



The Daily

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Major releases

- **Canadian international merchandise trade, October 2004** 3
Canada's merchandise trade surplus with the world fell for the second consecutive month in October to its lowest level in a year, mostly because of declining exports. The surplus hit \$4.4 billion in October, down \$3.0 billion from the most recent high in June, which was the biggest surplus in three and a half years.
- **Monthly Survey of Manufacturing, October 2004** 6
Following eight months of sustained growth in 2004, manufacturing activity has taken a downturn. In October, manufacturers reported fewer shipments for the second month in a row. Finished product inventories also continued to accumulate and fewer new orders were received.

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Education Matters

December 2004

The fifth issue of Statistics Canada's online publication, *Education Matters: Insights on Education, Learning and Training in Canada*, contains two articles. "First results from the 2003 Programme for International Student Assessment" summarizes new survey results that provide international and provincial comparisons of student performance in mathematics, reading, science and problem-solving. "Recent trends in adult education and training in Canada" draws on data from the 1998 and the 2003 Adult Education and Training Surveys to examine trends in participation in adult education and training in Canada, by gender, age and education.

In addition, this issue of *Education Matters* provides the second set of update to education indicators contained in *Education Indicators in Canada: Report of the Pan-Canadian Indicators Program 2003* (81-582-XIE, free).

Education Matters is a free, on-line publication released every two months. A source of facts and analysis on education, training and learning, *Education Matters* offers quick access to the latest education indicators and in-depth research from Statistics Canada. It also links electronically to a wide variety of data, news on education, learning resources and tables, charts and analysis.

The fifth issue of *Education Matters: Insights on Education, Learning and Training in Canada* (81-004-XIE, free) is now available online. From the *Our products and services page*, under *Browse our Internet publications*, choose *Free*, then *Education*, then *Education Matters*.

For more information, contact Client Services (1 800 307-3382 or 613-951-7608; fax: 613-951-9040; TTY: 1 800 363-7629; educationstats@statcan.ca), Centre for Education Statistics.



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New products

Major releases

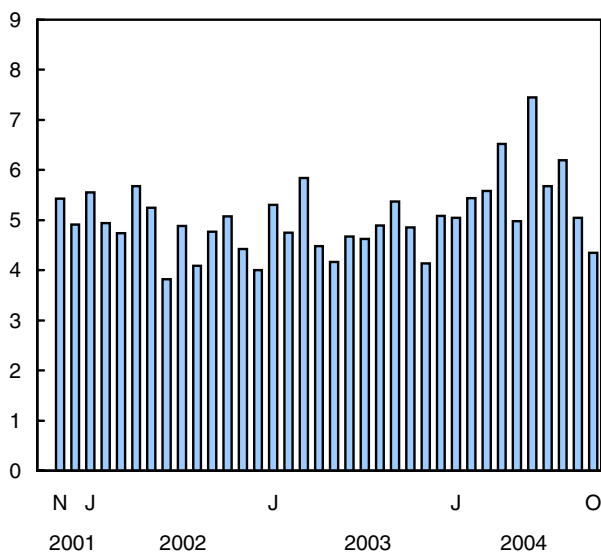
Canadian international merchandise trade

October 2004

Canada's merchandise trade surplus with the world fell for the second consecutive month in October to its lowest level in a year, mostly because of declining exports.

Trade balance

\$ billions



The surplus hit \$4.4 billion in October, down from a revised \$5.0 billion in September. October's level was \$3.0 billion lower than the most recent high of \$7.4 billion in June, which was the biggest surplus in three and a half years.

Canadian companies exported \$35.6 billion in merchandise in October, down 1.1% from September and the fourth consecutive monthly decline. The strong Canadian dollar and shipping congestion at Canadian ports were likely contributors to the lower export traffic.

In contrast, imports rose for the second month in a row in October. They edged up 0.9% to \$31.3 billion, primarily the result of a 16.5% surge in imports of energy products.

Canada's trade surplus with the United States narrowed from \$7.9 billion to \$7.6 billion as exports

Note to readers

Merchandise trade is one component of the current account of Canada's balance of payments, which also includes trade in services.

