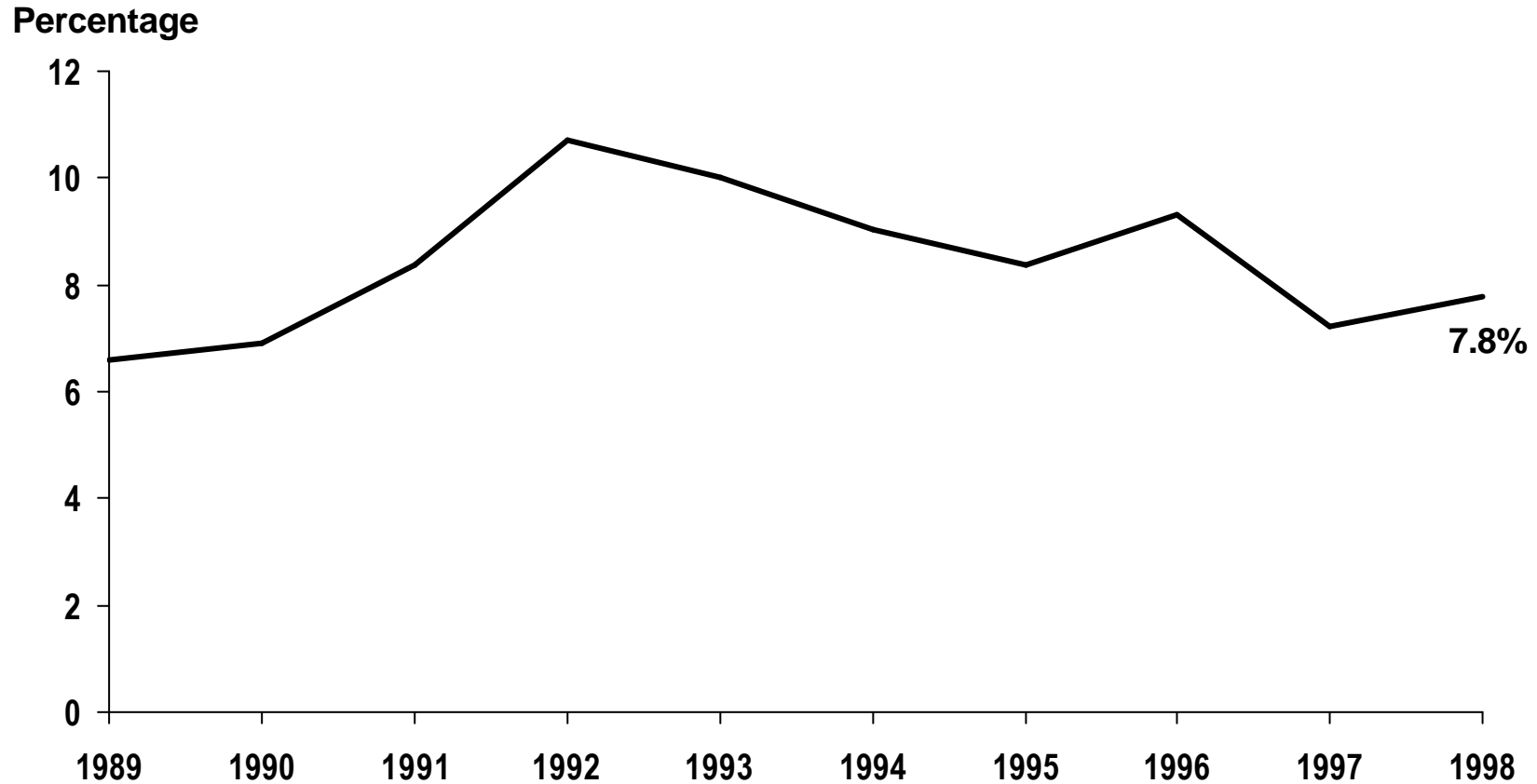
Total Manufacturing



Food & Beverage Processing



Food & Beverage Processing Capital Investment Share of Total Manufacturing Investment

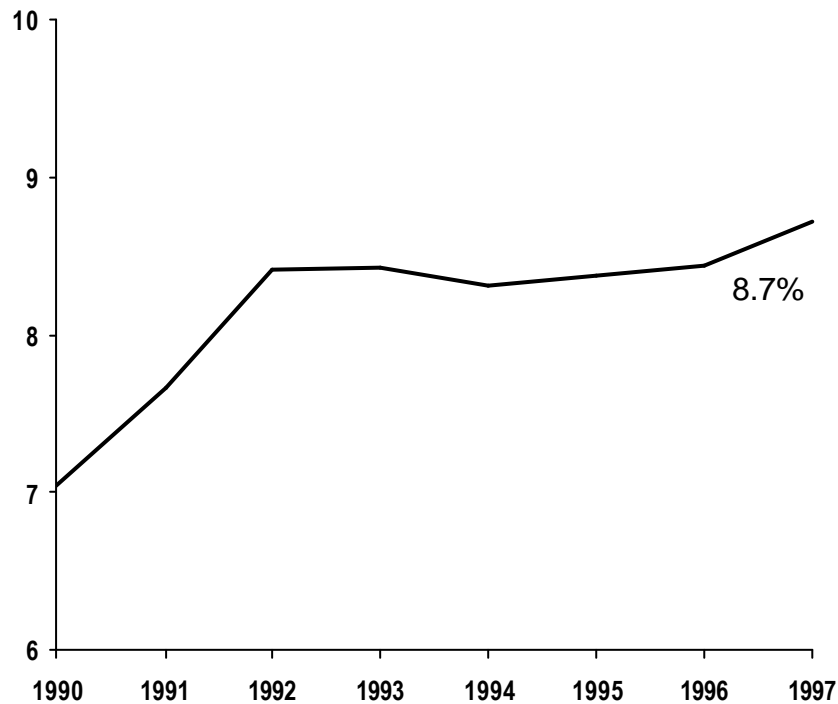


Source: Special Tabulations, as of April 1999, obtained from Statistics Canada, Business Finance and Taxation.

Foreign Direct Investment (FDI) Canadian Food, Beverage and Tobacco Industries

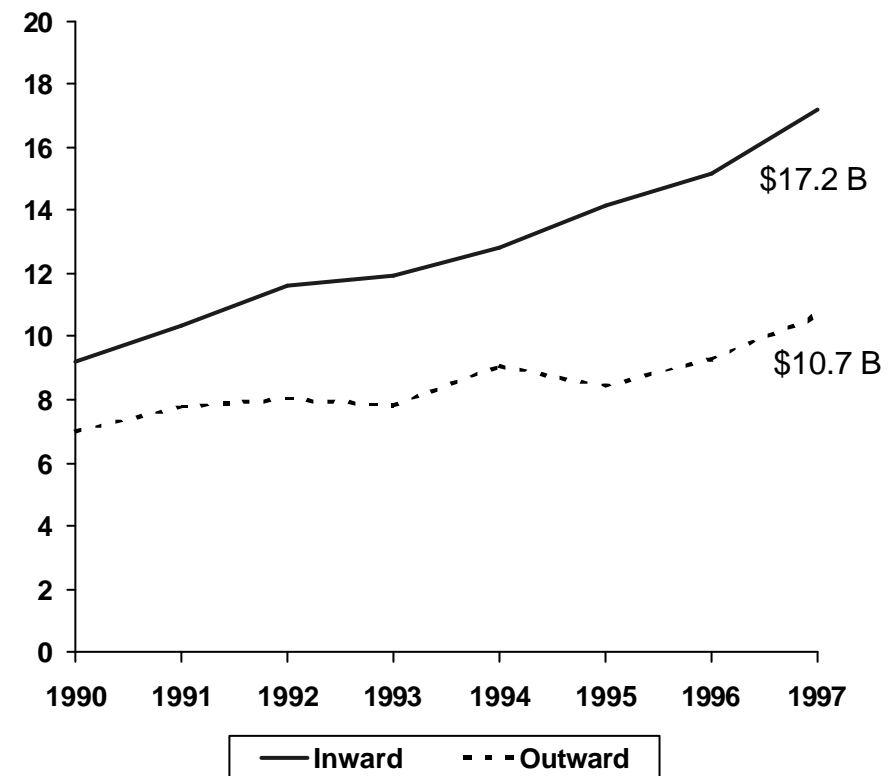
Share of Total Canadian FDI

Percentage



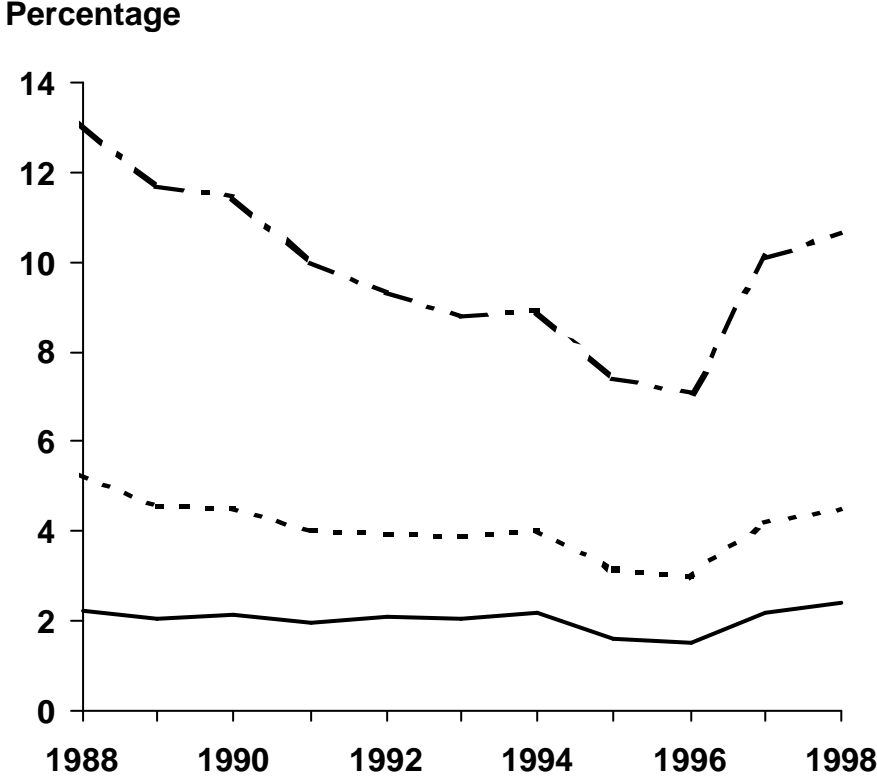
Value of FDI Inflows and Outflows

Billions of \$

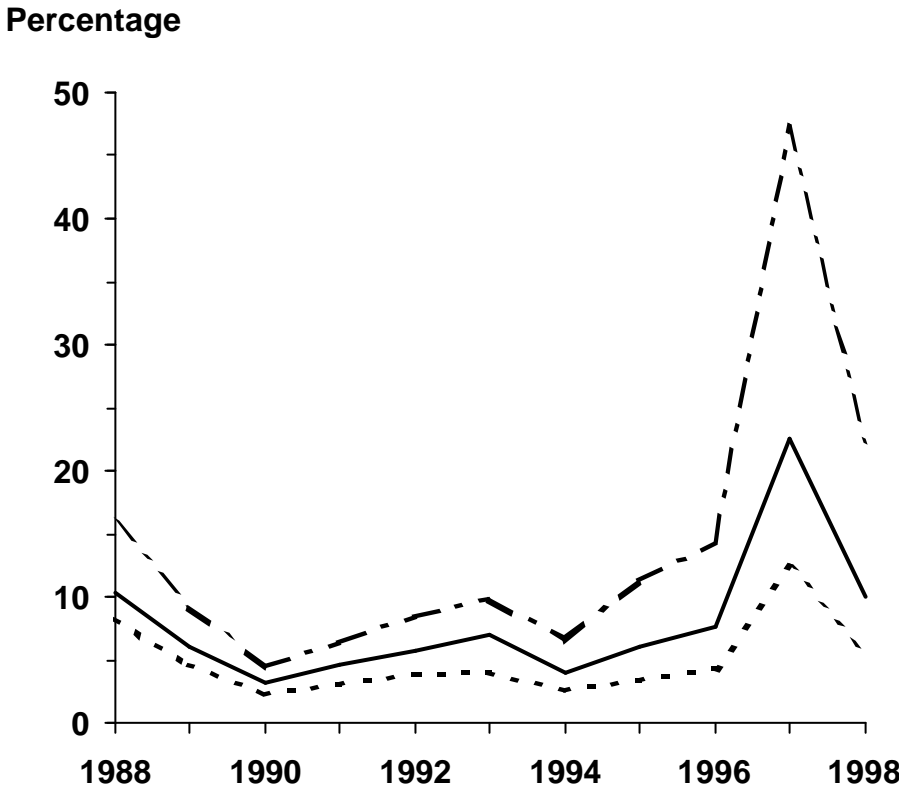


Canadian Food & Beverage Processing Sectors Profitability Measures

Food Processing



Beverage Processing

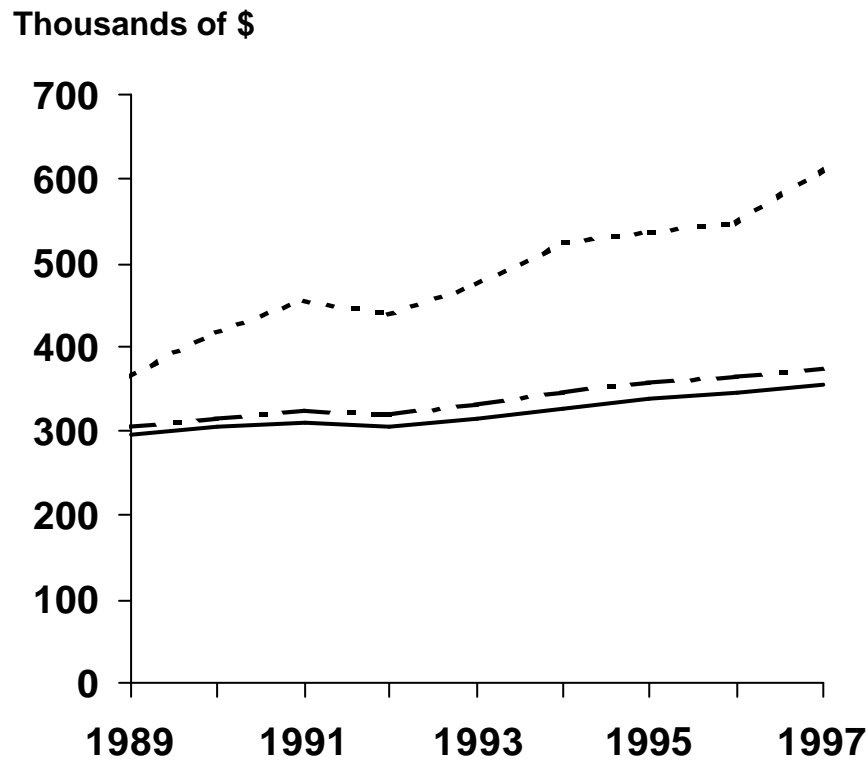


Net profit margin
 Return on assets
 Return on equity

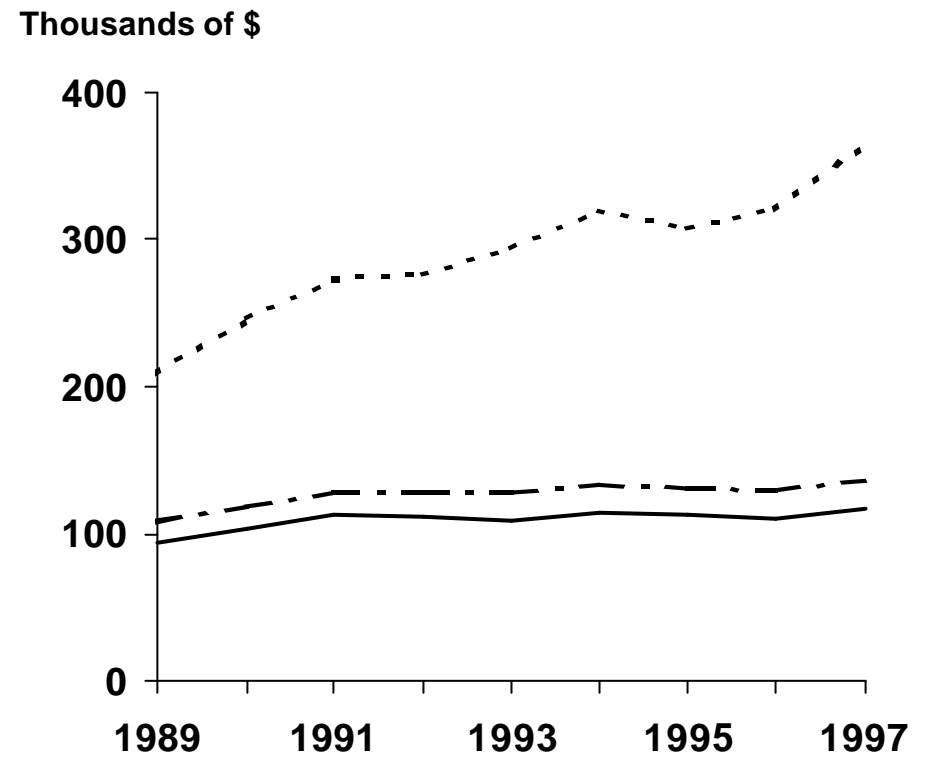
Source: Special Tabulations, as of April 1999, obtained from Statistics Canada, Business Finance and Taxation.

Canadian Food & Beverage Processing Sectors Productivity Measures

Value of Shipments
per Production Worker



Manufacturing Value-Added
per Production Worker

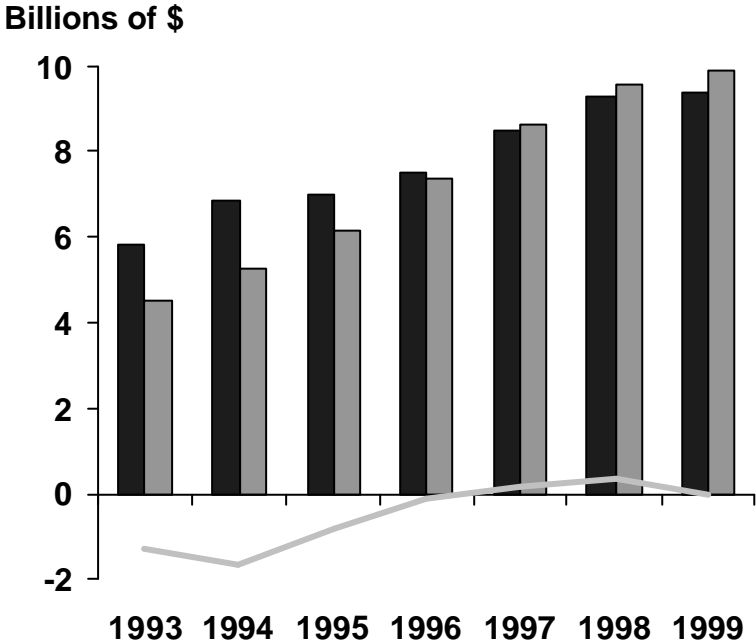


— Food Processing* - - - Beverage Processing - . - Food & Beverage Processing

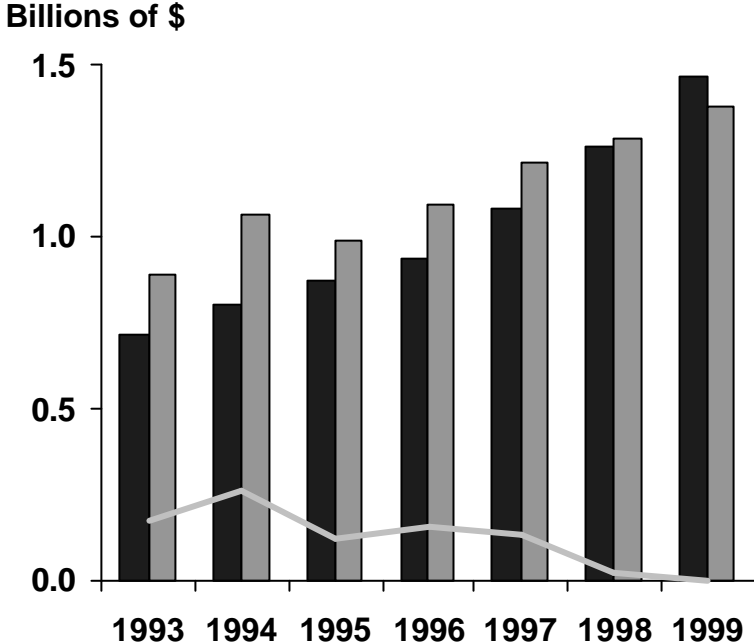
*Excludes fish.

Value of Trade

Food Processing Sector*



Beverage Processing Sector



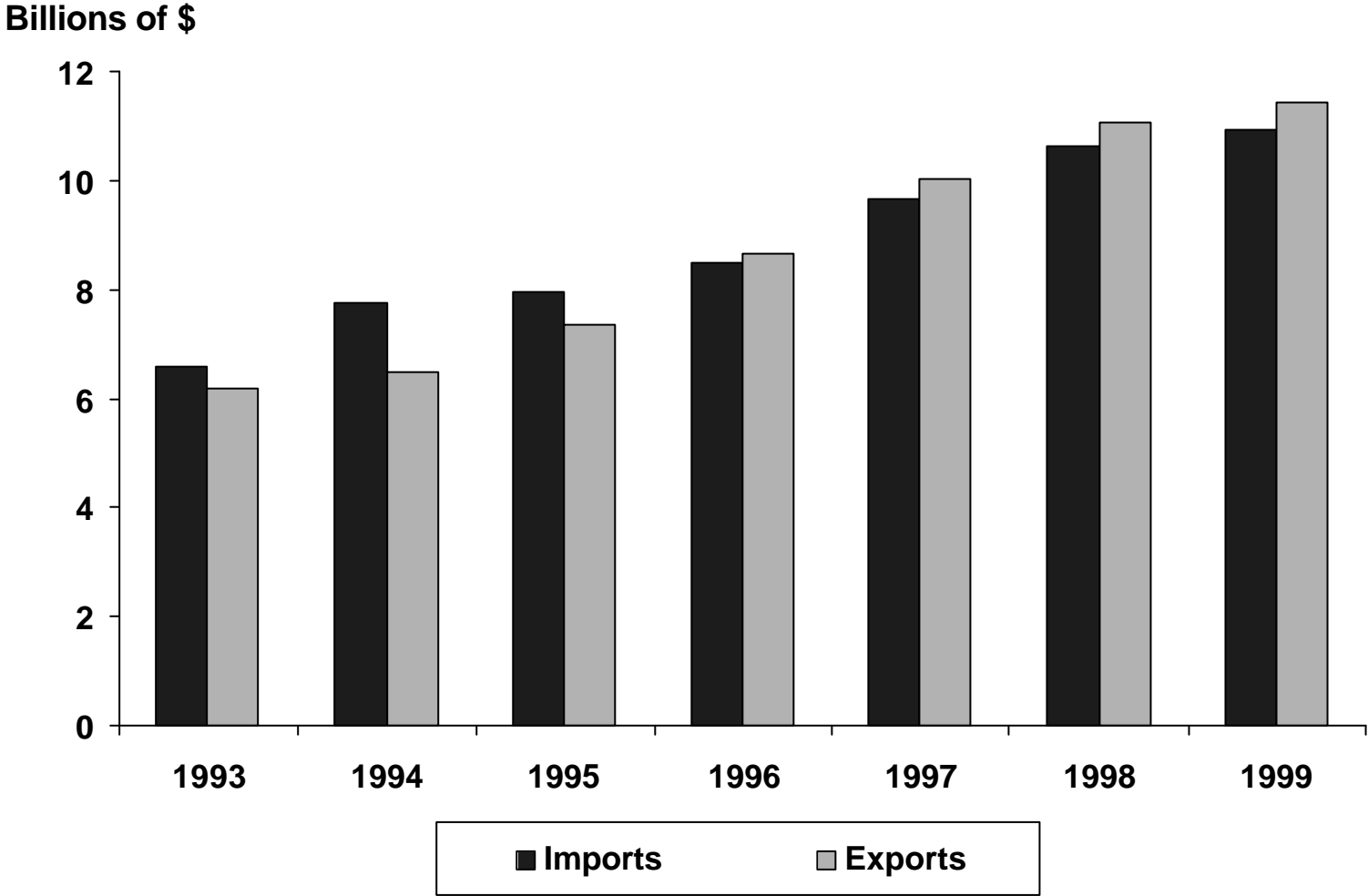
Imports
 Exports
 Trade Balance

*Food Processing minus Fish Products.

Sources: Statistics Canada, BID; Industry Canada, Canadian Industry Statistics.

Value of Trade

Agri-Food Processing Sector*



*Includes: food (excl. fish) & beverage processing and tobacco products.

Source: Statistics Canada's CANSIM Matrix 9551.

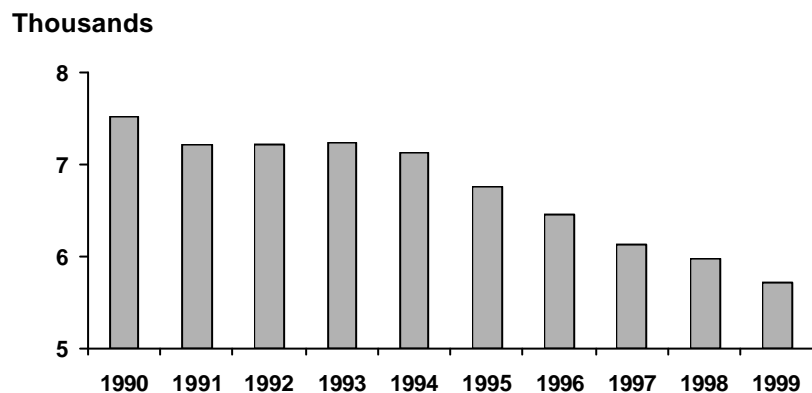
Glossary of Terms

Manufacturing Shipments	Shipments of goods produced by the establishment, including custom repair work, as well as goods made under contract.
Manufacturing Value-Added	Value-added is a measure of net output, that is, of gross output less those purchased inputs which have been embodied in the value of the product.
Foreign Direct Investment (FDI)	Investment (equity capital, reinvested earnings and intra-company loans) involving a long-term relationship and reflecting a lasting interest and control of a resident entity in one economy by an enterprise resident in another country's economy.
FDI Inflows and Outflows	Comprise capital provided by a foreign direct investor to a FDI enterprise, or capital received from a FDI enterprise by a foreign direct investor.

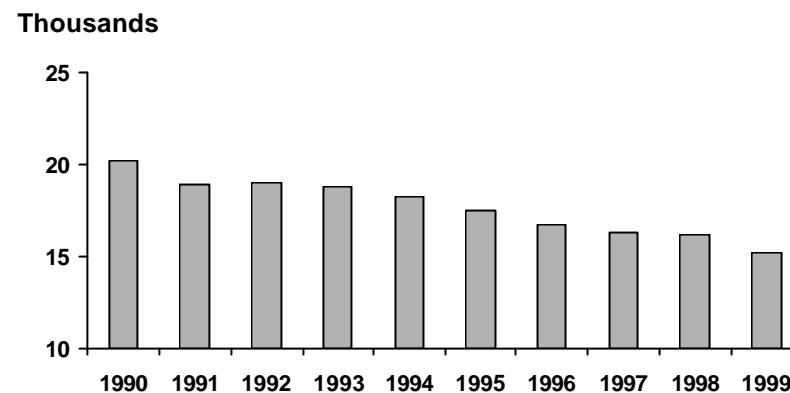
Retail and Food Service Sector: Structure, Significance and Performance

Number of Retail Food Outlets*

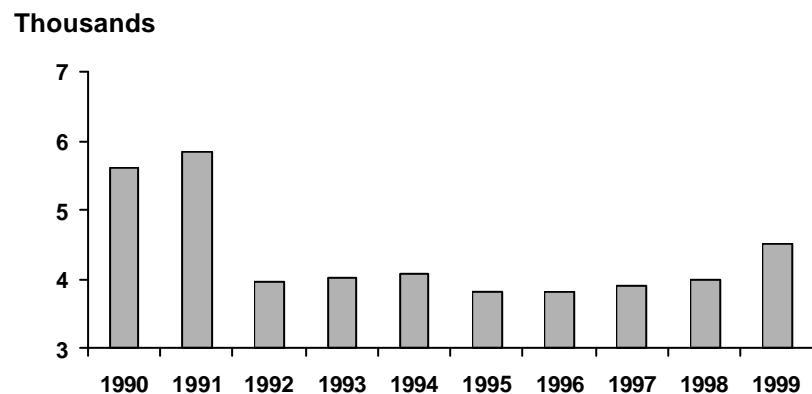
Western Canada



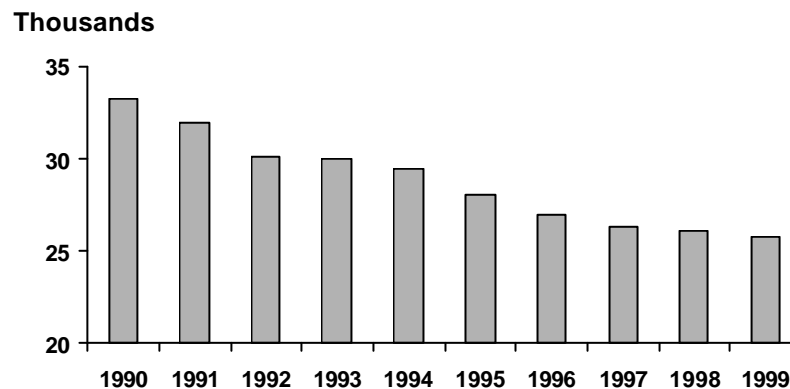
Central Canada



Atlantic Canada



Canada

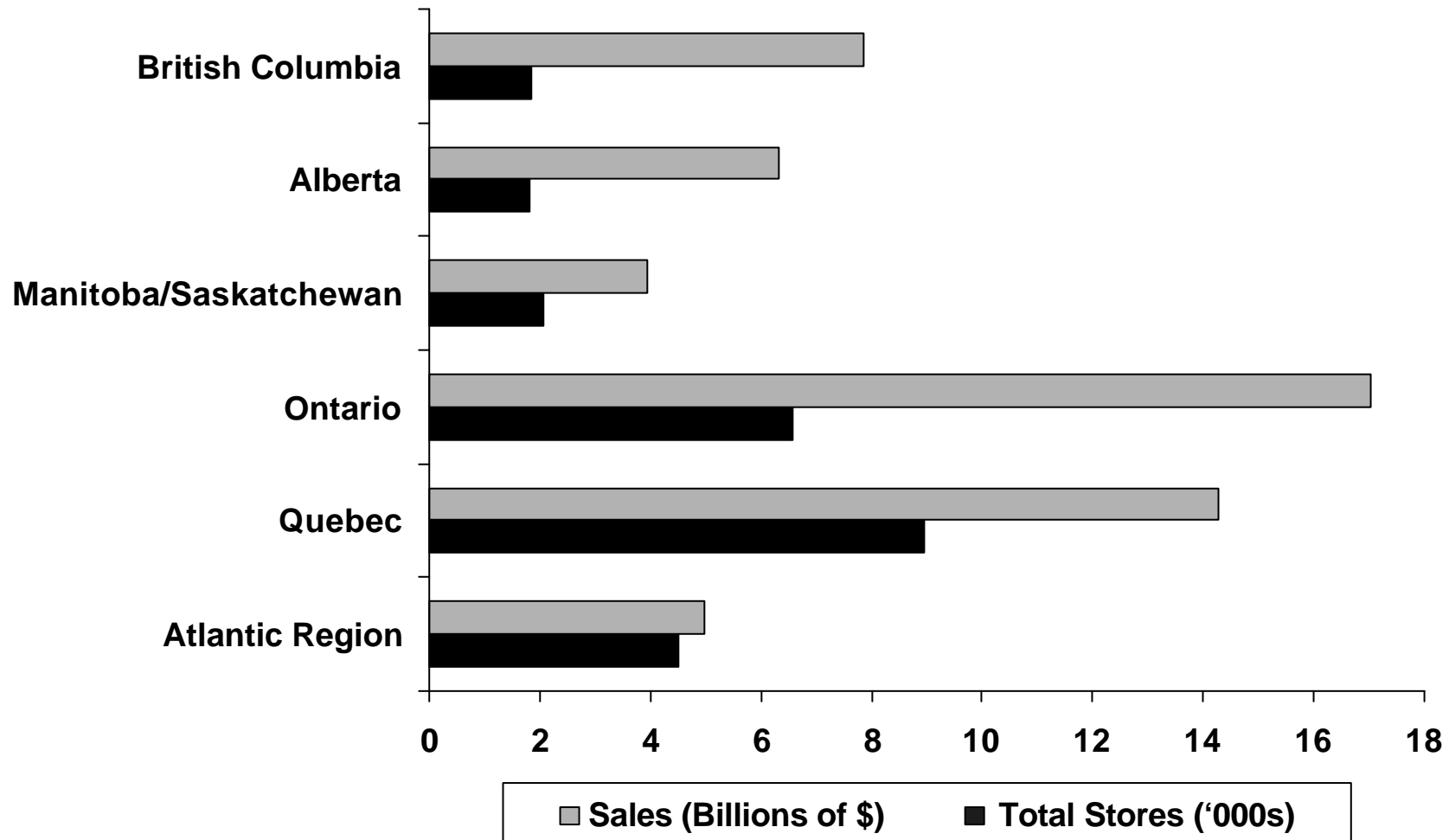


*Retail Food Outlets include Chain Stores (Supermarkets and convenience) and Independent Stores (Voluntary groups, Unaffiliated, and Total Independents). Not included are department stores or specialty stores (bakeries, butchers, etc.). Canadian Grocer estimates for 1999 are based on nine-month figures.

Source: Canadian Grocer, February 2000.

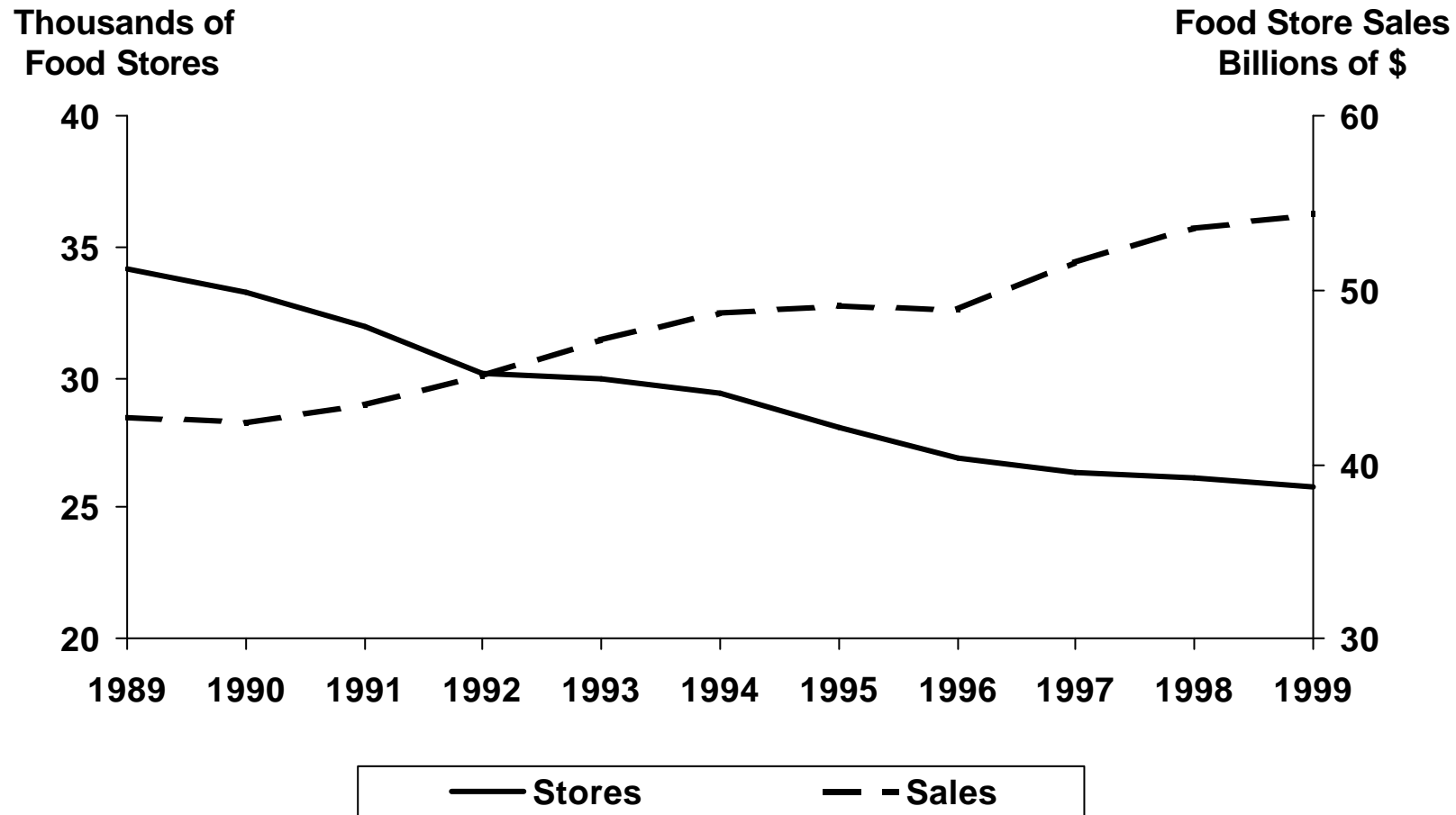
Graph 5-2

Food Sales and Number of Food Stores* by Regions of Canada, 1999



*Food Stores include Chain Stores (Supermarkets and convenience) and Independent Stores (Voluntary groups, Unaffiliated, and Total Independents). Not included are department stores or specialty stores (bakeries, butchers, etc.). Canadian Grocer estimates based on nine-month figures for grocery and combination stores and Canadian Grocer's 1999 Survey of Chains and Groups.

Number of Food Stores* and Value of Food Store Sales, 1989-1999

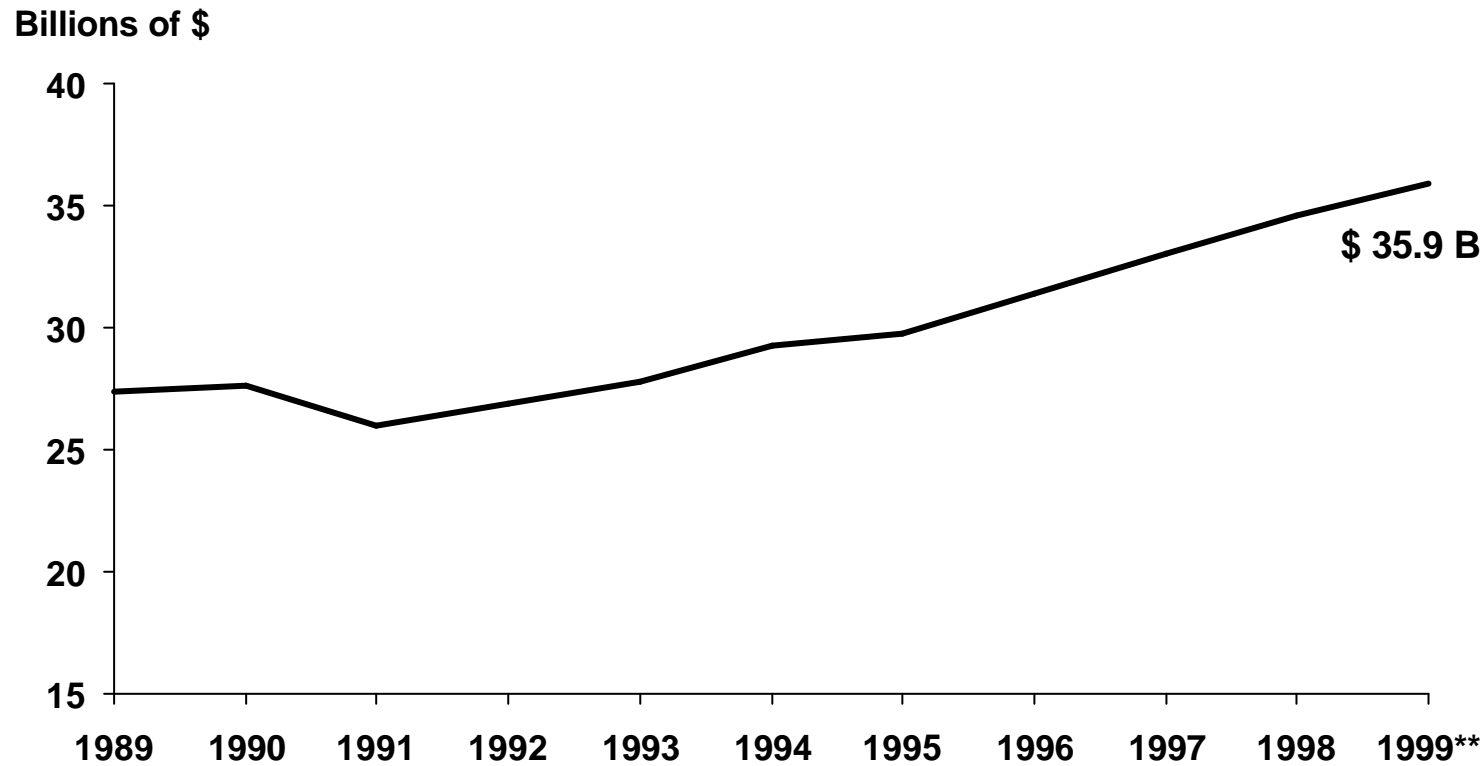


*Food Stores include Chain Stores (Supermarkets and convenience) and Independent Stores (Voluntary groups, Unaffiliated, and Total Independents). Not included are department stores or specialty stores (bakeries, butchers, etc.). Canadian Grocer estimates for 1999 are based on nine-month figures for grocery and combination stores and Canadian Grocer's 1999 Survey of Chains and Groups.

Source: Canadian Grocer, February 1999.

Graph 5-4

Commercial and Institutional Food Services* Sales

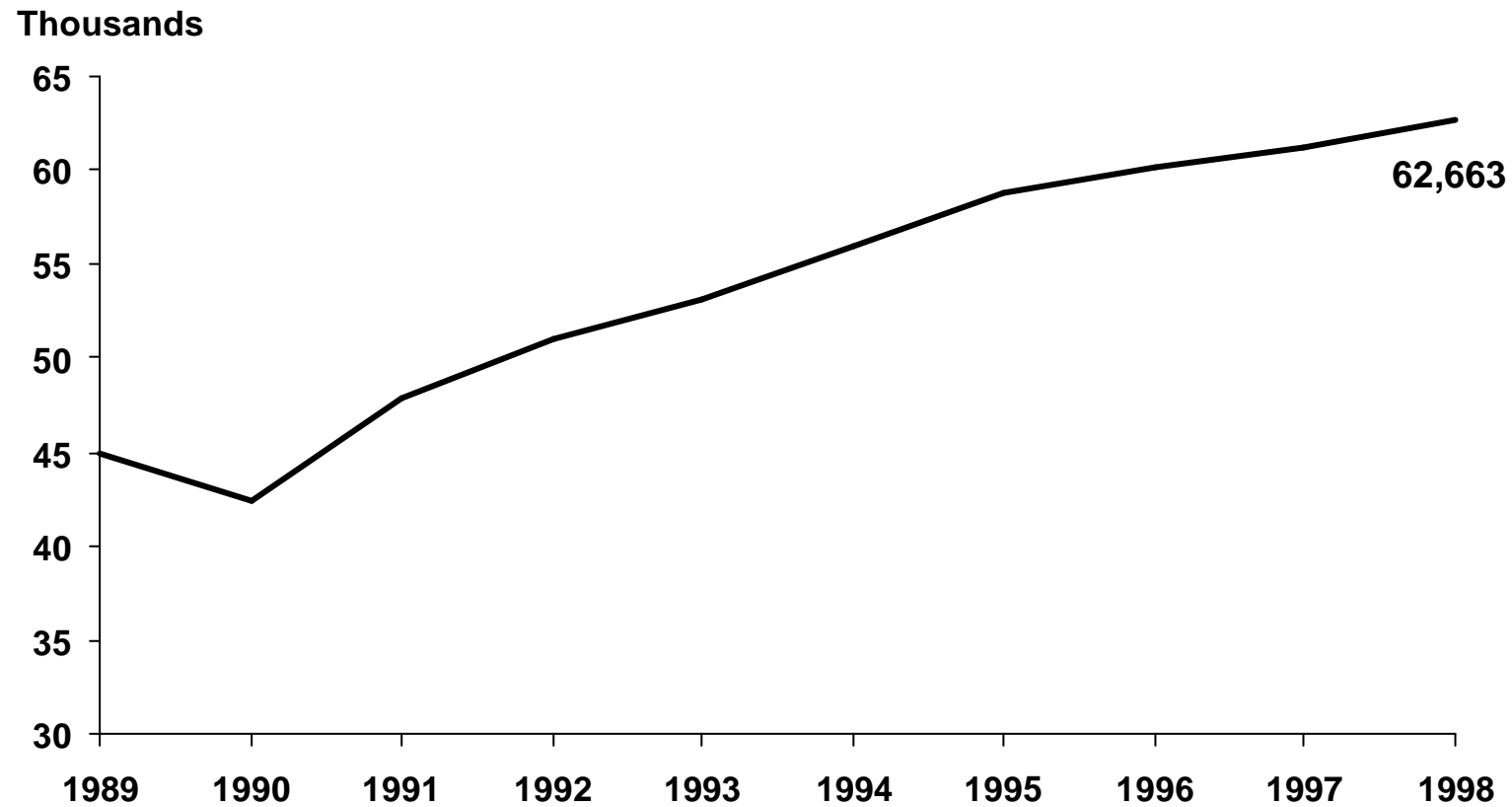


*Includes Restaurants, Pubs/Taverns, Vending, Hotel/Motel, Take-out & Delivery, Leisure Industry, Department Stores (but not Drug Stores), Social/Contract Caterers, Institutions.

**Forecast.

Sources: Canadian Restaurant and Foodservices Association's InfoStats and Statistics Canada.

Number of Commercial Food Services* Establishments



*Restaurants (licensed and unlicensed), Take-out & Delivery, Social/Contract Catering and Pubs/Taverns/Lounges.

Sources: Foodservice Facts 1999, Canadian Restaurant and Foodservices Association's.

Glossary of Terms

Commercial & Institutional Food Sales	Includes sales from restaurants, pubs & taverns, vending, hotel/motel, take-out & delivery, leisure industry, department stores, social/contract caterers, institutional foodservices.
Food Service Establishments	Includes restaurants (licensed and unlicensed), take-out and delivery, social/contract caterers, and pubs/taverns/lounges.
Food Store Sales	Includes chain stores, independents, but does not include food sales through department stores or specialty stores (i.e., bakeries, butchers, etc.).

Performance Indicators: International Comparisons

Graph 6-1

International Ranking of Low Business Costs in North America, Europe and Japan

National Ranking - Overall Results for Nine Industries*

Country	Rank
Canada	1
United Kingdom	2
United States	3
Austria	4
France	5
Italy	6
Germany	7
Japan	8

National Ranking - Food Processing Industry

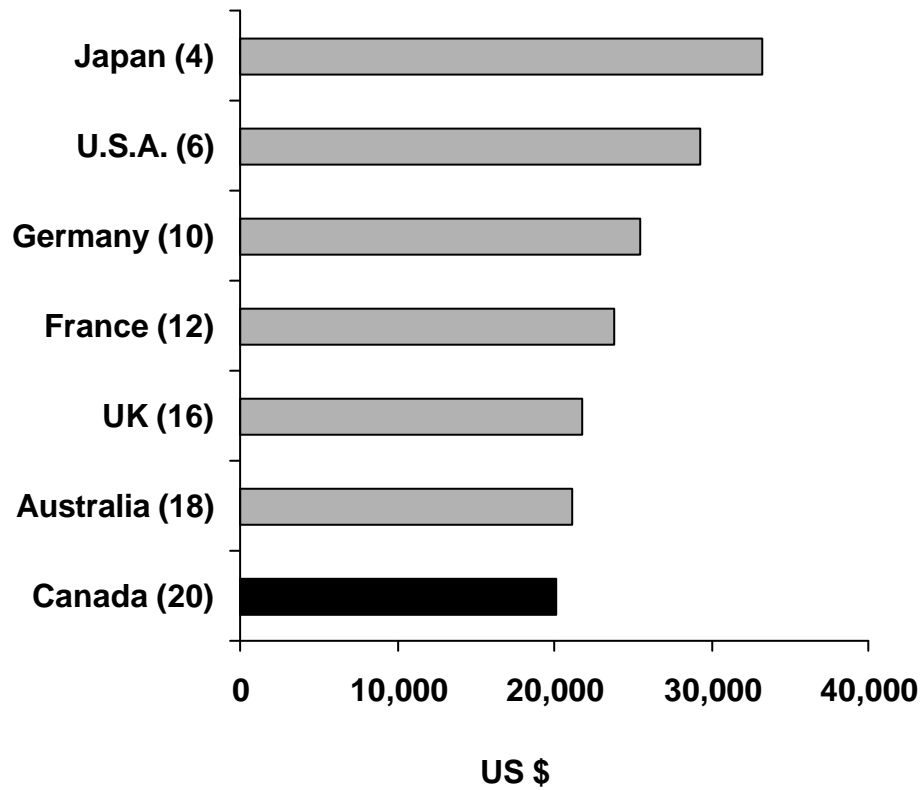
Country	Rank
United Kingdom	1
Canada	2
Austria	3
Italy	4
United States	5
France	6
Germany	7
Japan	8

*International KPMG Study comparing business costs in all G-7 countries, plus Austria, based on total annual costs including all major taxes. Manufacturing industries included: Electronics, Food Processing, Medical Devices, Metal Fabrication, Pharmaceuticals, Plastic Products, & Telecom Equipment. Service industries included: Packaged Software, & Advanced Software Development.