Revisions

In general, merchandise trade data are revised on an ongoing basis for each month of the current year. Customs basis data are revised for the previous data year each quarter.

Factors influencing revisions include late receipt of import and export documentation, incorrect information on customs forms, replacement of estimates with actual figures, changes in classification of merchandise based on more current information, and changes to seasonal adjustment factors.

Revised data are available in the appropriate CANSIM tables.

south of the border fell at more than twice the rate of imports.

Canadian companies exported \$28.8 billion in merchandise to the United States, down 1.6%, while our imports from south of the border edged down 0.7% to \$21.2 billion. A \$240-million plunge in exports of Canadian forestry products to the United States accounted for the majority of October's overall decline.

Exports to countries other than the United States increased 1.2% to \$6.8 billion in October. Exports to the European Union rose 4.4%, while those to other OECD countries went up 3.8%. Imports from non-US destinations edged up 4.6% to a record high of \$10.1 billion.

As a result, Canada's trade deficit with countries other than the United States widened to \$3.3 billion, the highest level since May.

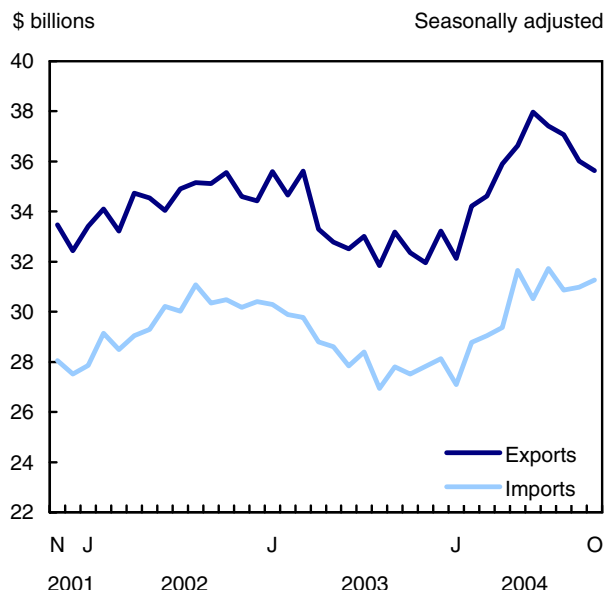
Exports: Forestry products fall for fifth month in row

Forestry product exports declined for the fifth consecutive month, falling 7.2% to \$3.1 billion. Prices for forestry products, which fell from record levels, were a major factor in the decline. Exports of lumber and sawmill products tumbled 13.5% to \$1.6 billion, while newsprint and other wood products fell 2.7%. Wood pulp and wood product exports rebounded from September's typhoons in Japan, rising \$34 million to \$550 million.

Exports of energy products fell by 0.7% to \$5.8 billion. A drop in exports of natural gas led the decline with a fall of 8.9% to \$2.2 billion, while crude petroleum exports rose 1.9% to \$2.2 billion. However,

exports of natural gas, crude petroleum and other energy products were well above the October 2003 levels.

Exports and imports



Exports of agricultural products, which plummeted in September, rebounded with growth of 1.5% to \$2.5 billion. Exports of canola and barley, in particular, bounced back, with canola exports more than tripling to \$143.6 million, while barley exports rose 11.6% to \$20.1 million. Unmilled cereals nearly doubled to \$22.8 million.

Because of poor weather conditions, wheat exports continued their downward trend. During September and October combined, they declined 59.4% to hit their lowest level for October since 1990.

Automotive exports were up in October, rising 1.5% to \$7.5 billion. Truck and other motor vehicle exports, which were up 40% in October to \$1.6 billion, led the increase. Exports of motor vehicle parts also rose, by \$61.7 million to \$2.3 billion. Automobile exports, in contrast, fell by 9.8% to \$3.7 billion, the lowest level since February.