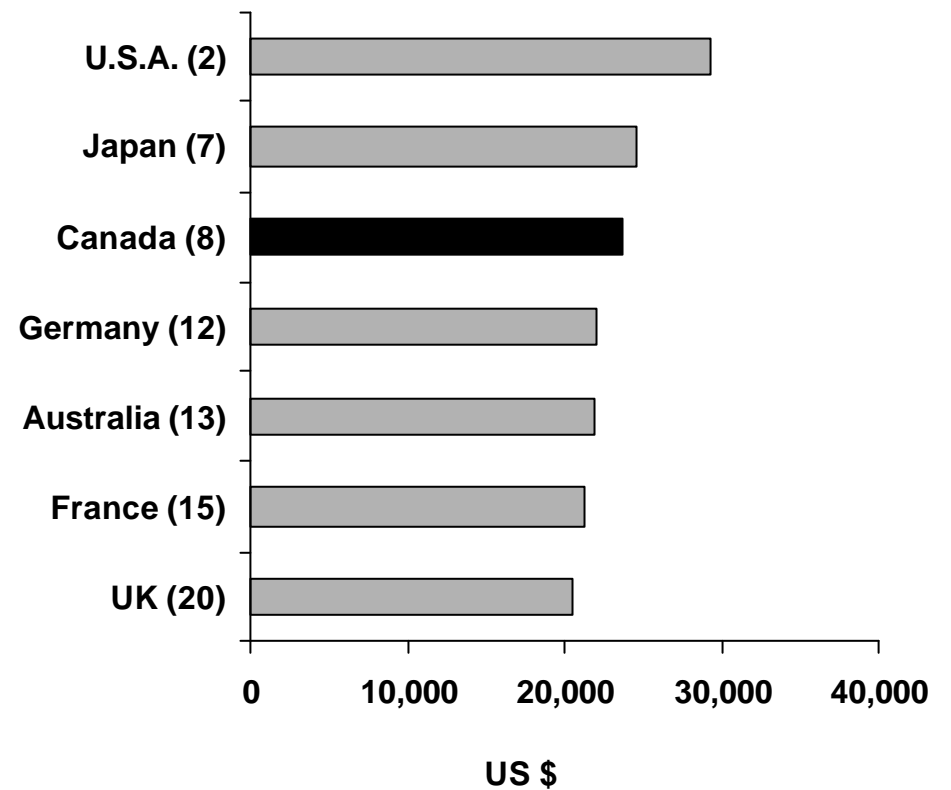
Source: The Competitive Alternatives: A Comparison of business costs in North America, Europe and Japan. KPMG LLP, March 1999.

GDP - 1997

GDP Per Capita Exchange Rate Basis



GDP Per Capita Purchasing Power Parities Basis



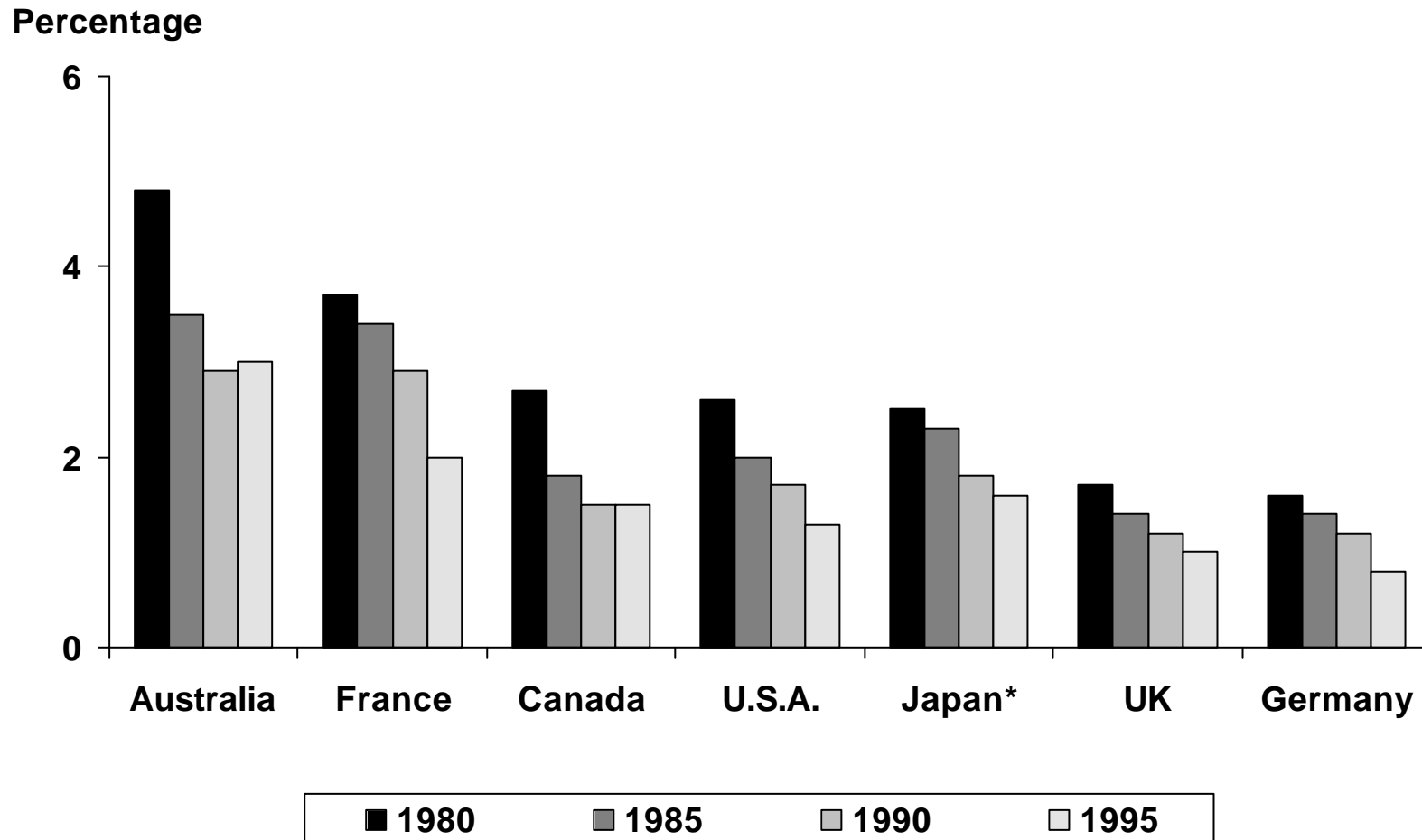
Note: Numbers in brackets represent OECD ranking.

Source: OECD National Accounts.

Graph 6-2

Graph 6-3

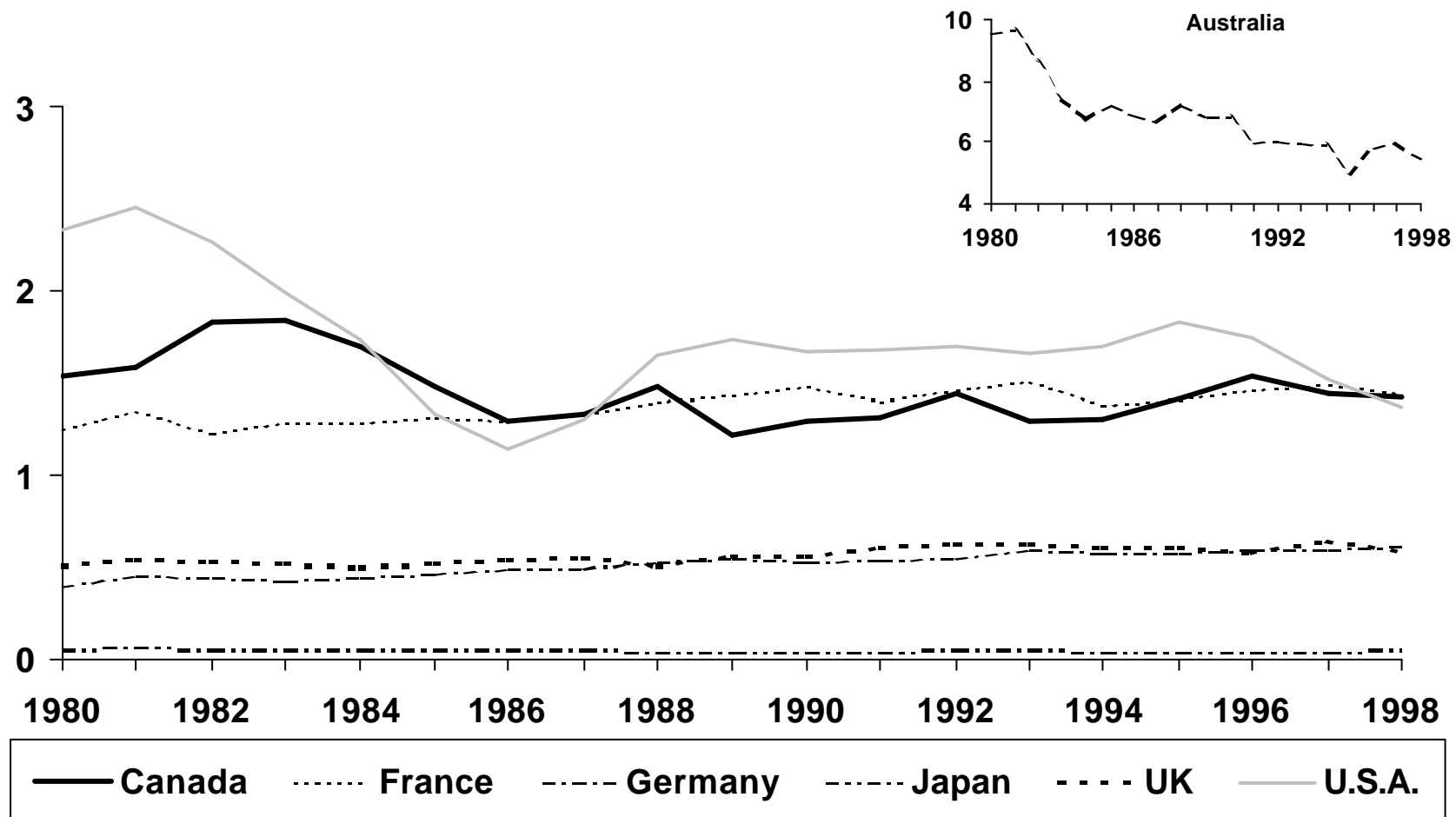
Agriculture Value-Added Share of GDP for Selected OECD Countries



*Japan's value shown for 1995 is actually 1994 data.

Source: OECD - Economic Accounts for Agriculture, 1998.

Terms of Trade* for Selected OECD Countries



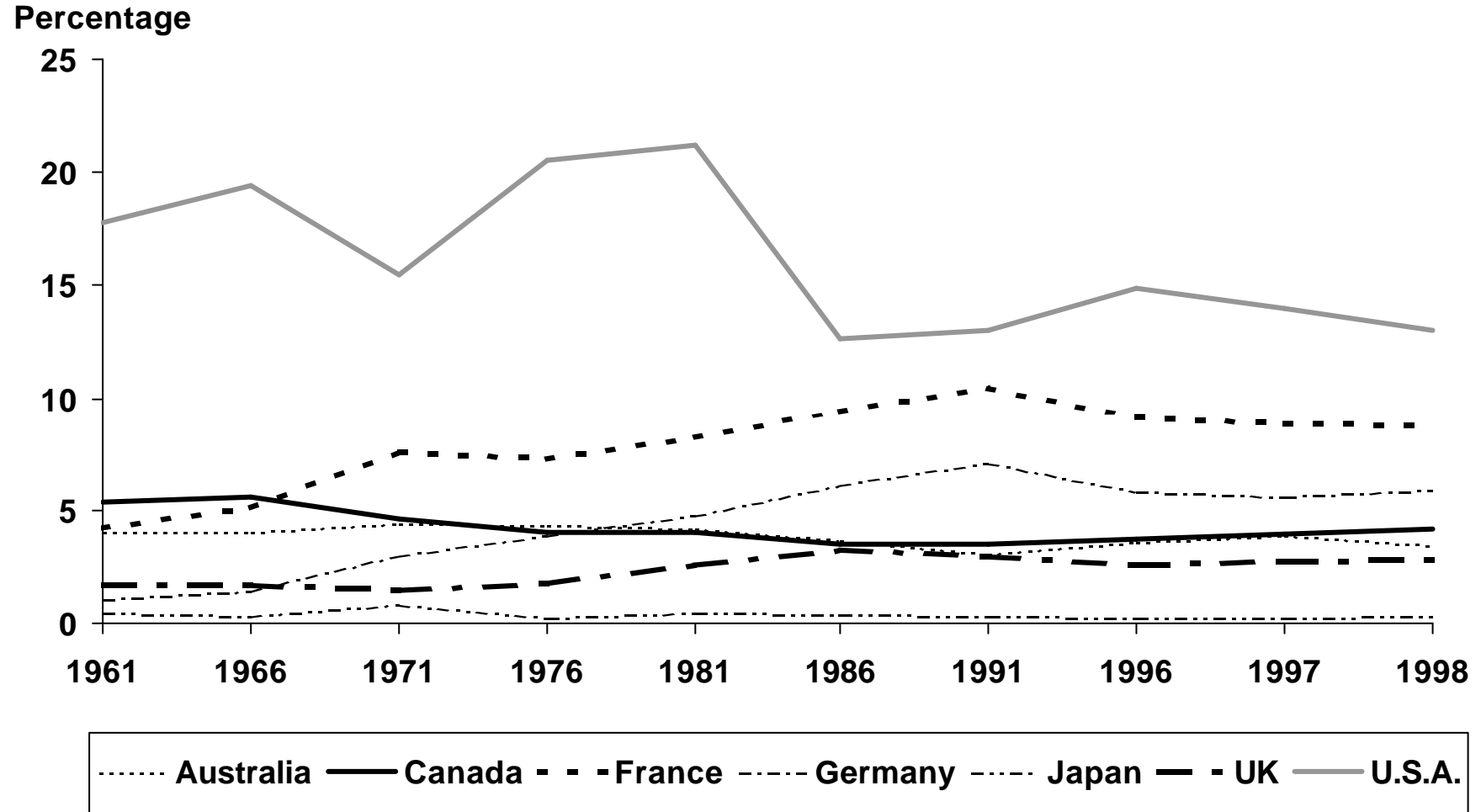
*Ratio of the value of agriculture exports to the value of agriculture imports.

Source: Food and Agriculture Organization of the United Nations, FAOSTAT online database.

Graph 6-4

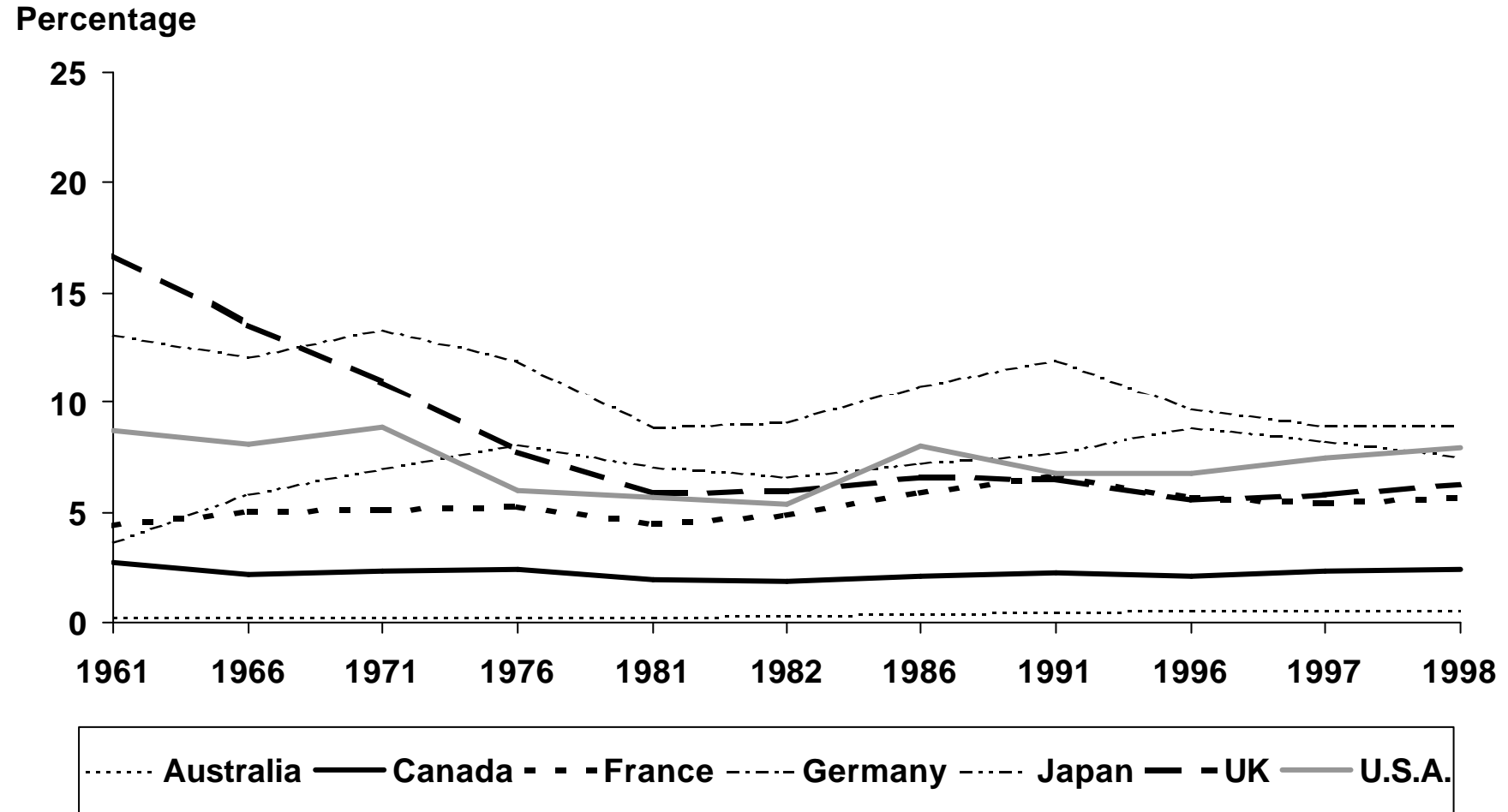
Graph 6-5

Share of World Food Exports for Selected OECD Countries



Source: Food and Agriculture Organization of the United Nations, FAOSTAT online database.

Share of World Food Imports for Selected OECD Countries

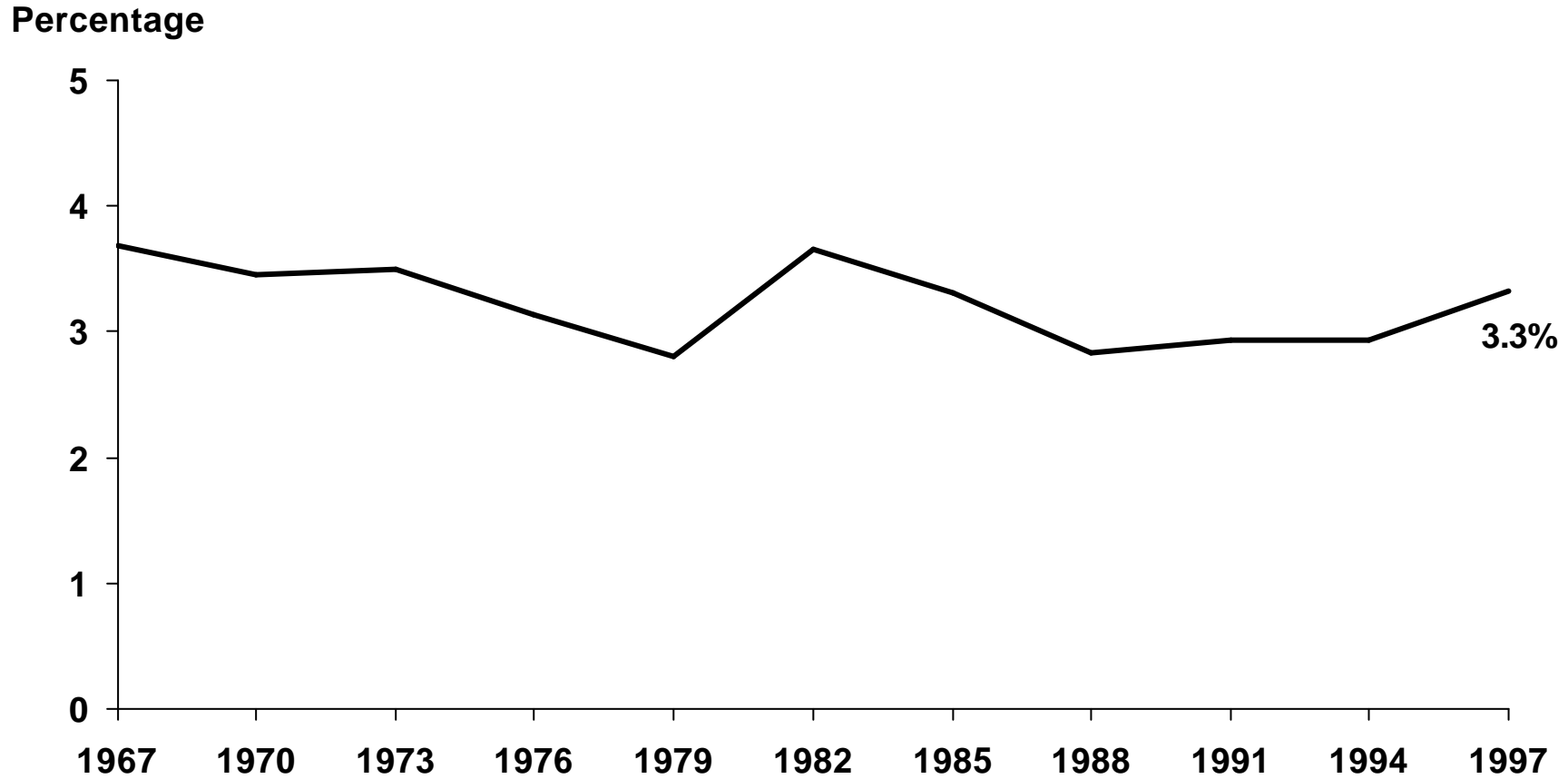


Source: Food and Agriculture Organization of the United Nations, FAOSTAT online database.

Graph 6-6

Graph 6-7

Canada's Share of World Agricultural Products Exports*

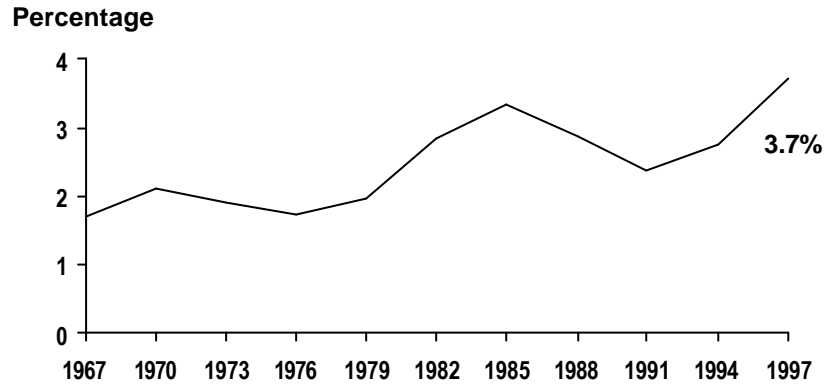


*Based on a three year average.

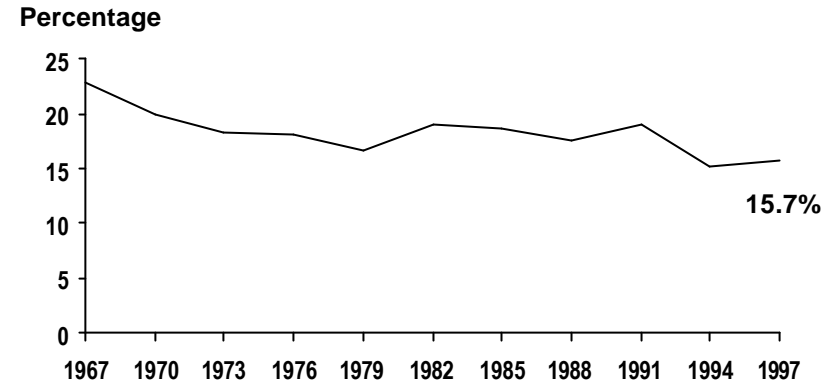
Source: Food and Agriculture Organization of the United Nations, FAOSTAT online database.