After declining for four consecutive months, exports of machinery and equipment rose slightly in October to \$7.7 billion. Exports of aircraft and other transportation equipment, which had declined over the last two months of the third quarter, experienced a recovery of \$51.4 million. Industrial and agricultural machinery exports increased marginally to reach \$1.7 billion. Exports of other machinery and

equipment were the only products in this group to decline, falling 1.0% to \$4.4 billion.

Record high crude petroleum imports

Energy product imports soared 16.5% to \$2.5 billion in October. Imports of crude petroleum surged 13.2% to \$1.7 billion, a record high, with volume and price levels each rising by about 6.5%. Other energy product imports, such as natural gas from the Gulf of Mexico, also shot upward (+24.8% to \$761 million).

Imports of consumer goods increased 1.7% to \$4.1 billion. Increases in imports of televisions, printed matter, pharmaceutical products and miscellaneous consumer goods offset declines in imports of photographic goods, sporting goods and toys, and apparel and footwear.

Imports of industrial goods and materials increased 0.3% in October, slightly eclipsing September's high of \$6.4 billion, on the strength of chemicals and plastics and metals and metal ores.

Agricultural and fishing product imports increased by \$28.2 million, with record highs for fruit and vegetable imports, as well as cocoa and coffee imports.

Imports of automotive products declined 4.4% to \$6.3 billion. Within this product group, passenger auto and chassis imports fell 11.9% to \$1.7 billion while truck and other motor vehicle imports decreased 11.3% to \$1.1 billion. Imports of motor vehicle parts for new car production and repairs managed a small increase of 2.5% to \$3.5 billion.

Imports of machinery and equipment declined 0.3%. All industrial and agricultural machinery imports declined, including a substantial decrease in excavating machinery. At the same time, increases in imports of aircraft and other transportation equipment ensured that the import levels for the product group remained fairly stable. Aircraft and other transportation equipment imports increased 7.7% to \$1.1 billion.

Available on CANSIM: tables 228-0001 to 228-0003 and 228-0033 to 228-0046.

Definitions, data sources and methods: survey numbers, including related surveys, 2201, 2202 and 2203.

The October 2004 issue of *Canadian International Merchandise Trade*, Vol. 58, no. 10 (65-001-XIB, \$15/\$151) is now available. See *How to order products*. The publication includes tables by commodity and country on a customs basis. Current account data (which incorporate merchandise trade

statistics, service transactions, investment income and transfers) are available quarterly in *Canada's Balance of International Payments* (67-001-XIE, \$32/\$100).

Merchandise trade data are available in PDF format on the morning of release.

For more information on the publications, contact Anne Couillard, (1-800-294-5583; 613-951-9647). To enquire about the concepts, methods or data quality of this release, contact Diana Wyman (613-951-3116), International Trade Division.