Canada's Share of World Exports* by Selected Commodity Groups

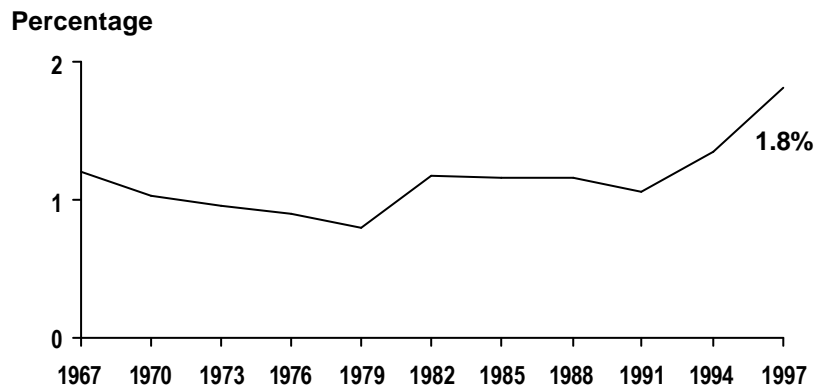
Meat and Meat Products



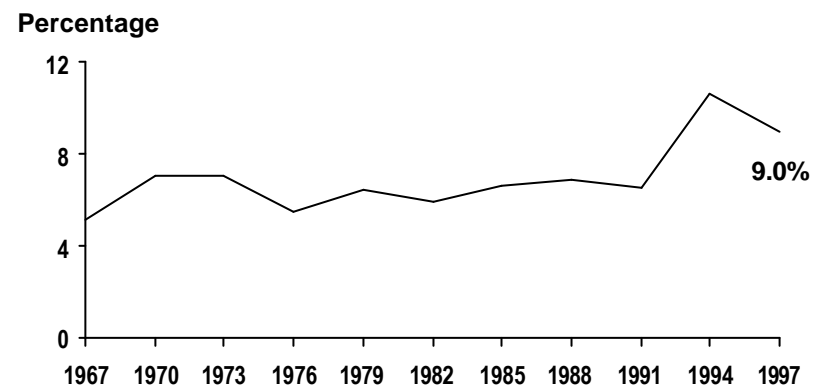
Wheat and Wheat Products



Fruit and Vegetable Products



Oilseeds

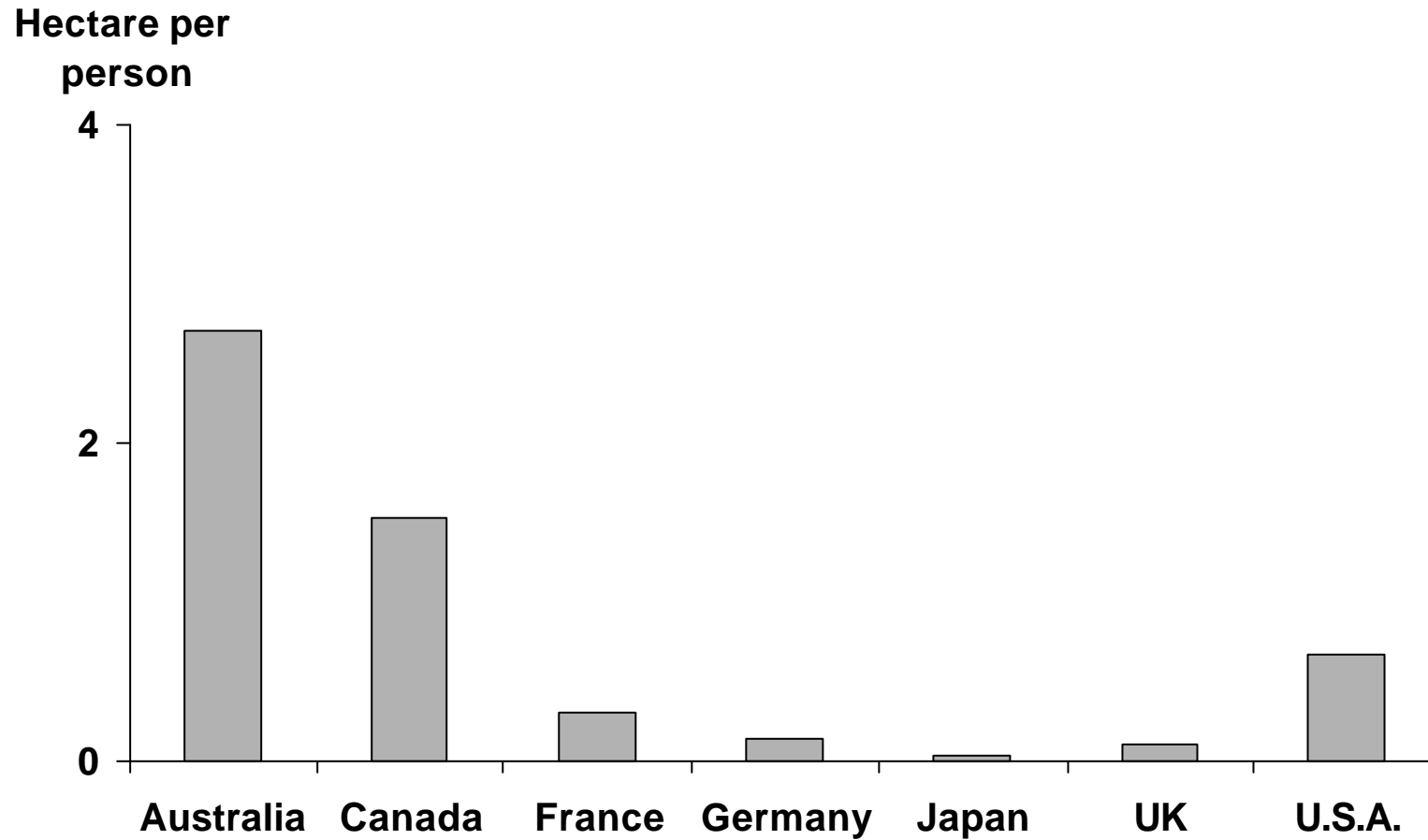


*Based on a three year average.

Source: Food and Agriculture Organization of the United Nations, FAOSTAT online database.

Graph 6-9

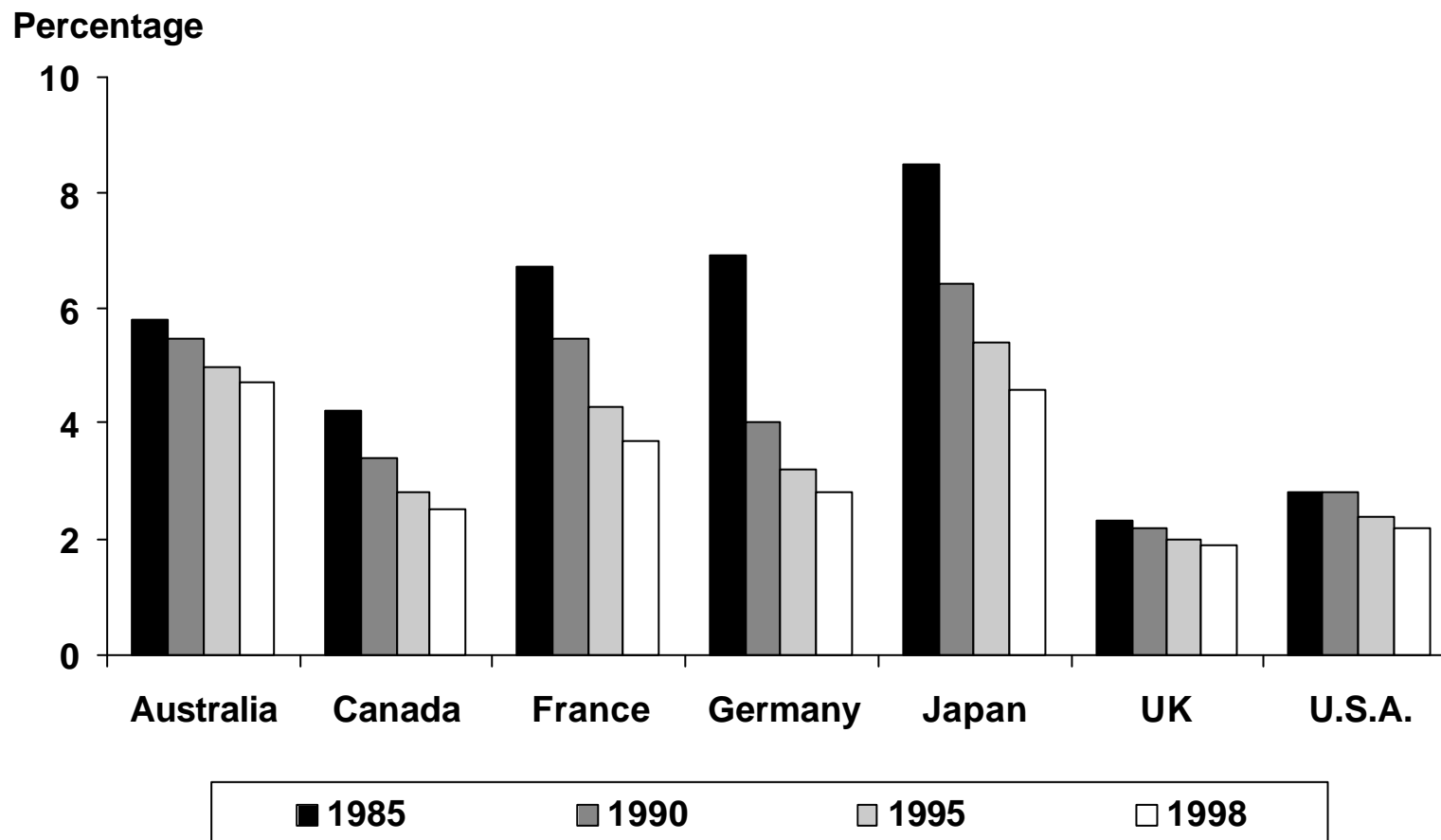
Arable Land - 1994-96



Note: One hectare = 2.471 acres.

Source: World Bank, World Development Indicators, 1999.

Agricultural Labour Force Share of Total Labour Force



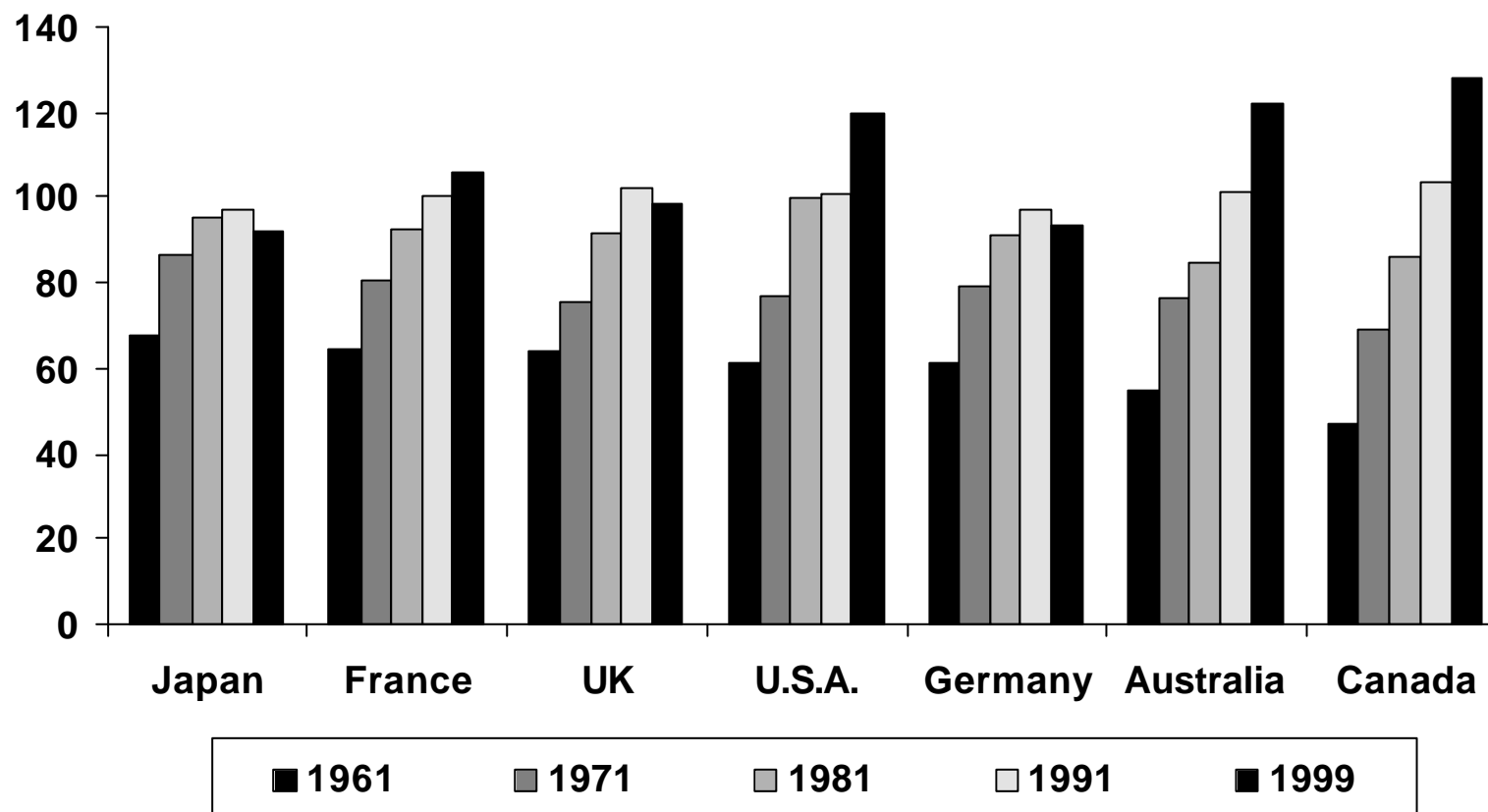
Source: 1985-1990: FAO Yearbook - Production, Vol. 44, 1990.
1995-1998: FAO Yearbook - Production, Vol. 52, 1998.

Graph 6-10

Graph 6-11

Agricultural Production Index

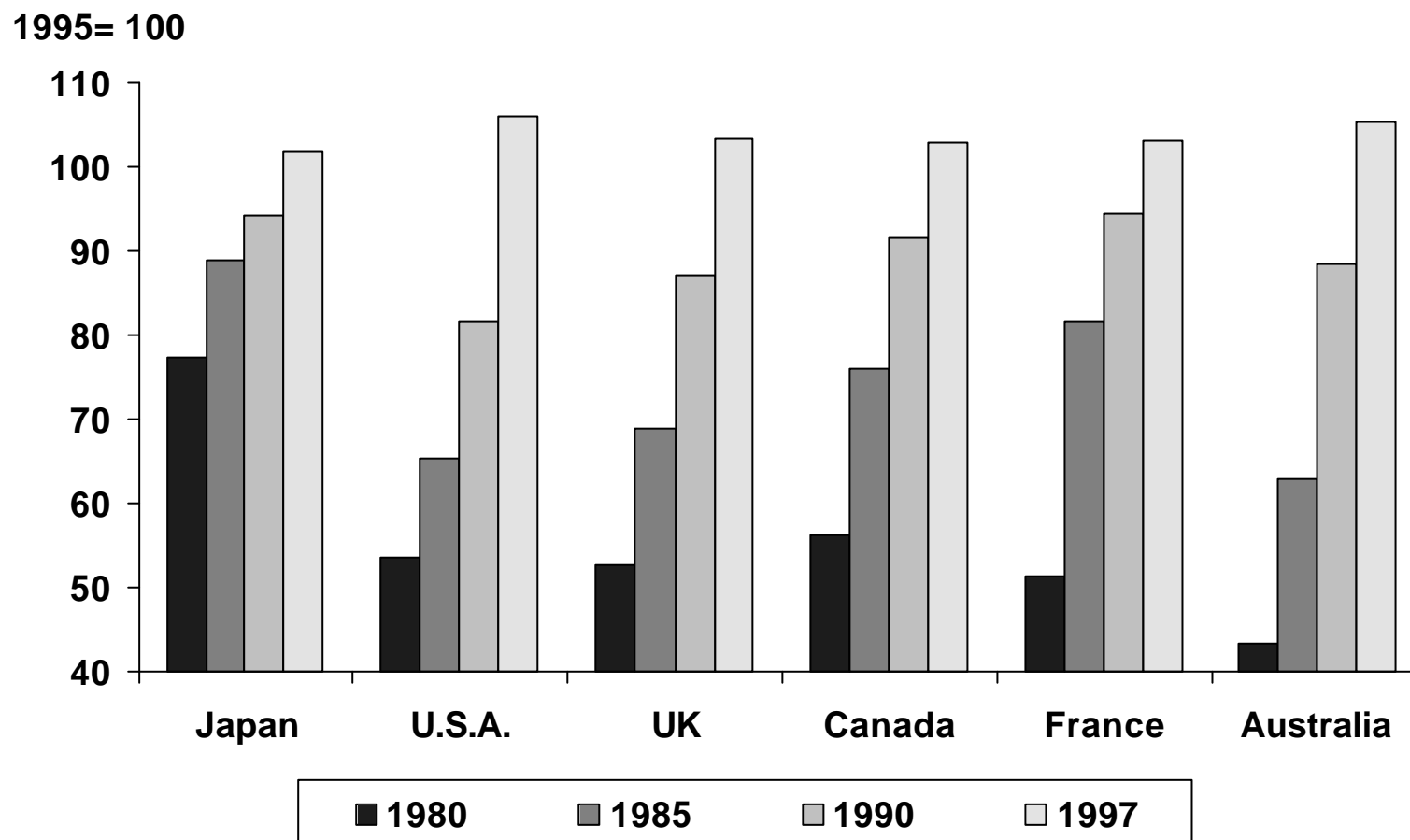
1989-91 = 100



Note: The indices are based on the sum of price-weighted quantities of different agricultural commodities produced after deducting for similarly weighted quantities used as seed and feed. For a more detailed explanation see FAO Production Yearbook, FAO indices of agricultural production.

Source: Food and Agriculture Organization of the United Nations, FAOSTAT online database.

Food Price Index

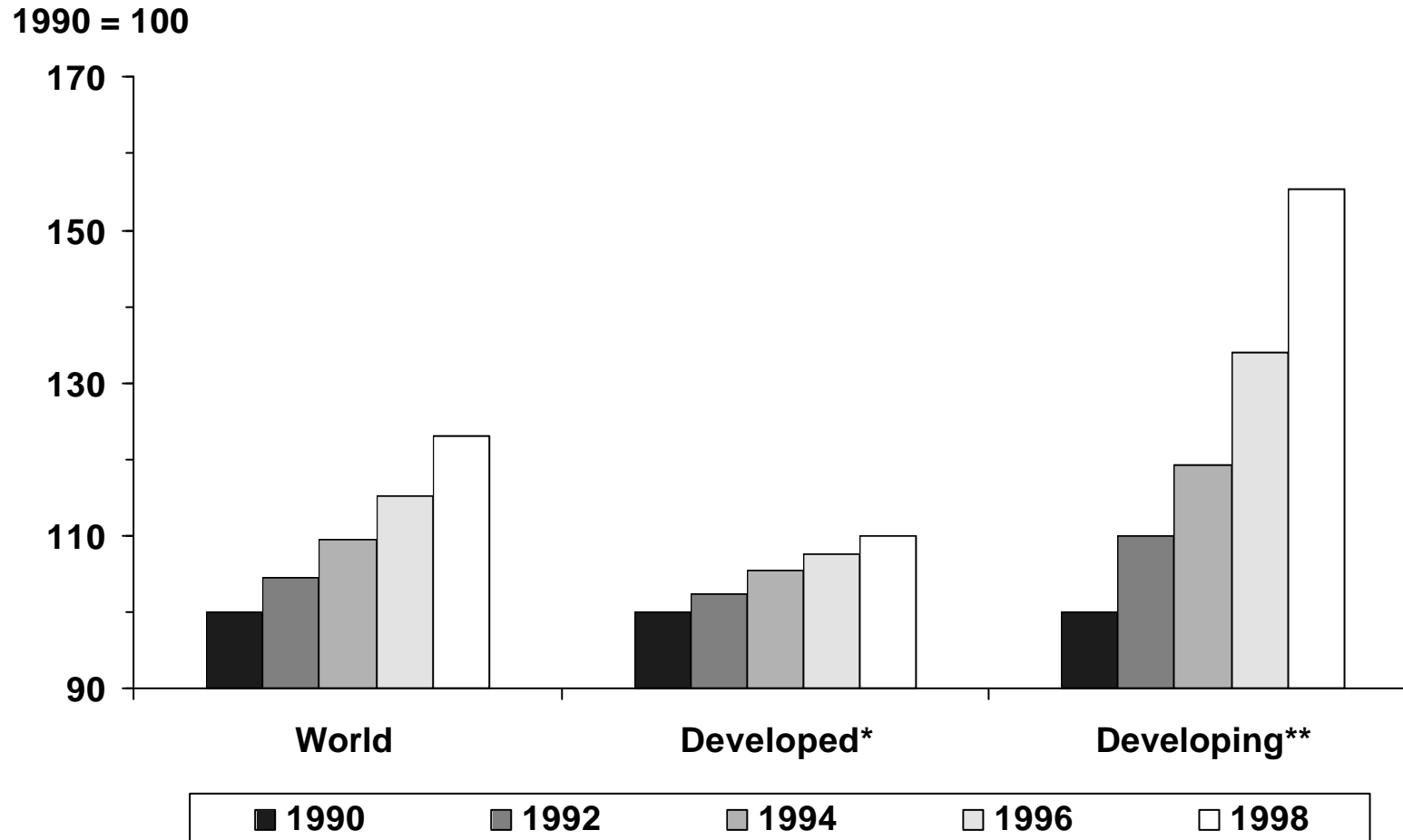


Source: The World Bank, World Development Indicators 1999 database.

Graph 6-13

Index of World Industrial Production

Food, Beverages and Tobacco



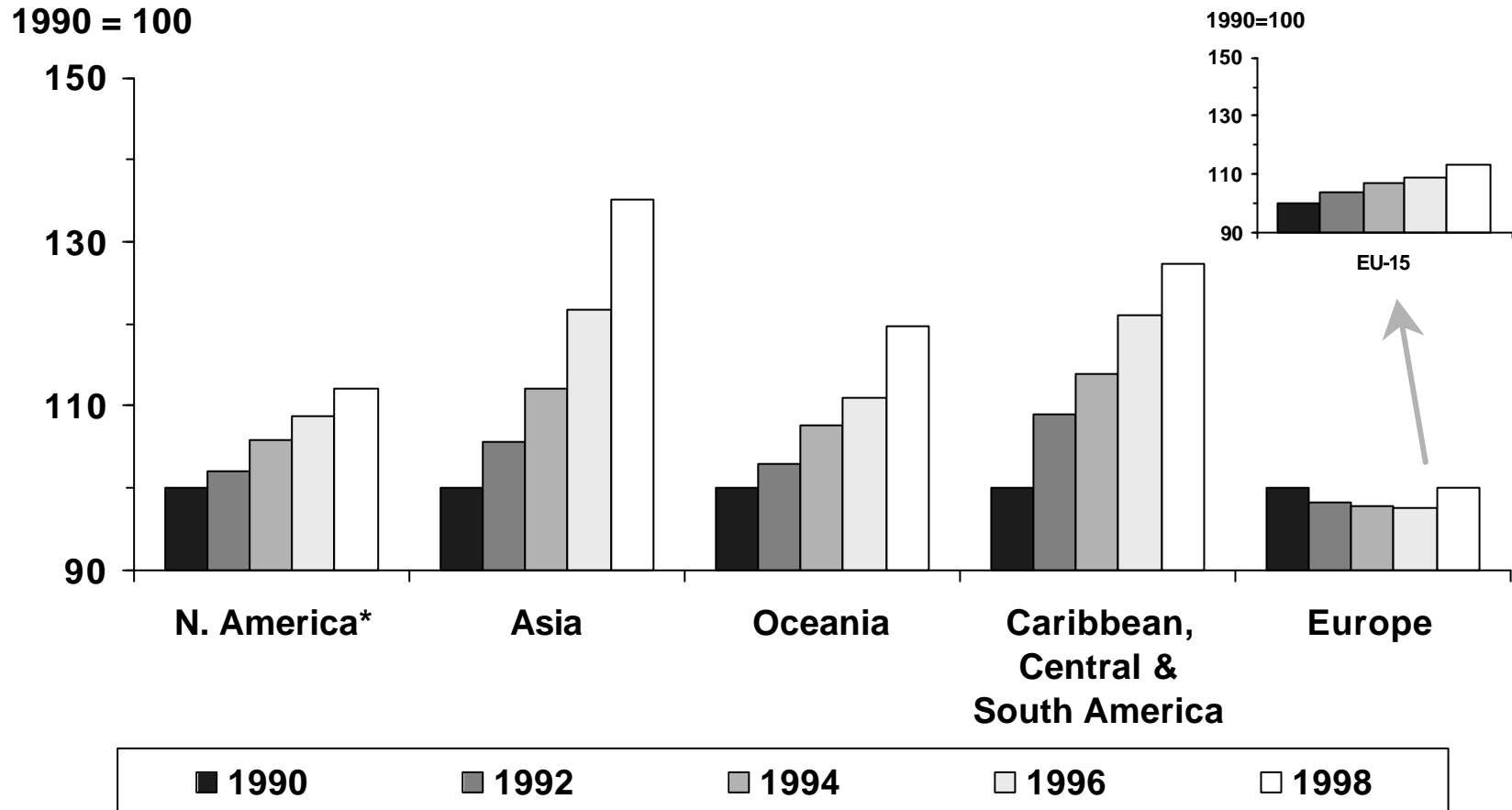
* North America (Canada and the United States), Europe, Australia, Israel, Japan, New Zealand and South Africa.

**Caribbean, Central and South America, Africa (excluding South Africa), Asia (excluding Israel and Japan), Oceania (excluding Australia and New Zealand).

Source: United Nations, Monthly Bulletin of Statistics, Vol. 53, No. 8 - August, 1999.

Index of World Industrial Production

Food, Beverages and Tobacco

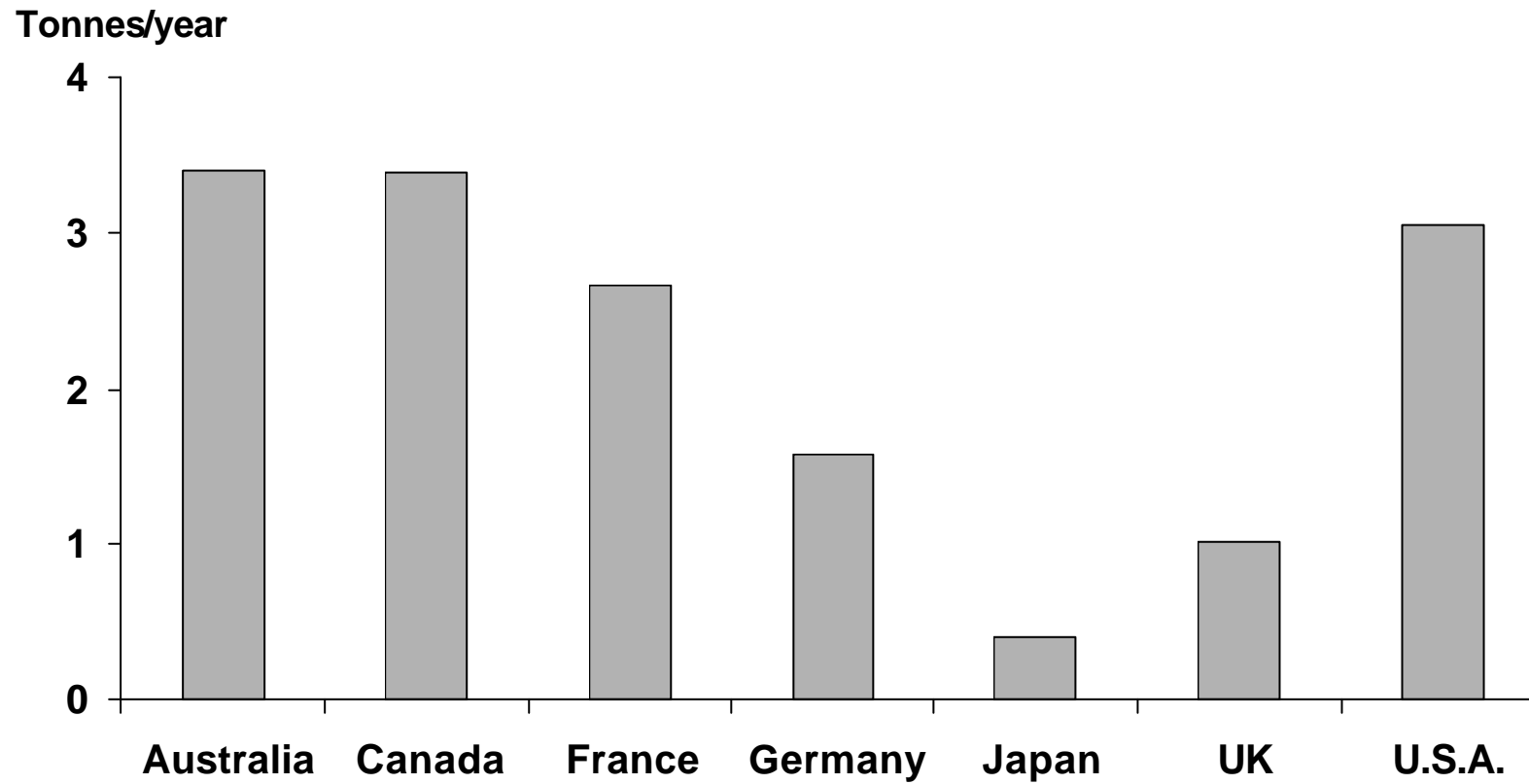


*Canada and the United States.

Source: United Nations, Monthly Bulletin of Statistics, Vol. 53, No. 8 - August, 1999.

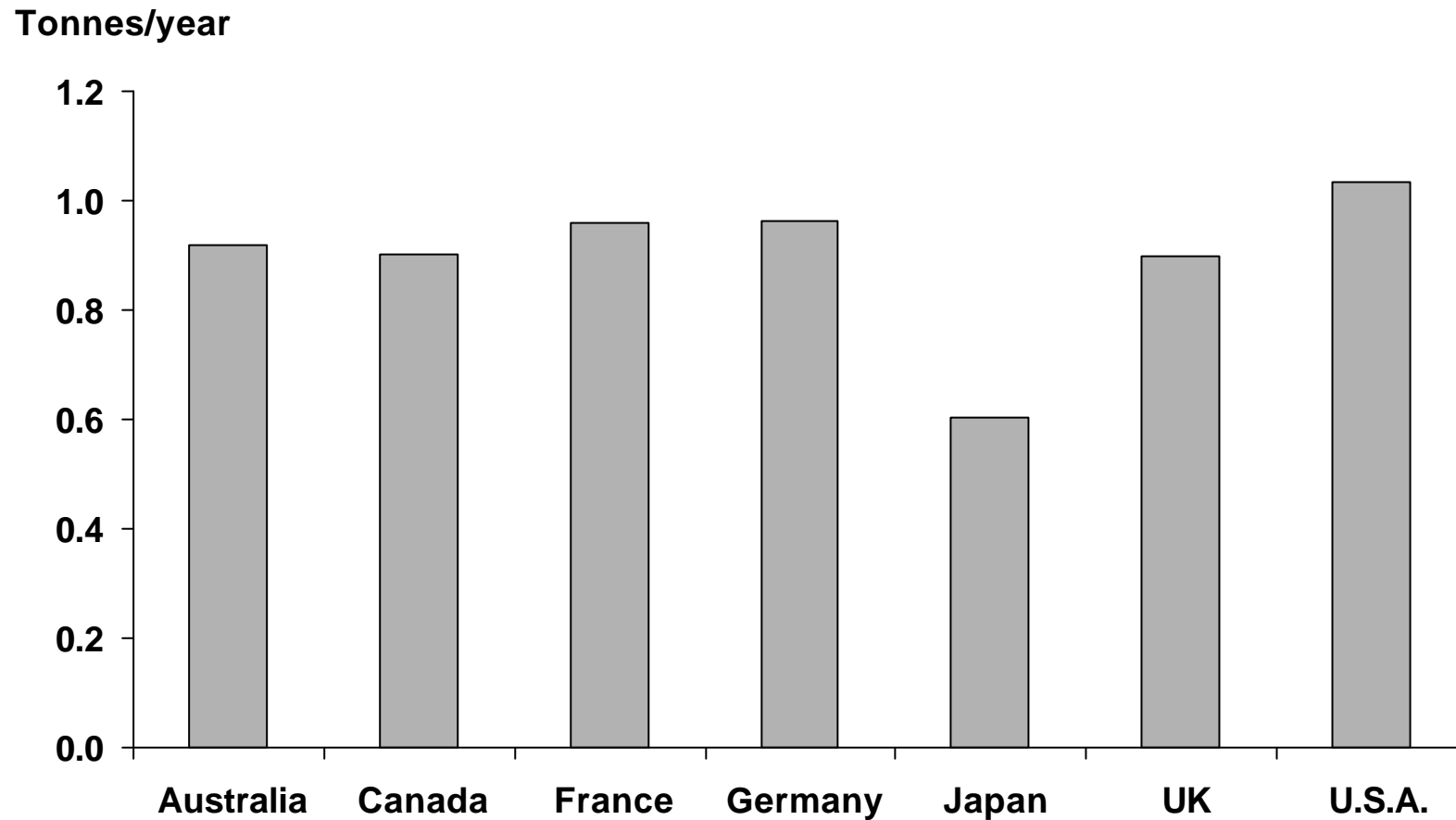
Graph 6-15

Per Capita Food Production - 1999



Source: Food and Agriculture Organization of the United Nations, FAOSTAT online database; and UN Social Indicators.

Per Capita Food Consumption - 1997



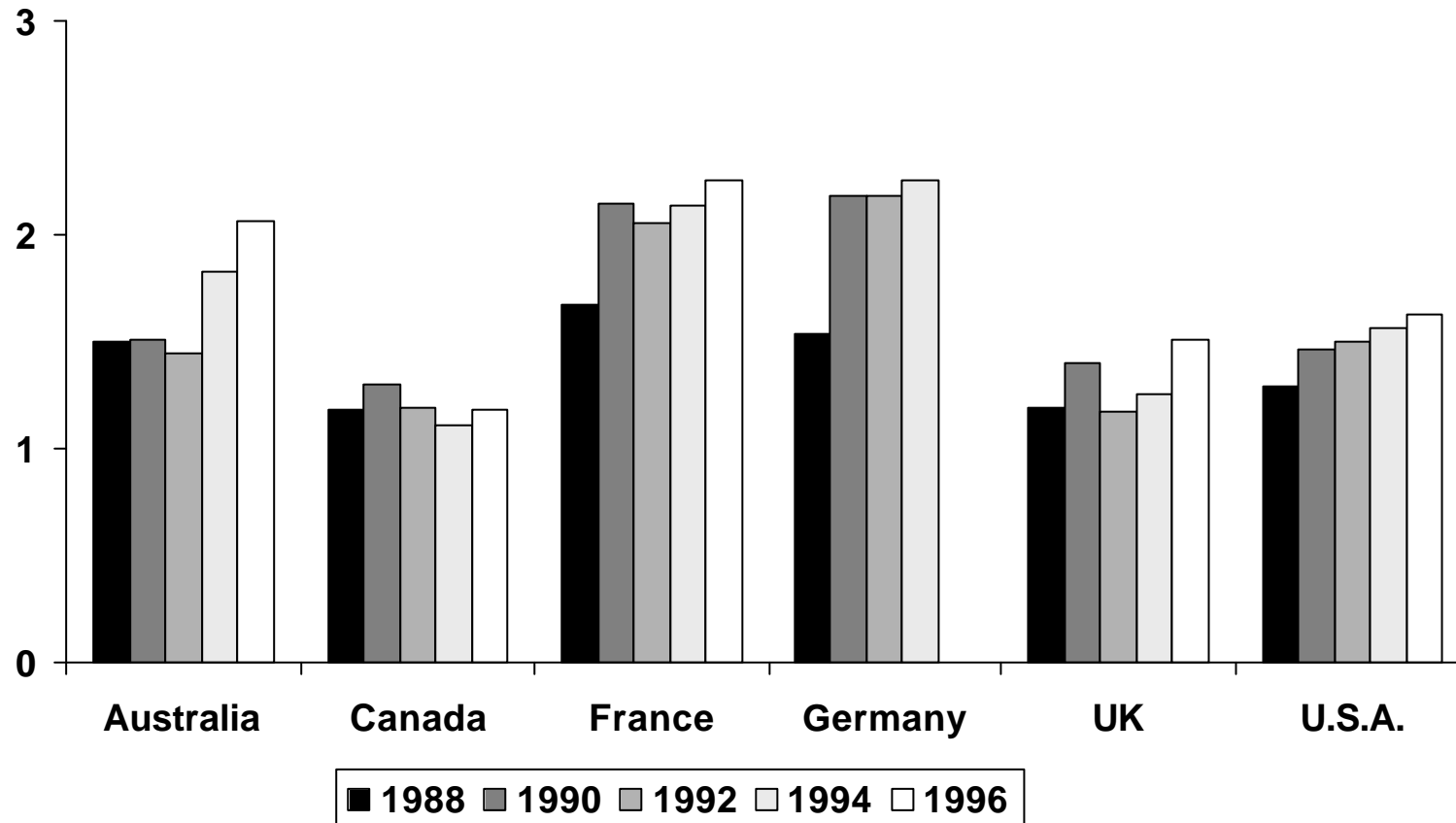
Source: Food and Agriculture Organization of the United Nations, FAOSTAT online database; and UN Social Indicators.

Graph 6-16

Graph 6-17

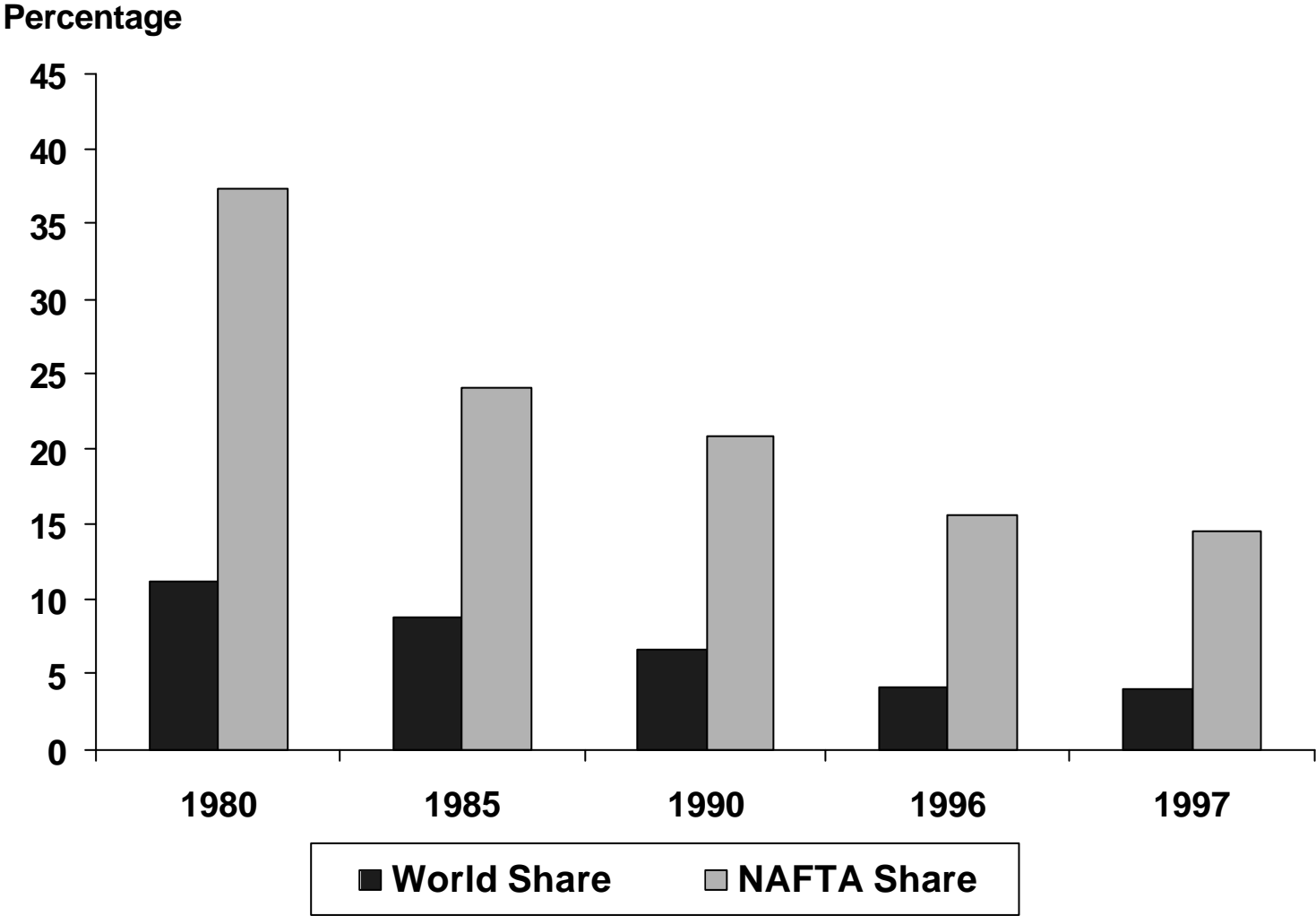
Per Capita Amount Spent on Food & Non-alcoholic Beverages

Thousands of US \$



Source: OECD, National Accounts, Detailed Tables, Vol. II, 1984-1996, 1998 edition.

Foreign Direct Investment Canadian Share of World & NAFTA Inward Stock

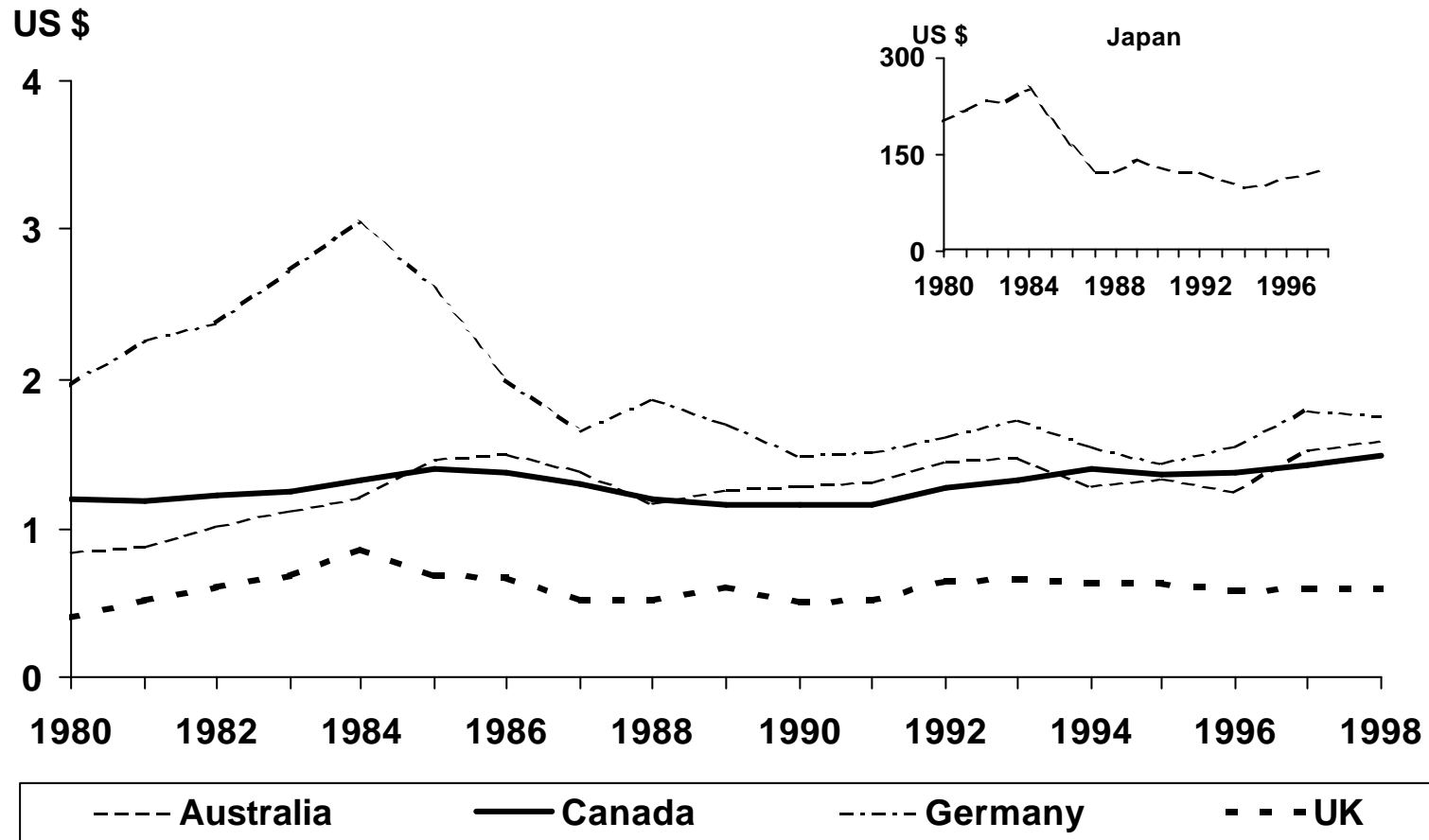


Source: World Investment Report 1998, United Nations.

Graph 6-18

Graph 6-19

International Exchange Rates 1980-1998



Sources: 1980-1997 values, The World Bank, World Development Indicators 1998.
1998 values, International Monetary Fund, International Financial Statistics, December 1999.

Glossary of Terms

Food Price Index

Subset of the consumer price index which reflects changes in the cost to the average consumer of acquiring a fixed basket of goods and services.

Foreign Direct Investment (FDI)

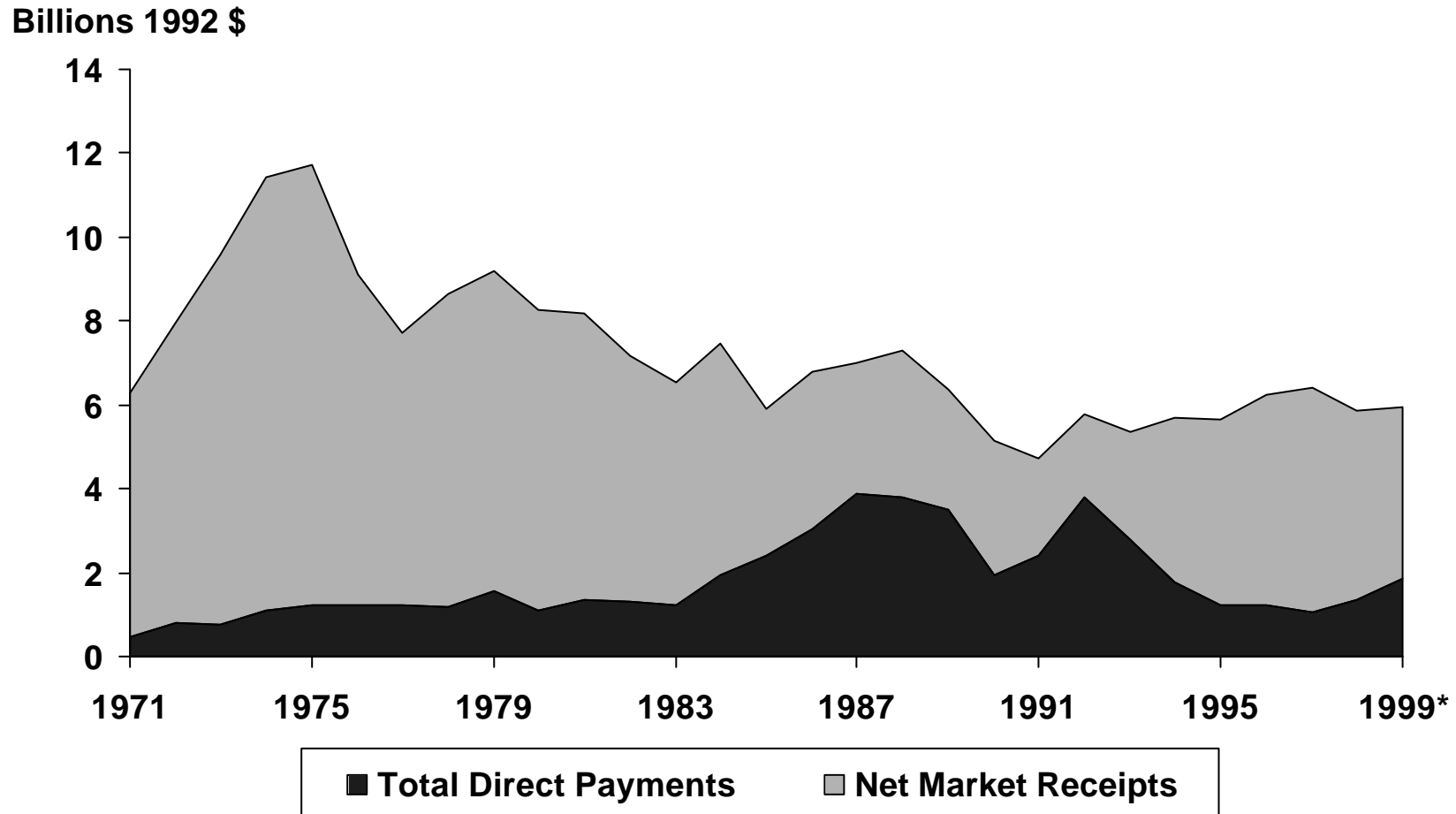
Investment (equity capital, reinvested earnings and intra-company loans) involving a long-term relationship and reflecting a lasting interest and control of a resident entity in one economy by an enterprise resident in another country's economy.