Merchandise trade

	September 2004 ^r	October 2004	September to October 2004	October 2003 to October 2004	January to October 2003	January to October 2004	January to October 2003 to January to October 2004
\$ current, seasonally adjusted							
	\$ millions		% change		\$ millions		% change
Principal trading partners							
Exports							
United States	29,276	28,796	-1.6	9.2	277,035	291,488	5.2
Japan	808	813	0.6	13.2	8,285	8,401	1.4
European Union	2,298	2,399	4.4	13.3	19,820	22,859	15.3
Other OECD countries ¹	1,199	1,244	3.8	-0.1	10,603	11,975	12.9
All other countries	2,442	2,374	-2.8	23.9	19,085	22,880	19.9
Total	36,024	35,625	-1.1	10.1	334,826	357,604	6.8
Imports							
United States	21,337	21,185	-0.7	9.6	200,697	208,081	3.7
Japan	800	820	2.5	1.9	8,995	8,264	-8.1
European Union	3,081	3,236	5.0	21.4	29,211	30,269	3.6
Other OECD countries ¹	1,918	1,918	0.0	21.1	16,395	18,796	14.6
All other countries	3,846	4,115	7.0	31.8	30,571	35,917	17.5
Total	30,981	31,274	0.9	13.7	285,869	301,326	5.4
Balance							
United States	7,939	7,611	---	---	76,338	83,407	---
Japan	8	-7	---	---	-710	137	---
European Union	-783	-837	---	---	-9,391	-7,410	---
Other OECD countries ¹	-719	-674	---	---	-5,792	-6,821	---
All other countries	-1,404	-1,741	---	---	-11,486	-13,037	---
Total	5,043	4,351	---	---	48,957	56,278	---
Principal commodity groupings							
Exports							
Agricultural and fishing products	2,420	2,457	1.5	-0.2	24,283	26,081	7.4
Energy products	5,814	5,774	-0.7	29.7	51,512	55,996	8.7
Forestry products	3,362	3,121	-7.2	7.1	28,562	33,014	15.6
Industrial goods and materials	6,598	6,461	-2.1	14.6	54,944	64,265	17.0
Machinery and equipment	7,615	7,665	0.7	10.0	74,603	77,122	3.4
Automotive products	7,410	7,521	1.5	2.8	73,046	75,466	3.3
Other consumer goods	1,408	1,397	-0.8	3.5	14,328	14,469	1.0
Special transactions trade ²	667	642	-3.7	3.7	6,441	6,623	2.8
Other balance of payments adjustments	729	587	-19.5	-8.4	7,112	4,570	-35.7
Imports							
Agricultural and fishing products	1,807	1,835	1.5	5.9	18,033	17,807	-1.3
Energy products	2,155	2,510	16.5	59.9	16,340	20,084	22.9
Forestry products	273	260	-4.8	4.0	2,538	2,625	3.4
Industrial goods and materials	6,435	6,454	0.3	22.4	54,469	60,513	11.1
Machinery and equipment	8,796	8,770	-0.3	13.0	82,157	86,753	5.6
Automotive products	6,623	6,334	-4.4	2.1	64,011	64,411	0.6
Other consumer goods	3,989	4,058	1.7	7.2	38,600	39,413	2.1
Special transactions trade ²	378	526	39.2	26.1	4,434	4,434	0.0
Other balance of payments adjustments	527	527	0.0	2.5	5,288	5,294	0.1

^R Revised figures.

1. Includes Australia, Iceland, Mexico, New Zealand, Norway, Switzerland, Turkey, Poland, South Korea, Hungary, Czech Republic and Slovakia.

2. These are mainly low valued transactions, value of repairs to equipment, and goods returned to country of origin.

... Figures not appropriate or not applicable.

Monthly Survey of Manufacturing

October 2004

Following eight months of sustained growth in 2004, manufacturing activity has taken a downturn. In October, manufacturers reported fewer shipments for the second month in a row. Finished product inventories also continued to accumulate and fewer new orders were received.

The momentum stalls

Canadian manufacturers continued to face several challenges in October and signs suggest momentum has slowed. Major factors contributing to this reduced activity include the rising value of the Canadian dollar, which reached a 12-year high in late October, and the price of crude oil, which exceeded US \$55 per barrel during the month.

Prices for other raw material inputs have also increased substantially. According to the raw materials price index, manufacturers paid 28% more for their inputs in October 2004 compared with one year ago. The rising dollar, combined with high input prices may be limiting manufacturers' ability to maintain production at levels seen during the early part of 2004.

Factories cutting jobs

An indication of slowing manufacturing activity was also seen in the most recent Labour Force Survey. In November, the number of factory jobs declined by 18,000, bringing total job losses in the sector to 52,000 since July 2004.

Shipments weaken

Manufacturing shipments dropped 1.3% to \$49.8 billion in October, following September's 0.7% decline. Shipments have now weakened 2.0% from the record level posted in August (\$50.8 billion). Although the recent declines have eroded some of the gains reported earlier in 2004, January-to-October shipments remain 8.0% higher compared with the same period last year. Shipments measured in constant dollars also declined for the second successive month in October, falling 0.5% to \$46.5 billion.

Motor vehicle manufacturing pulls down durable goods

Most industries (14 of 21) accounting for 71% of total shipments, fell back in October. The slowdown was concentrated in the durable goods sector (-2.0%).