FDI Stocks

Value of the share of a FDI enterprises' capital and reserves (including retained profits) attributable to the parent enterprise, plus the net indebtedness of affiliates to the parent enterprise.

Government Support of Agri-Food Systems: Canada and Abroad

Farm Net Market Receipts and Total Direct Payments - Canada

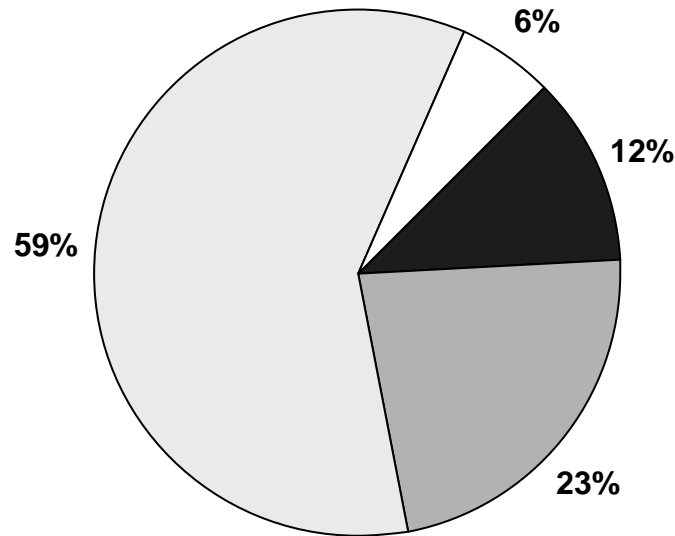


*1999 Estimate.

Source: Calculations based on historical data from Statistics Canada; AAFC - Farm Income Database 1986-1999.

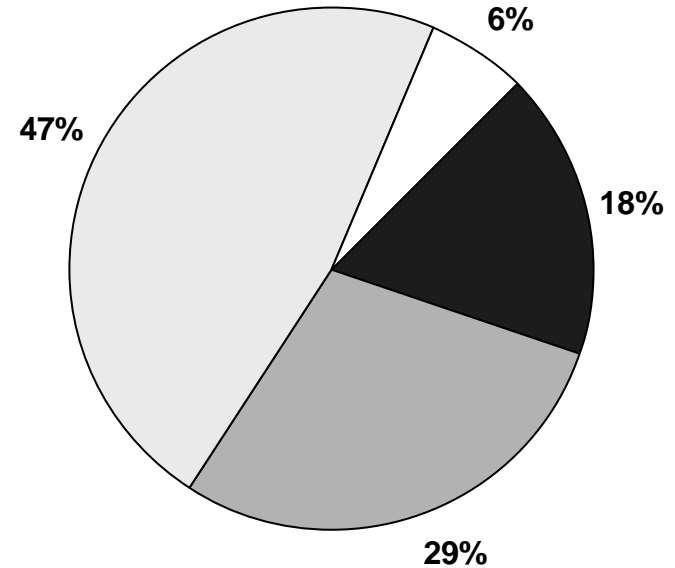
Agriculture and Agri-Food Canada Gross Program Spending by Business Lines

1998-99 Forecast



\$1.6 Billion*

2001-02 Planned



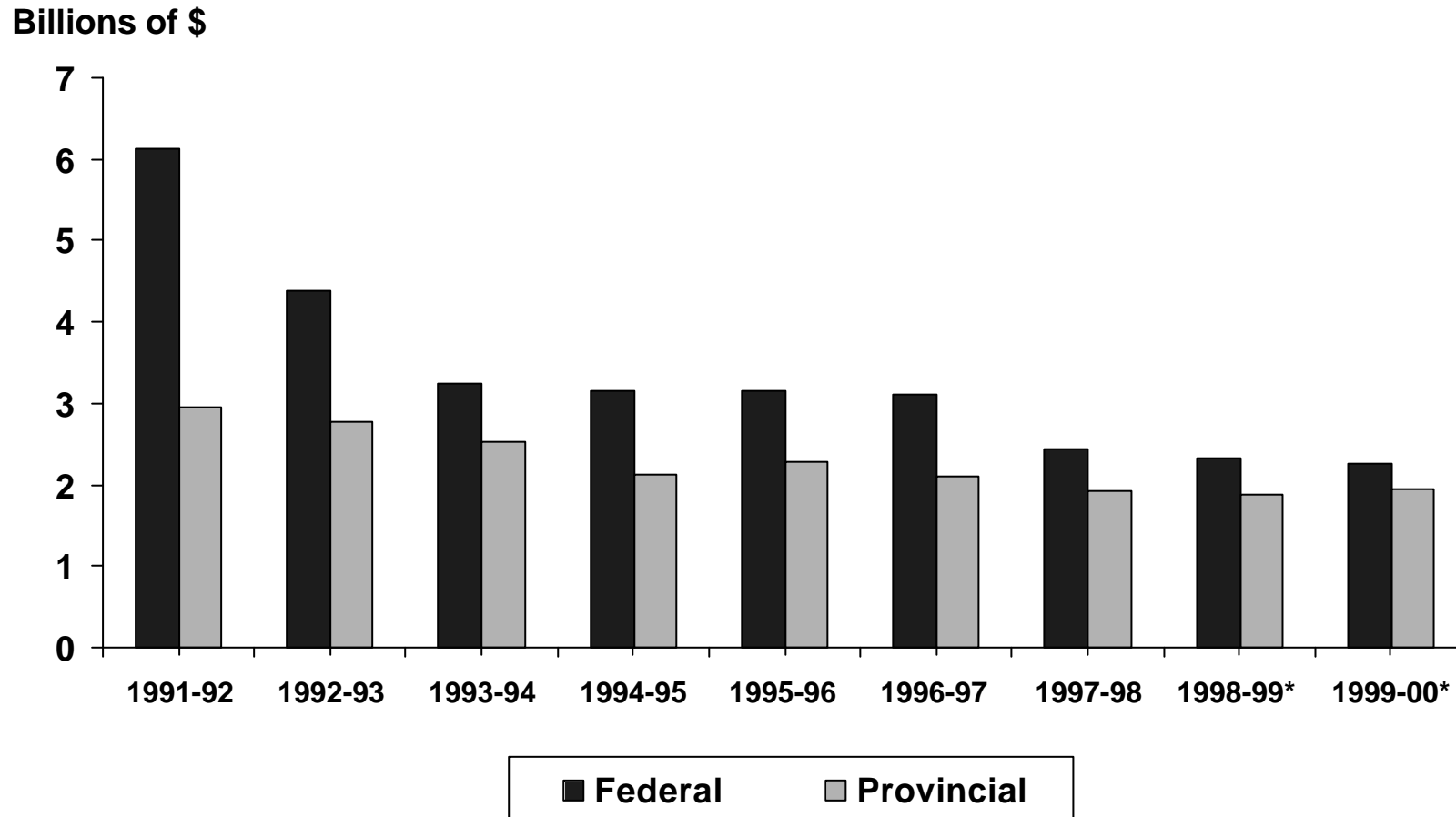
\$1.1 Billion*



*Does not include Canadian Food Inspection Agency.

Source: AAFC - Report on Plans and Priorities, 1999-2000 Estimates.

Government Expenditures in Support of Canada's Agri-Food System



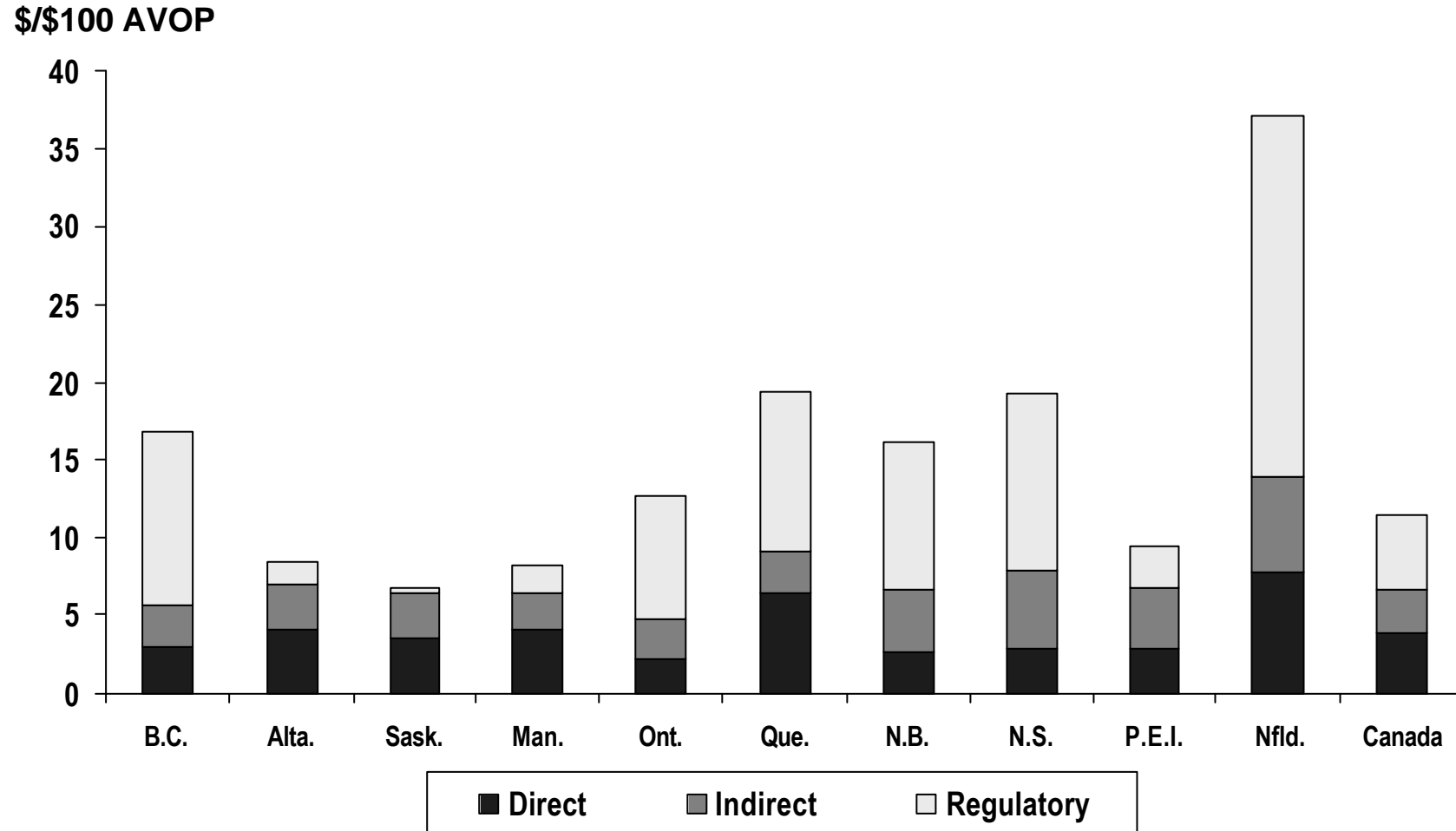
*1998-99 are forecasts, 1999-00 are estimates.

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

Source: AAFC - Farm Income, Financial Conditions and Government Assistance Data Book, October 1999 (Update).

Graph 7-4

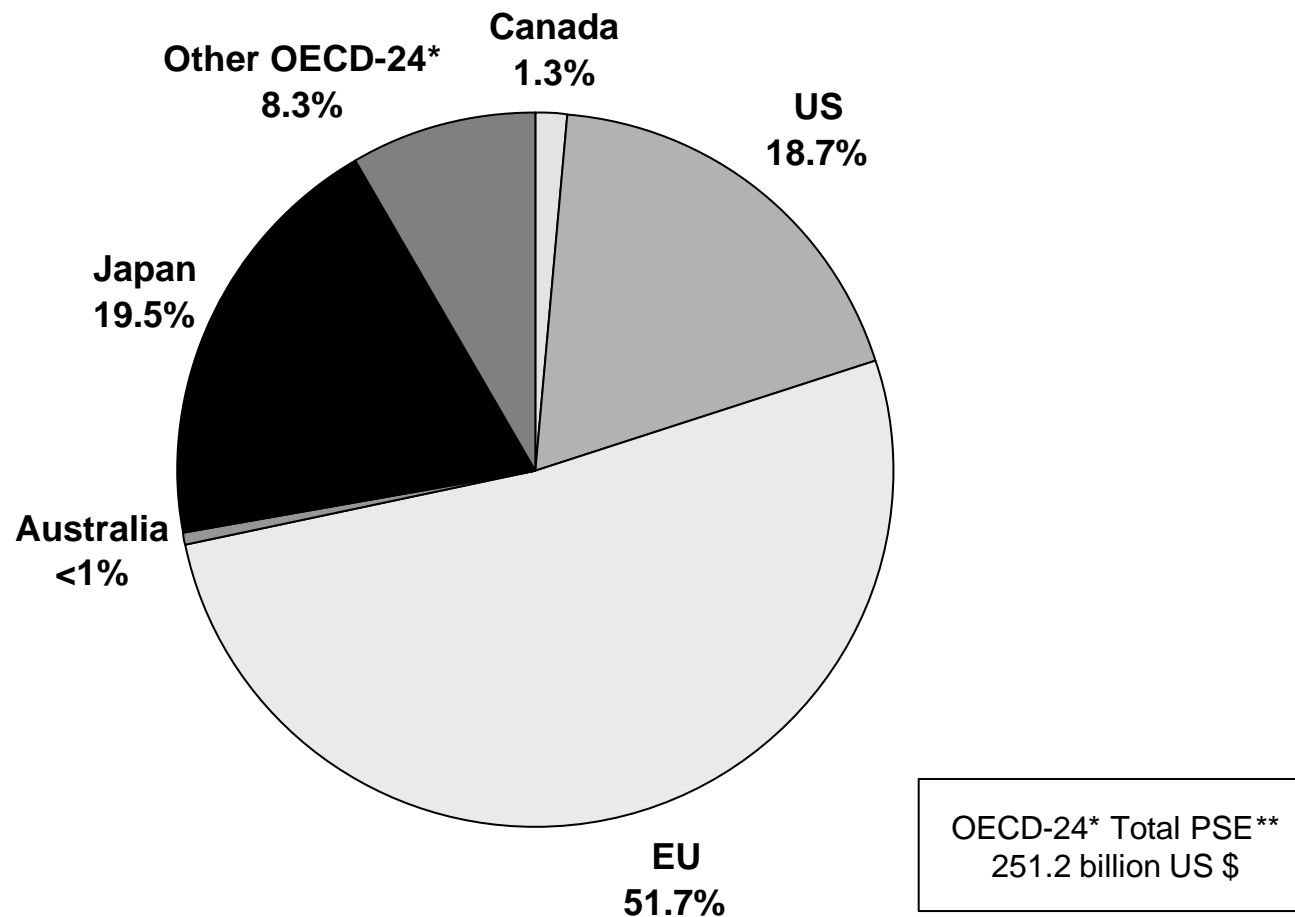
Government Transfers to Agriculture by Type of Transfer, 1997-98



AVOP : Adjusted Value of Production

Source: AAFC - Farm Income, Financial Conditions and Government Assistance Data Book, June 1999 (Update).

Distribution of OECD Total PSE by Country 1998



* OECD-24 excludes most recent member countries: Czech Republic, Hungary, Korea, Mexico and Poland.

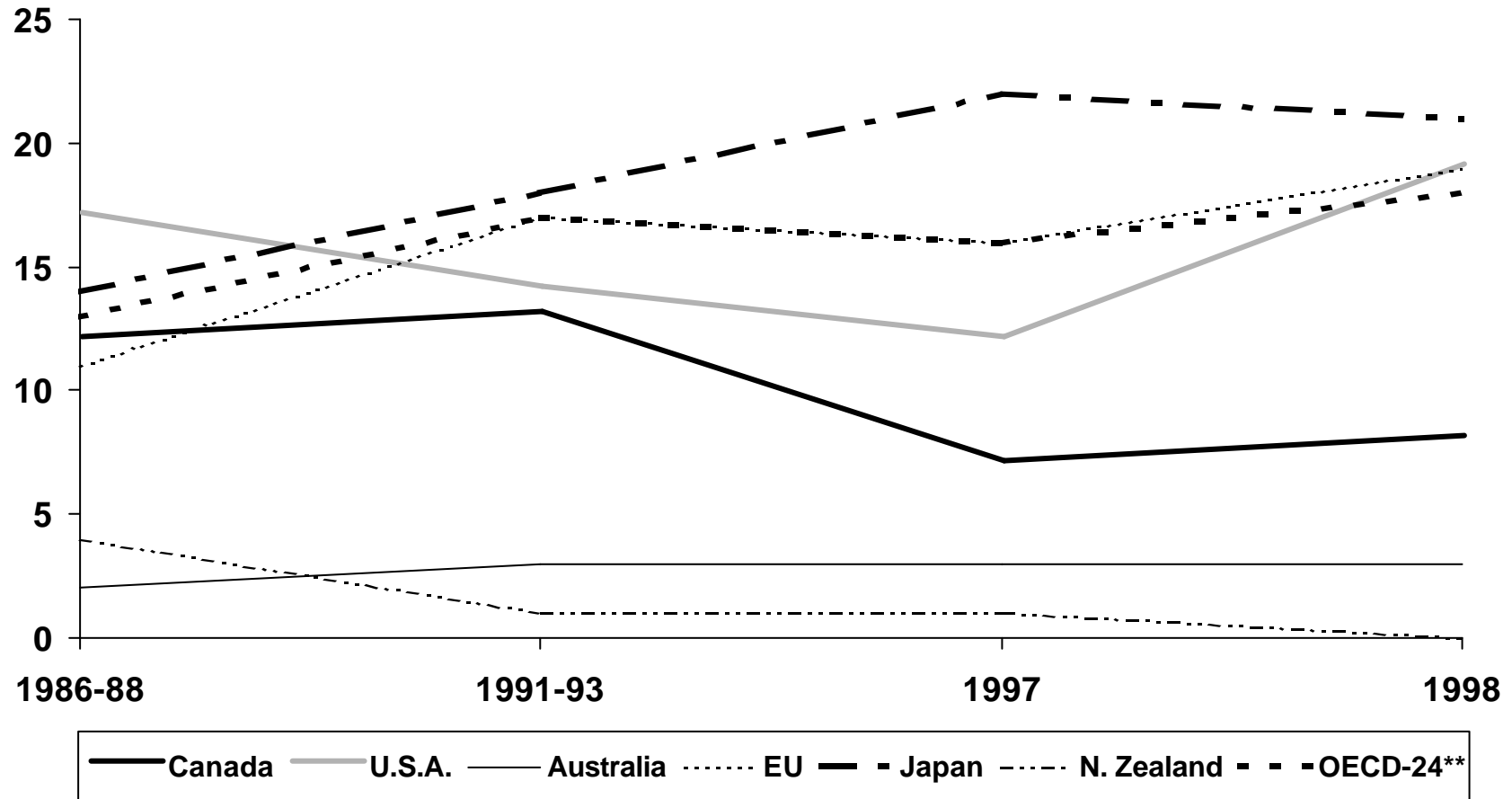
**PSE : Producer Support Estimate.

Source: Agricultural Policies in OECD Countries: Monitoring and Evaluation 1999.

Graph 7-6

PSE* Per Full-time Farmer Equivalent, 1986-1998

Thousands of US \$



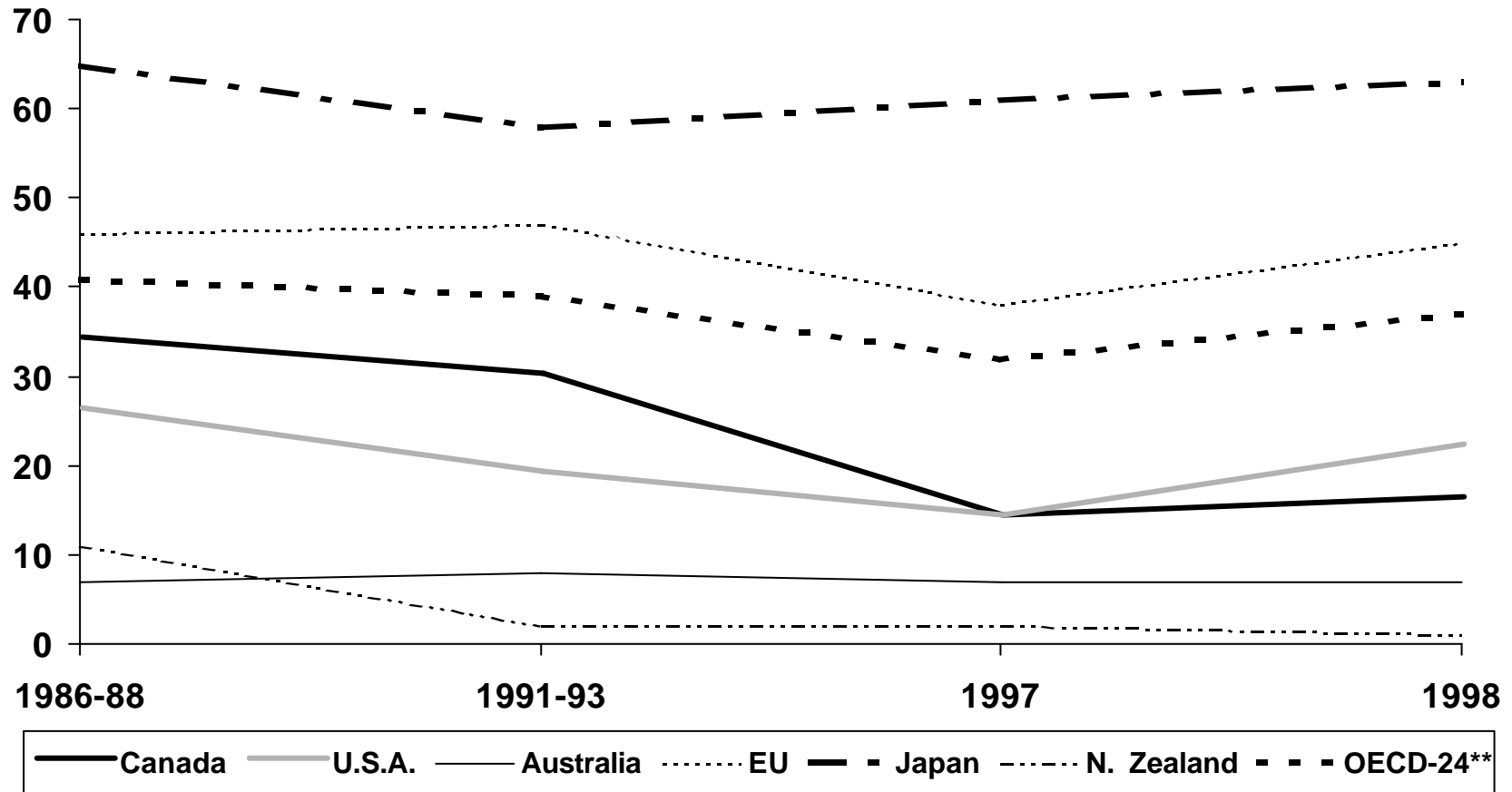
* PSE : Producer Support Estimate.

**OECD-24 excludes most recent member countries: Czech Republic, Hungary, Korea, Mexico and Poland.

Source: Agricultural Policies in OECD Countries: Monitoring and Evaluation 1999.

Percentage PSE*, 1986-1998

Percentage PSE



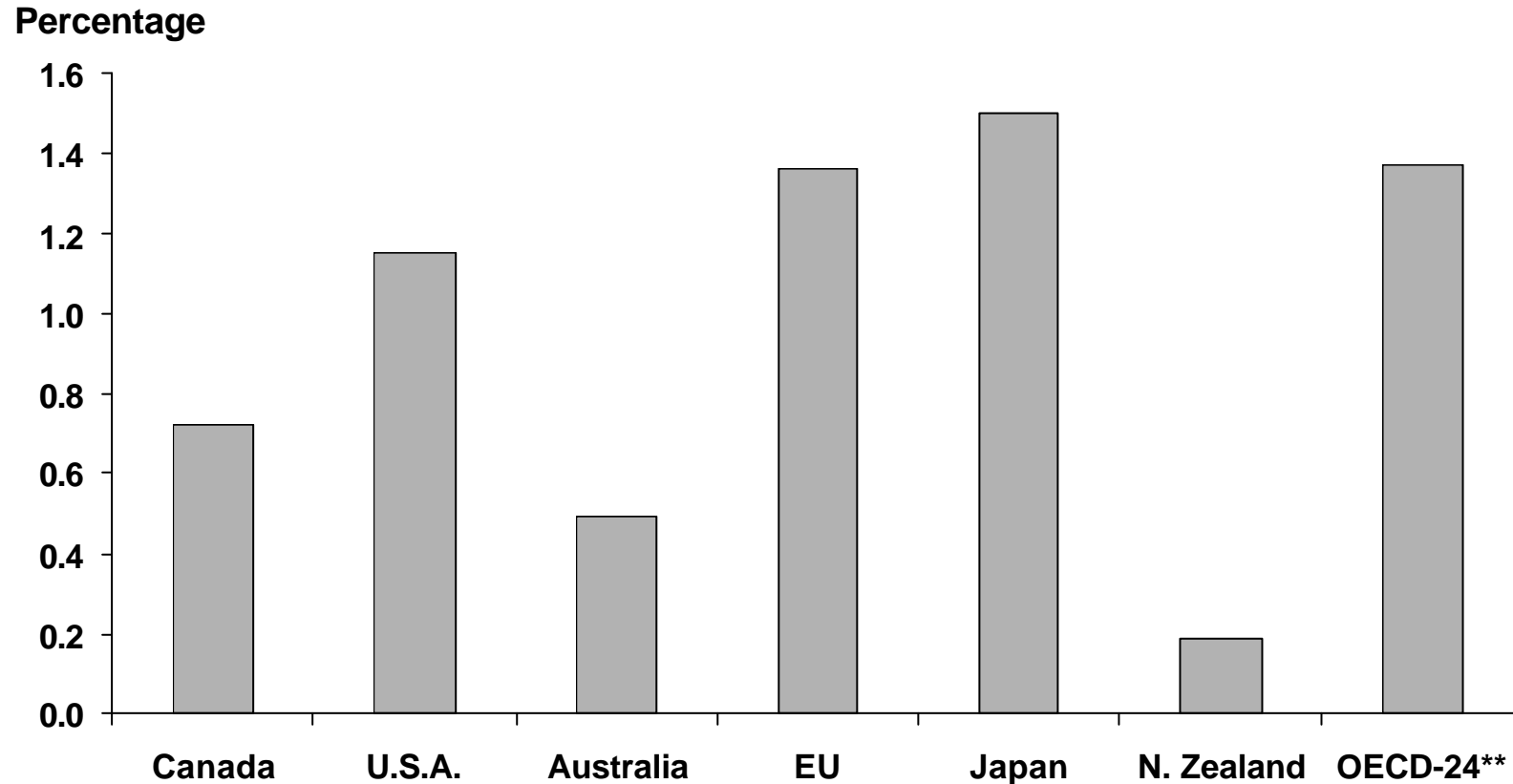
* Percentage PSE is PSE (Producer Support Estimate) as a share of value of production plus payments.

**OECD-24 excludes most recent member countries: Czech Republic, Hungary, Korea, Mexico and Poland.

Source: Agricultural Policies in OECD Countries: Monitoring and Evaluation 1999.

Graph 7-8

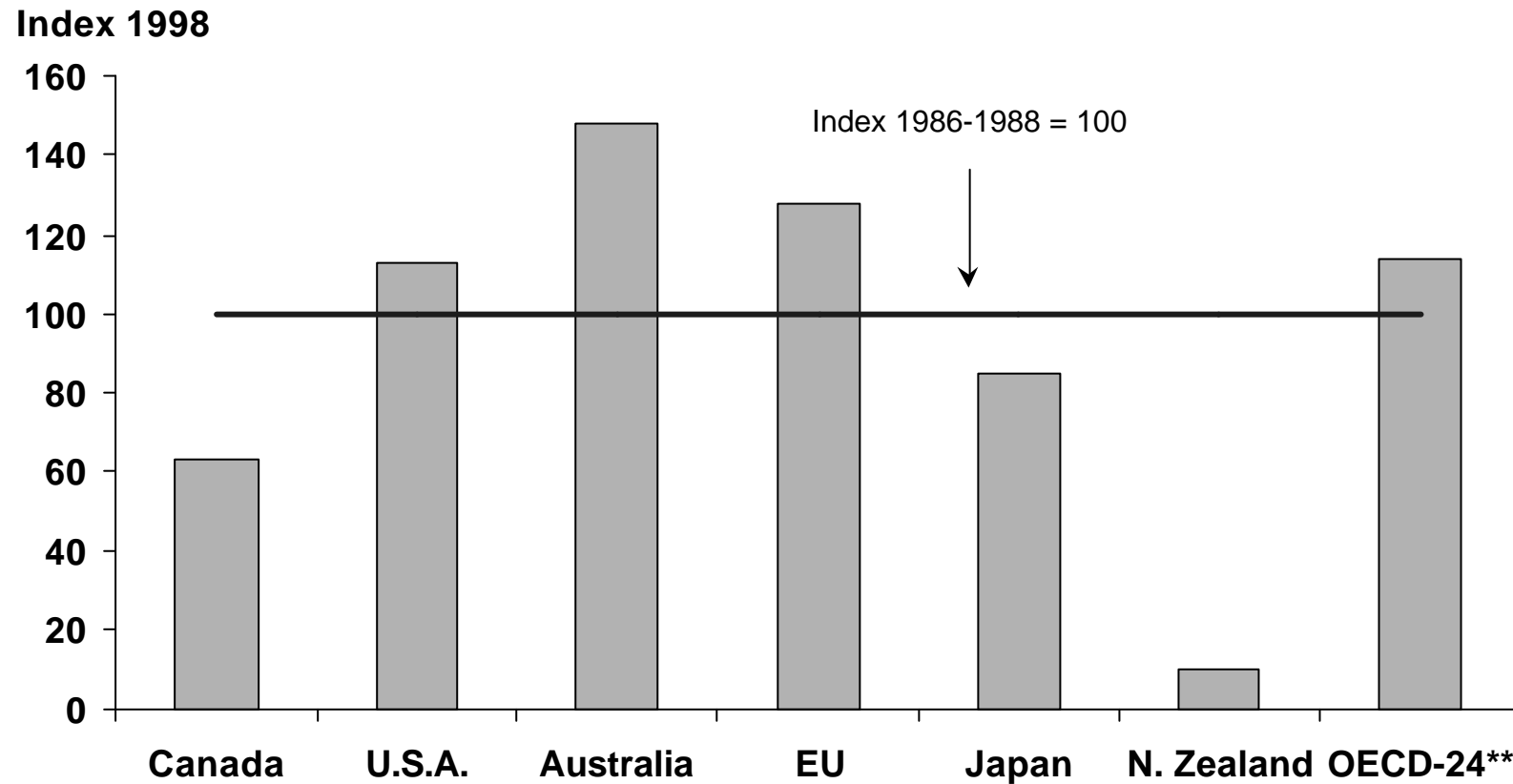
Total Support Estimate* as a Percentage of Total Gross Domestic Product, 1998



* Total Support Estimate is an indicator of the annual monetary value of all gross transfers from taxpayers and consumers arising from policy measures which support agriculture, net of the associated budget receipts, regardless of their objectives and impacts on farm production and income, or consumption of farm products. The TSE can be expressed in monetary terms or as a percentage of Gross Domestic Product (percentage TSE).

** OECD-24 excludes most recent member countries: Czech Republic, Hungary, Korea, Mexico and Poland.

Index of Total PSE* 1998 Compared to 1986-1988



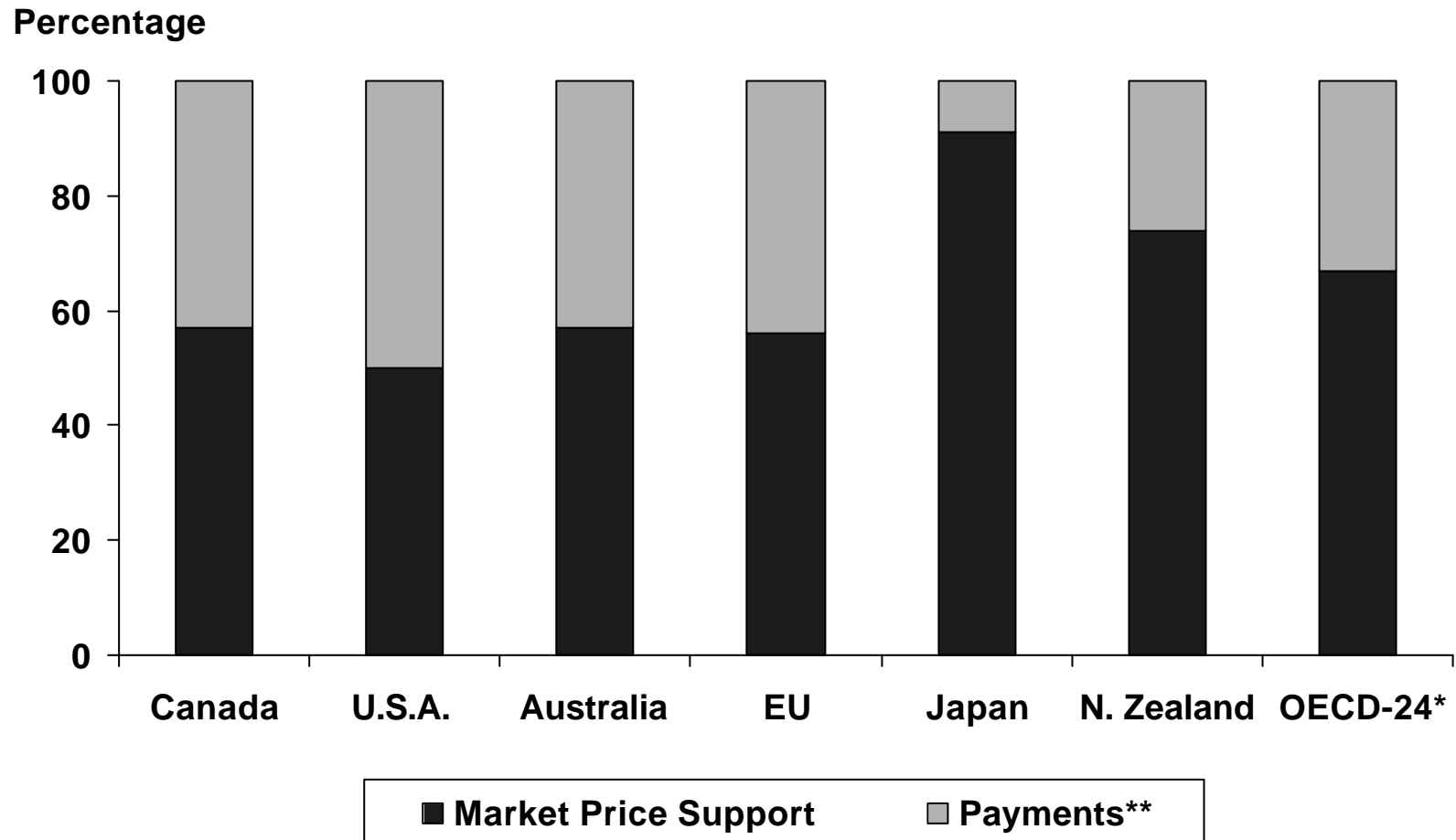
* Individual country PSE in local currency. OECD-24 PSE in US\$.

**OECD-24 excludes most recent member countries: Czech Republic, Hungary, Korea, Mexico and Poland.

Source: Agricultural Policies in OECD Countries: Monitoring and Evaluation 1999.

Graph 7-10

Composition of PSE, 1996-98



*OECD-24 excludes most recent member countries: Czech Republic, Hungary, Korea, Mexico and Poland.

OECD-24 PSE in US\$. Individual country PSE in local currency.

**"Payments" includes payments to farmers and input subsidies, but excludes general services provided by governments.

Source: Agricultural Policies in OECD Countries: Monitoring and Evaluation 1999.

Glossary of Terms

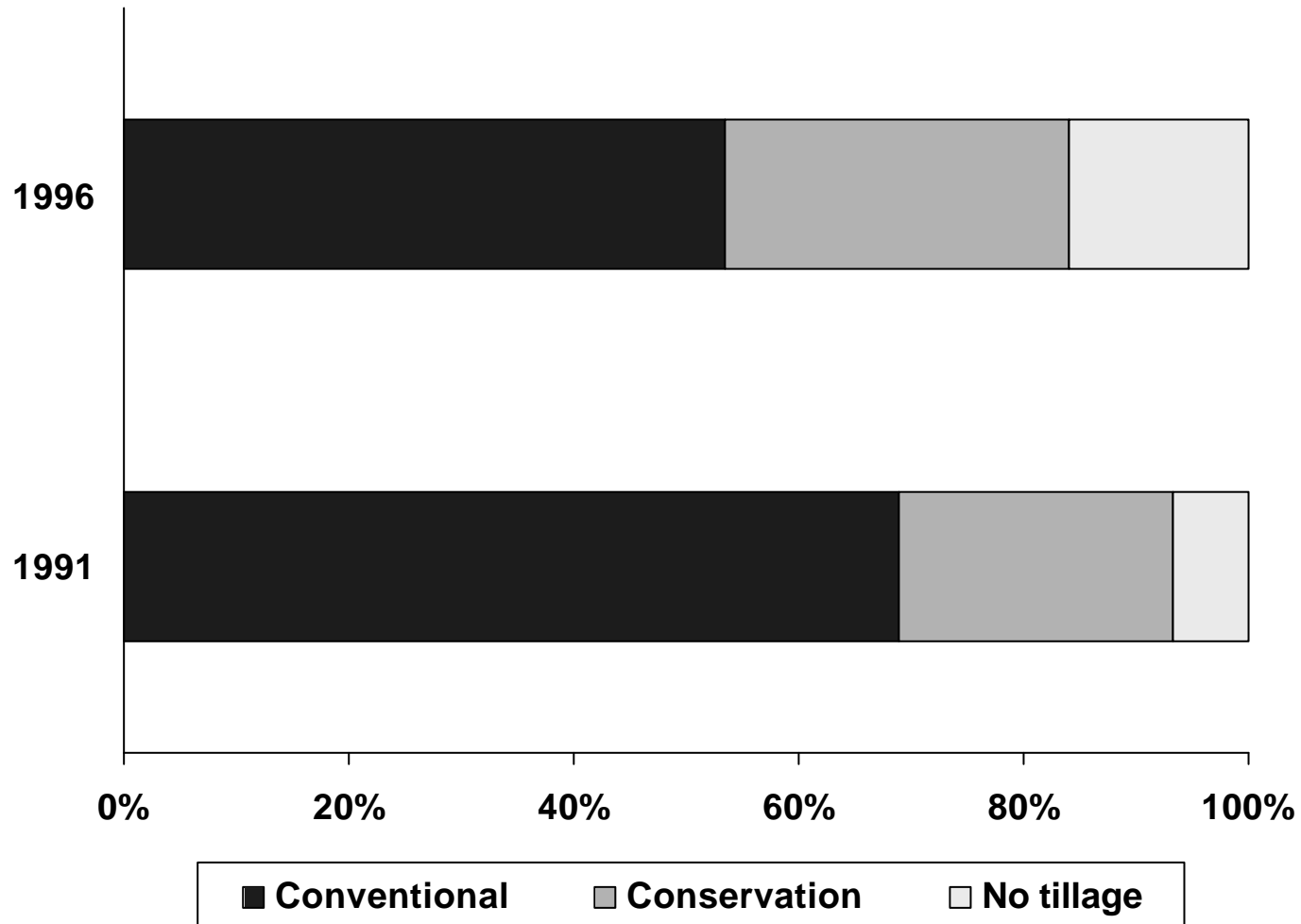
PSE (Producer Support Estimate)	An indicator of the annual monetary value of gross transfers from consumers and taxpayers to support agricultural producers, measured at farm gate level, arising from policy measures, regardless of their nature, objectives or impacts on farm production or income.
Net Market Receipts	Total market receipts less total cash operating expenses.
Total Direct Payments	Include gross payments paid directly to producers under federal, provincial and municipal programs.
AVOP (Adjusted Value of Production)	Sum of three year moving average value of production plus current year's total direct transfers.
Government Expenditures	Government spending (at all levels) on agriculture and the food and beverage processing industries in a year, both indirect and direct, to individuals, agencies or associations.

Glossary of Terms (cont'd)

Government Transfers	To agriculture only, including direct expenditures plus the effect of government regulations or policies on producers' market returns.
- Direct Transfers	Include direct non-regulatory payments and foregone revenues which are related to individual commodities or commodity sectors, or to the agriculture sector as a whole.
- Indirect Transfers	Include non-regulatory programs in which government transfers are provided to the agriculture sector but not directly to producers.
- Regulatory transfers	Comprised of regulatory policies where no government expenditures are involved. Estimation of transfers from these policies may involve partial economic analysis.
Market Price Support	Transfers to agriculture resulting from measures (e.g., tariffs, administered prices) that raise prices to consumers of farm commodities, net of levies and net of feed adjustments.
Other Support	Includes explicit and implicit subsidies on purchased farm inputs, farm credit, and government transfers to agriculture research and development, extension services, training and agricultural infrastructure.

Environmental and Sustainability Measures

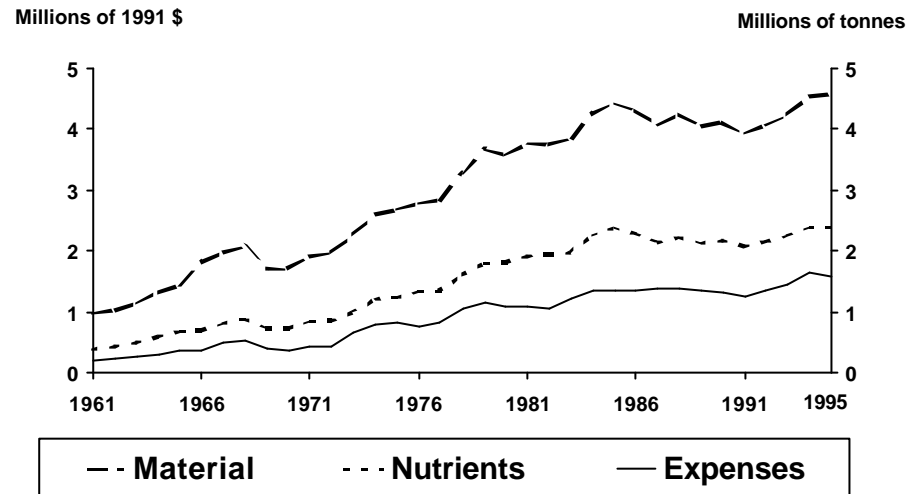
Tillage Practices 1991 and 1996



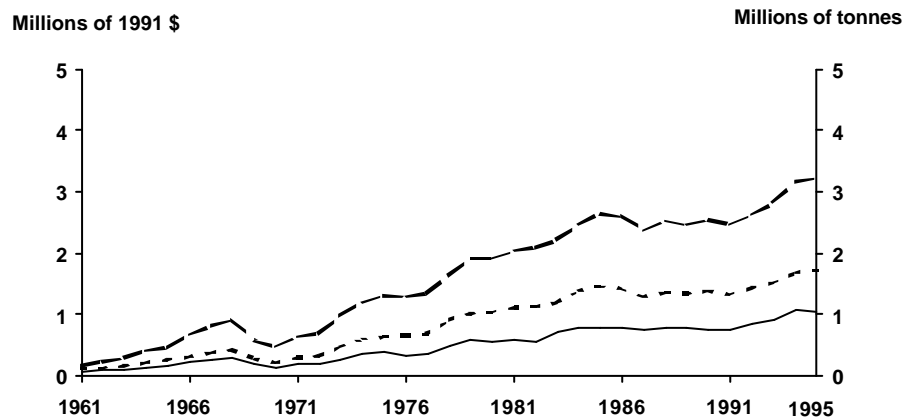
Source: Statistics Canada - 1996 Census of Agriculture National and Provincial Highlights.

Farm Fertilizer and Lime Expenses, Fertilizer Material Sold, and Fertilizer Nutrient Content

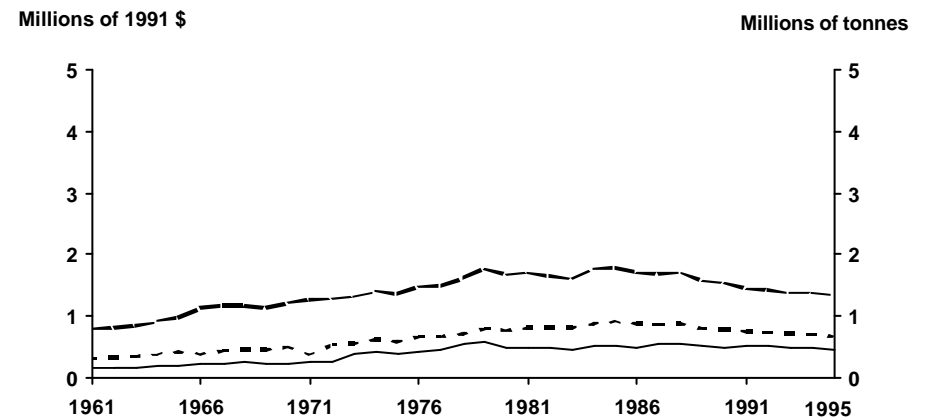
Canada



West

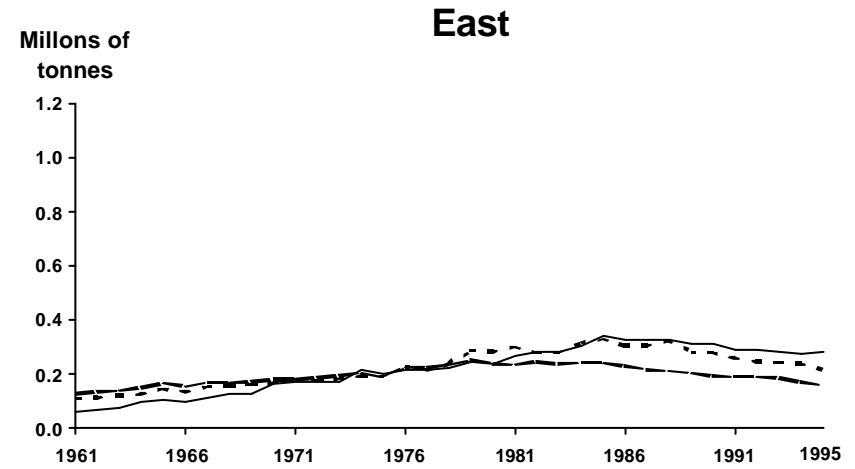
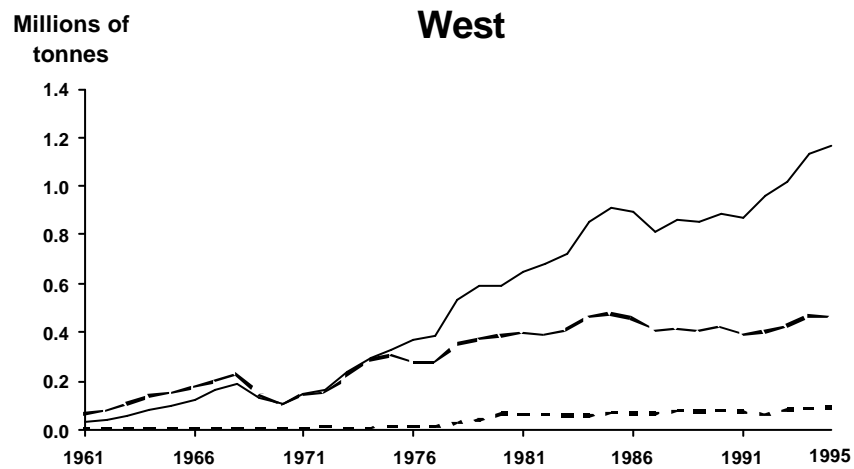
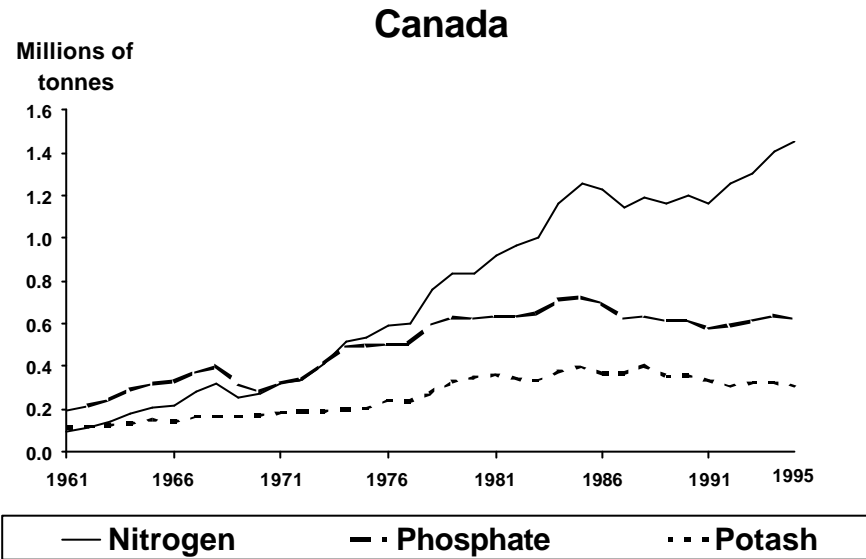


East



Source: Statistics Canada, Agriculture Division.