Note to readers

To reduce respondent burden, data previously collected via questionnaire for approximately 50% of the simple establishments in the Monthly Survey of Manufacturing (MSM) sample are now replaced with modeled estimates based on the Goods and Services Tax (GST) returns (effective the August 2004 reference month). Revenue data based on the GST is received from the Canada Revenue Agency on a monthly basis. Data for shipments is derived through the use of statistical modeling. The model takes into account the shipments to revenue relationship, as well as the time lag between the reference month for the MSM and the reference period of the GST estimates.

For additional information, consult the publication Monthly Survey of Manufacturing: Use of Administrative Data (31-533-XIE, free).

Non-durable goods industries include food, beverage and tobacco products, textile mills, textile product mills, clothing, leather and allied products, paper, printing and related support activities, petroleum and coal products, chemicals and plastic and rubber products.

Durable goods industries include wood products, non-metallic mineral products, primary metals, fabricated metal products, machinery, computer and electronic products, electrical equipment, appliances and components, transportation equipment, furniture and related products and miscellaneous manufacturing.

Unfilled orders are a stock of orders that will contribute to future shipments assuming that the orders are not cancelled.

New orders are those received whether shipped in the current month or not. They are measured as the sum of shipments for the current month plus the change in unfilled orders. Some people interpret new orders as orders that will lead to future demand. This is inappropriate since the "new orders" variable includes orders that have already been shipped. Readers should take note that the month-to-month change in new orders may be volatile. This will happen particularly if the previous month's change in unfilled orders is closely related to the current month's change.

Not all orders will be translated into Canadian factory shipments because portions of large contracts can be subcontracted out to manufacturers in other countries.

Motor vehicle manufacturing was the main contributor with a 7.1% decrease in shipments to \$5.8 billion. A drop off in motor vehicle sales, particularly in the United States, led manufacturers to sharply lower production in October.

Manufacturers of computer and electronic products also reported weaker activity in October, as shipments declined 6.7% to \$1.5 billion. Wood products decreased 2.9% to \$3.2 billion, as prices fell sharply. Motor vehicle parts also dropped 2.9% to \$2.8 billion, mirroring the effects of the slowdown in motor vehicle manufacturing.

Non-durable shipments slid a more modest 0.4% to \$21.7 billion. Shipments of chemical products

fell 2.1% to \$3.9 billion, while paper manufacturing declined 2.1% to \$2.7 billion, as both prices and demand for paper products decreased in recent months.

The petroleum, aerospace and railroad rolling stock industries offset some of the declines in October. Petroleum prices jumped 5.3% from already high levels, boosting shipments 3.6% to a record \$4.2 billion. Aerospace products manufacturing rebounded 13.2% to \$1.0 billion, while production of railroad rolling stock surged 32.1% to \$264 million, as manufacturers continue to meet high demand for railcars in North America.

Manufacturing shipments, provinces and territories

	September 2004 ^r	October 2004 ^p	September 2004 to October 2004
	seasonally adjusted		
	\$ millions		% change
Canada	50,424	49,768	-1.3
Newfoundland and Labrador	261	289	11.0
Prince Edward Island	116	110	-4.5
Nova Scotia	786	773	-1.6
New Brunswick	1,185	1,159	-2.2
Quebec	11,313	11,443	1.1
Ontario	26,740	26,031	-2.6
Manitoba	1,068	1,086	1.6
Saskatchewan	866	832	-3.9
Alberta	4,431	4,468	0.8
British Columbia	3,651	3,567	-2.3
Yukon	2	1	-21.0
Northwest Territories including Nunavut	5	8	52.4

^r Revised data.

^p Preliminary data.

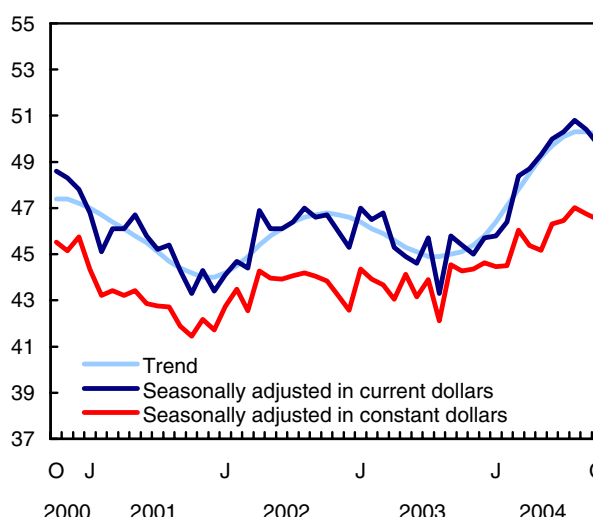
Shipments drop in Ontario

Ontario reported the largest drop among the six provinces with lower shipments in October. In Ontario, the centre of motor vehicle manufacturing in Canada, shipments slumped \$709 million (-2.6%) to \$26.0 billion, as both the automobile and parts industries slowed. Shipments in British Columbia declined \$84 million (-2.3%) to \$3.6 billion, primarily due to the wood and paper products industries. In Saskatchewan, manufacturers of wood and chemical products contributed to a \$34 million (-3.9%) decrease in shipments.

Following gains in the aerospace products and parts and the petroleum and coal products industries, Quebec manufacturers reported a \$130 million (+1.1%) increase in shipments to \$11.4 billion, offsetting some of the overall drop.

Manufacturing shipments drop for second month in a row

\$ billions



Finished product inventories build

Over and above the second straight decline in shipments, there were also signals on the inventory front suggesting that Canadian manufacturing activity was cooling down. Finished product inventories rose 1.4% to \$21.4 billion, the highest level since June 2001 and the sixth increase in seven months. Manufacturers may be experiencing difficulty moving their finished goods.

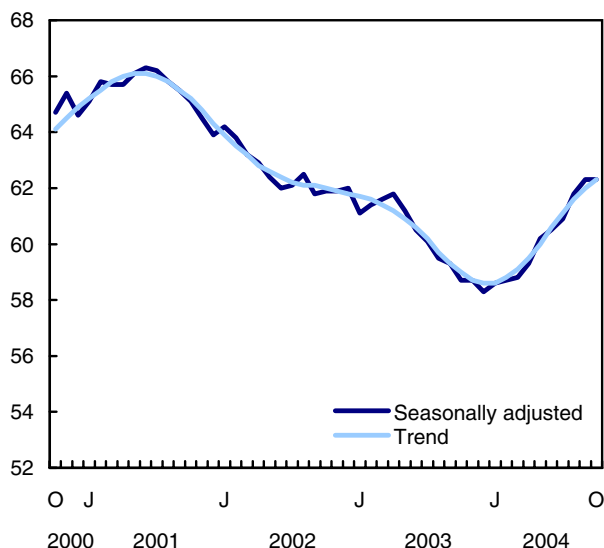
Another indicator of waning confidence is that raw material inventories, which are generally built-up in anticipation of future production, fell 0.2% to \$27.1 billion. October's decrease marks the first decline in eight months. Goods in process inventories declined 1.1% to \$13.9 billion.

The rise in finished products inventories was nearly offset by declines in raw materials and goods in process. As a result, total inventories stood at \$62.3 billion, up 0.1% from September and extending the upward trend in inventories to 10 months. Inventories have accumulated by almost 7.0% since the close of 2003.

Primary metals (+2.5%), chemical products (+1.8%), food (+1.4%) and petroleum and coal products (+2.5%) contributed to the higher level of inventories in October.