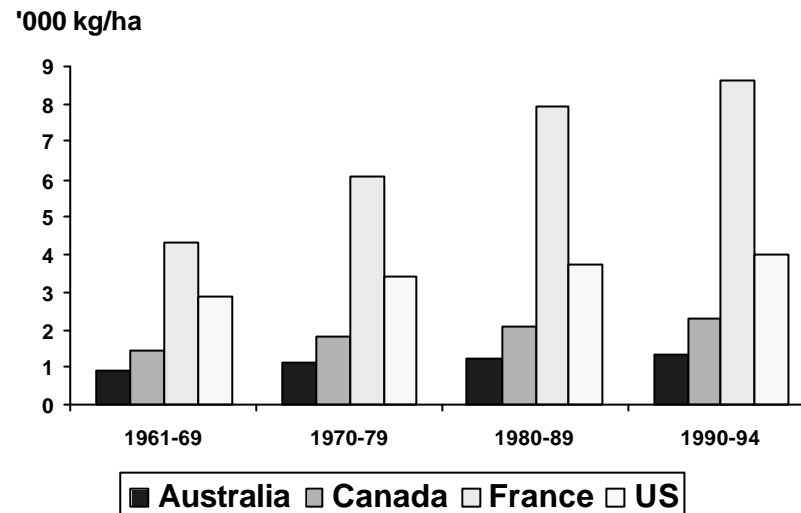
Nutrient Content of Fertilizer Material Sold



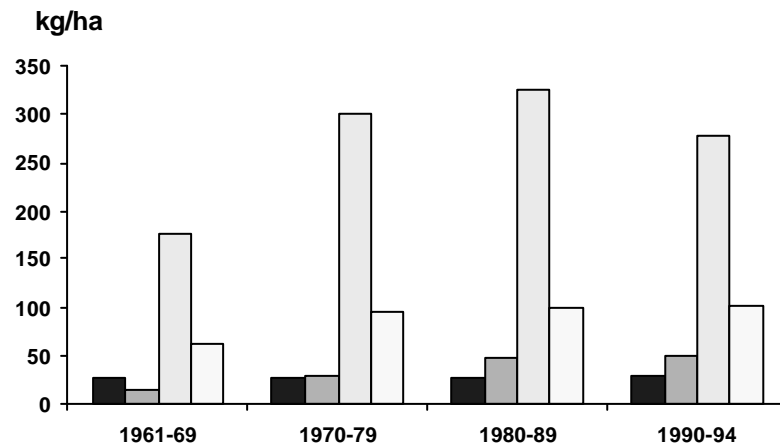
Source: Statistics Canada, Agriculture Division.

Fertilizer Use by Selected OECD Countries

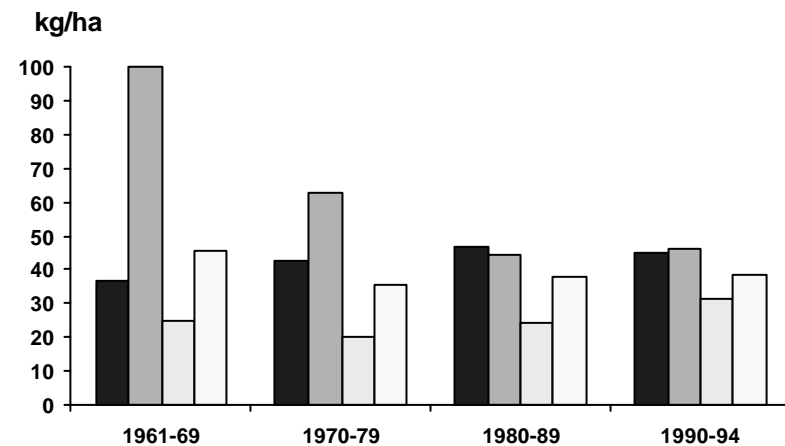
Average Primary Crop Production



Average Fertilizer Usage



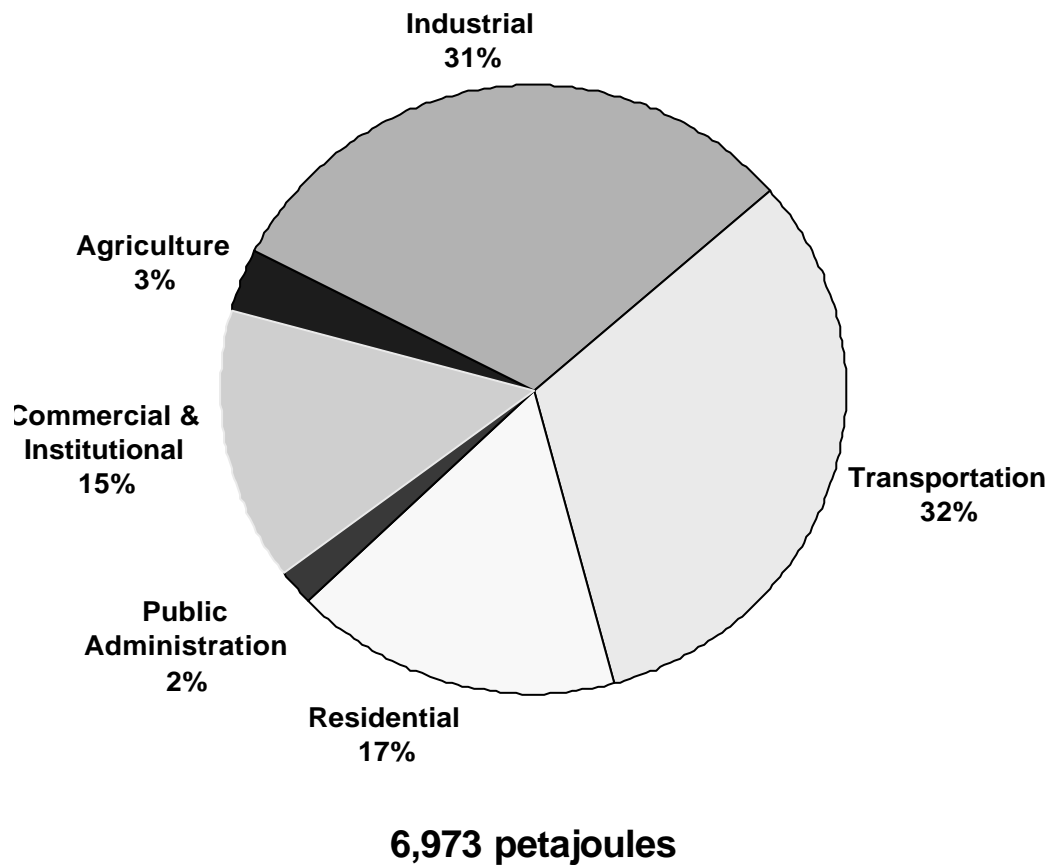
Fertilizer Response - Yield to Fertilizer Use Ratio



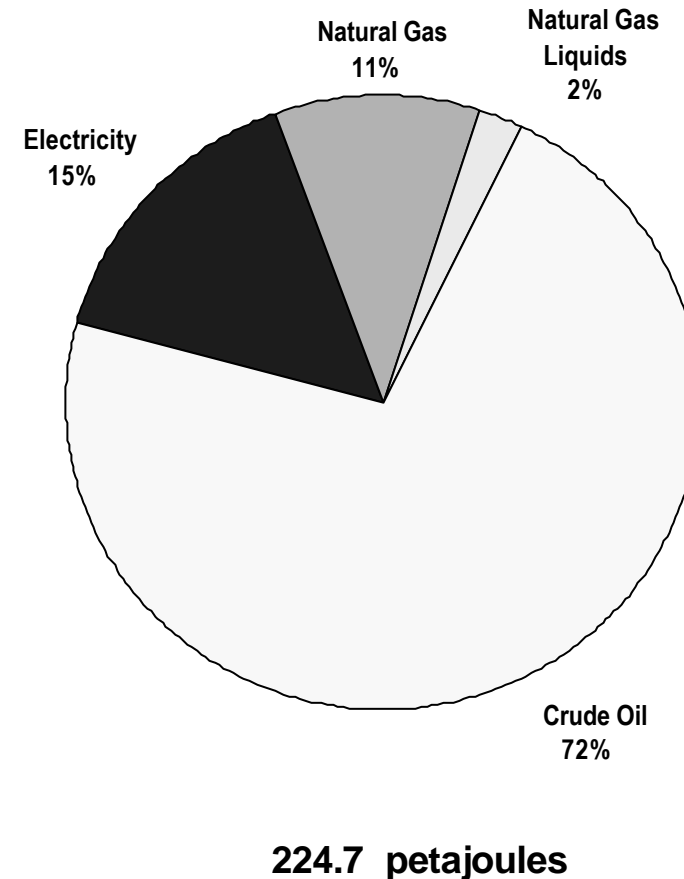
Source: FAOSTAT.

Canada Energy Use, 1998

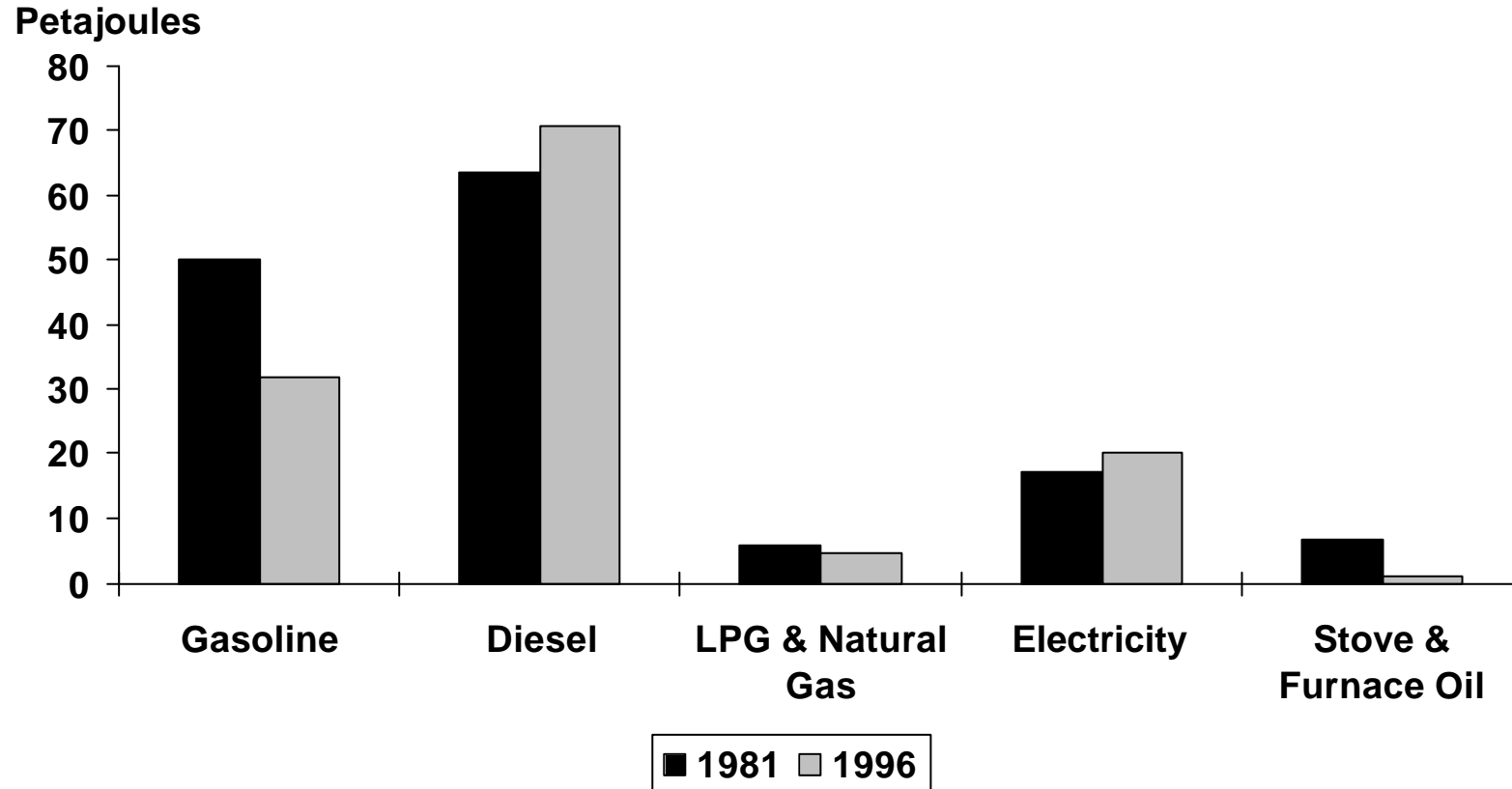
Total Energy Use by Sector



**Types of Energy Used by
Agricultural Sector**



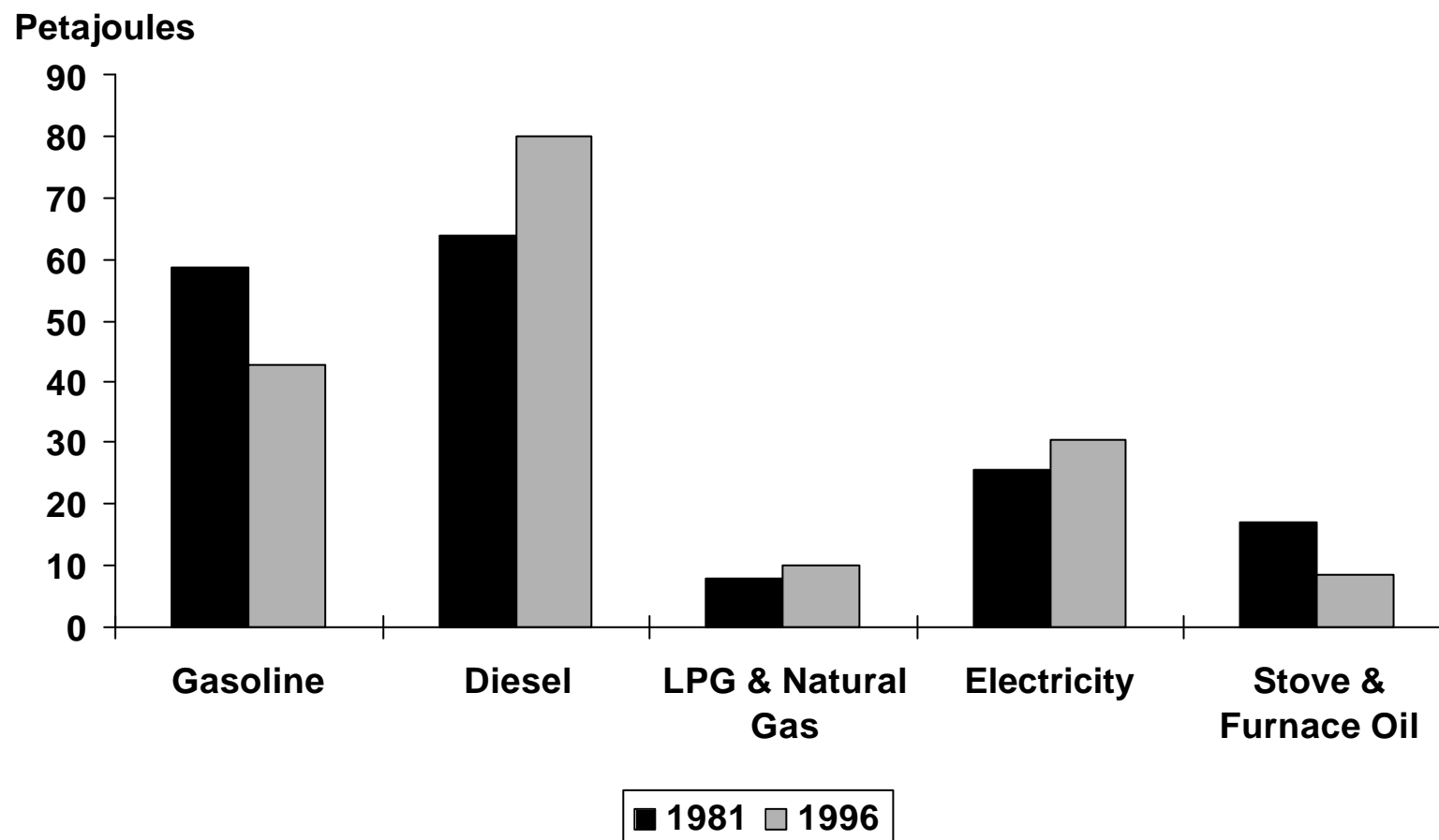
Energy Usage, Farm use only, Canada 1981 vs. 1996



Note: A 30 litre gasoline fill-up contains about one gigajoule of energy. A petajoule is one million gigajoules.

Source: Statistics Canada, the 1996 Farm Energy Use Survey (sponsored by Agriculture and Agri-Food Canada, Environment Canada, and Natural Resources Canada).

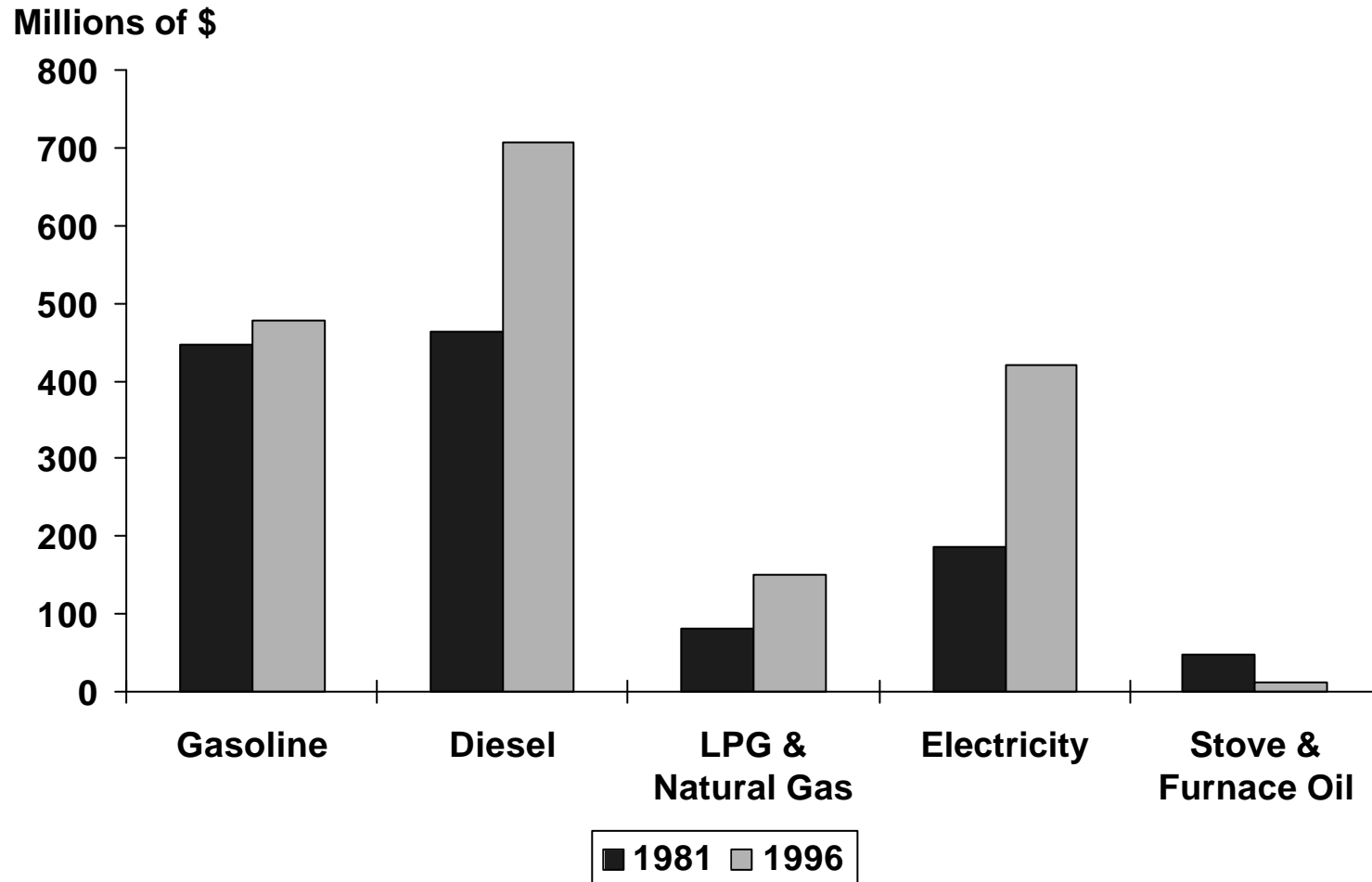
Total Energy Used on Farms, Canada 1981 vs. 1996



Note: A 30 litre gasoline fill-up contains about one gigajoule of energy. A petajoule is one million gigajoules.
Includes home use.

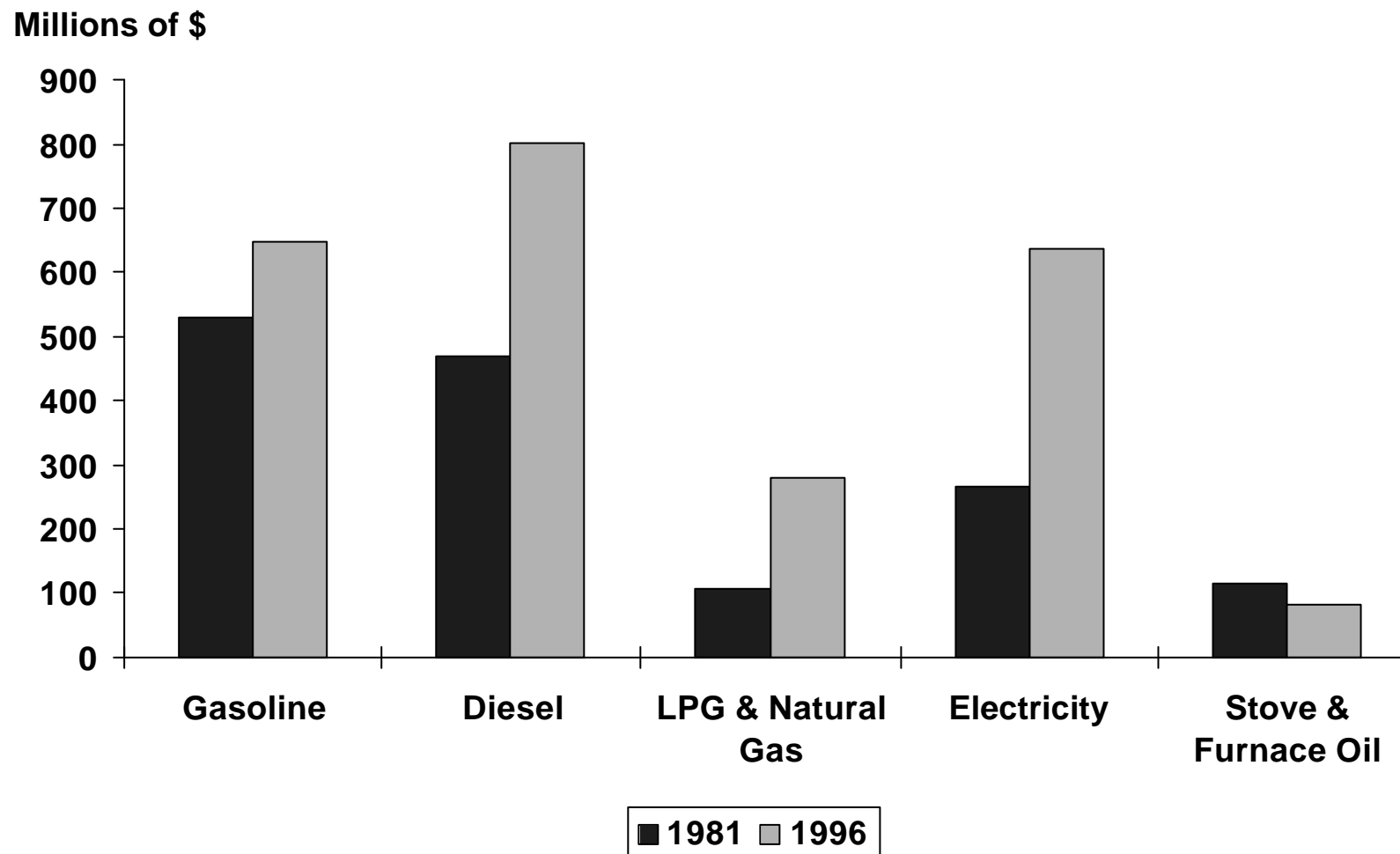
Source: Statistics Canada, the 1996 Farm Energy Use Survey (sponsored by Agriculture and Agri-Food Canada, Environment Canada, and Natural Resources Canada).

Energy Expenditures for Farm Use Only, Canada 1981 vs. 1996



Source: Statistics Canada, the 1996 Farm Energy Use Survey (sponsored by Agriculture and Agri-Food Canada, Environment Canada, and Natural Resources Canada).

Total Energy Expenditures by Farms, Canada 1981 vs. 1996



Source: Statistics Canada, the 1996 Farm Energy Use Survey (sponsored by Agriculture and Agri-Food Canada, Environment Canada, and Natural Resources Canada).