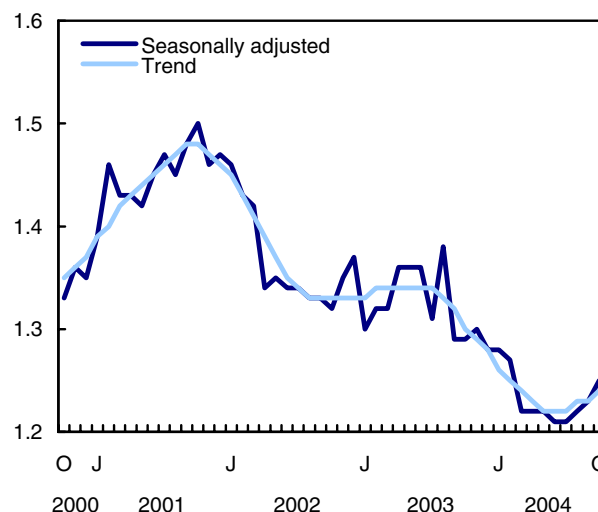
Manufacturers face rising finished-products

\$ billions



Inventory-to-shipment ratio climbs, based on lower shipments

Ratio



Inventory-to-shipment ratio edges upwards again

The inventory-to-shipment ratio rose for the third consecutive month due to lower shipments in October. After hitting a record low of 1.21 in June and July, the ratio has inched up to 1.25 in October, the highest point since February 2004 (1.27).

The inventory-to-shipment ratio is a key measure of the time, in months, that would be required in order to exhaust inventories if shipments were to remain at their current level.

Manufacturers have fewer unfilled orders

Manufacturers' level of unfilled orders further weakened in October, as orders slipped by 0.3% to \$37.1 billion, the third consecutive decline. Among the industries reporting decreases were primary metals (-5.1%), motor vehicles (-8.5%) and motor vehicle parts (-3.9%). Partly offsetting the decline, aerospace products and parts manufacturers logged additional orders in their books (+2.5%).

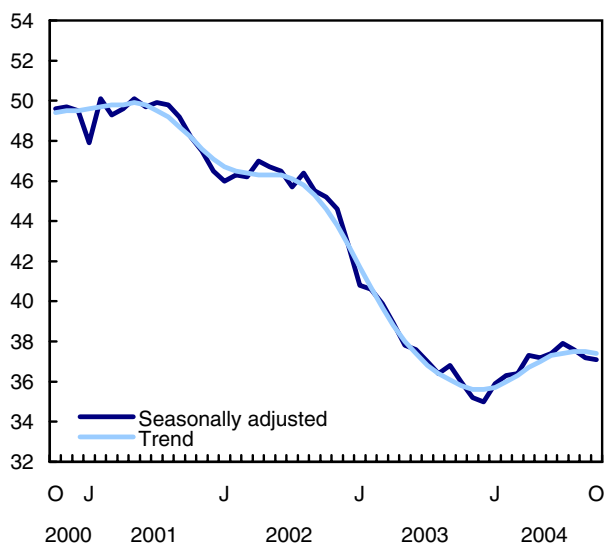
Despite recent setbacks, the backlog of unfilled orders remains almost 6.0% above levels at the close of 2003.

Fewer new orders of motor vehicles

New orders fell 0.8% to \$49.6 billion in October, the third decline in a row. Declines in new orders of motor vehicles (-7.4%), primary metals (-4.1%) and fabricated metal products (-3.9%) were partly offset by a big boost in the aerospace industry (+57.5%).

Backlog of unfilled orders continues to weaken

\$ billions



Available on CANSIM: tables 304-0014 and 304-0015.

Definitions, data sources and methods: survey number 2101.

The October issue of the *Monthly Survey of Manufacturing* (31-001-XIE, \$17/\$158) will soon be available.

Data for shipments by province in greater detail than normally published may be available on request.

The Annual Survey of Manufactures released estimates for reference year 2002 and revisions for 2000 and 2001 on June 16, 2004. In the future, the *Monthly Survey of Manufacturing* will re-benchmark to the Annual Survey of Manufactures data for reference years 2000 and 2001 and benchmark to 2002.

Data from the November 2004 *Monthly Survey of Manufacturing* will be released on January 20, 2005.

For general information or to order data, contact the dissemination officer (1-866-873-8789; 613-951-9497; fax: 613-951-9499; manufact@statcan.ca). To enquire about the concepts, methods or data quality of the release, contact Russell Kowaluk (613-951-0600, kowarus@statcan.ca), Manufacturing, Construction and Energy Division.

□

Shipments, inventories and orders in all manufacturing industries

	Shipments		Inventories		Unfilled orders		New orders		Inventories-to-shipments ratio
	seasonally adjusted								
	\$ millions	% change	\$ millions	% change	\$ millions	% change	\$ millions	% change	
October 2003	45,373	-1.0	58,748	-0.9	35,984	-2.3	44,519	-3.7	1.29
November 2003	44,993	-0.8	58,708	-0.1	35,204	-2.2	44,213	-0.7	1.30
December 2003	45,678	1.5	58,301	-0.7	35,020	-0.5	45,493	2.9	1.28
January 2004	45,801	0.3	58,572	0.5	35,931	2.6	46,712	2.7	1.28
February 2004	46,355	1.2	58,671	0.2	36,346	1.2	46,770	0.1	1.27
March 2004	48,366	4.3	58,838	0.3	36,362	0.0	48,381	3.4	1.22
April 2004	48,749	0.8	59,304	0.8	37,279	2.5	49,667	2.7	1.22
May 2004	49,296	1.1	60,154	1.4	37,226	-0.1	49,243	-0.9	1.22
June 2004	49,988	1.4	60,492	0.6	37,375	0.4	50,136	1.8	1.21
July 2004	50,325	0.7	60,938	0.7	37,906	1.4	50,856	1.4	1.21
August 2004	50,760	0.9	61,837	1.5	37,608	-0.8	50,461	-0.8	1.22
September 2004	50,424	-0.7	62,269	0.7	37,211	-1.1	50,027	-0.9	1.23
October 2004	49,768	-1.3	62,347	0.1	37,081	-0.3	49,639	-0.8	1.25

Manufacturing industries except motor vehicle, parts and accessories

	Shipments		Inventories		Unfilled orders		New orders	
	seasonally adjusted							
	\$ millions	% change	\$ millions	% change	\$ millions	% change	\$ millions	% change
October 2003	37,087	-1.1	55,638	-0.9	34,303	-2.6	36,177	-4.5
November 2003	37,013	-0.2	55,615	-0.0	33,474	-2.4	36,183	0.0
December 2003	37,445	1.2	55,234	-0.7	33,255	-0.7	37,226	2.9
January 2004	37,579	0.4	55,507	0.5	34,130	2.6	38,454	3.3
February 2004	38,228	1.7	55,457	-0.1	34,487	1.0	38,585	0.3
March 2004	39,665	3.8	55,473	0.0	34,387	-0.3	39,564	2.5
April 2004	39,922	0.6	55,799	0.6	35,196	2.4	40,731	2.9
May 2004	40,374	1.1	56,713	1.6	35,133	-0.2	40,311	-1.0
June 2004	41,007	1.6	57,086	0.7	35,321	0.5	41,195	2.2
July 2004	41,366	0.9	57,496	0.7	35,787	1.3	41,832	1.5
August 2004	41,644	0.7	58,303	1.4	35,583	-0.6	41,440	-0.9
September 2004	41,299	-0.8	58,774	0.8	35,292	-0.8	41,008	-1.0
October 2004	41,172	-0.3	58,904	0.2	35,274	-0.1	41,154	0.4

Other releases

Study: Export market participation, innovation and productivity growth 1984 to 1996

Canadian companies that participate in export markets show superior performance when it comes to growth in labour productivity and innovation than those which don't, according to a new study of trade liberalization.

The finding suggests that trade policies that encourage the international orientation of Canadian firms will have a positive impact on the competitiveness and innovation performance of Canadian firms.

The study examined how Canadian manufacturing firms have responded to trade liberalization during the past two decades. It used data from the Annual Survey of Manufacturers from 1984 to 1996 linked to the 1993 Survey of Innovation and Advanced Technology.

It found that the Canada-US Free Trade agreement and the North American Free Trade Agreement were main factors behind the growing export orientation of Canadian manufacturing firms during the 1990s.

As trade barriers fell, more Canadian manufacturing plants entered the export market and exporters increased their share of shipments sold abroad.

This increase in export-market participation has led to an increase in labour productivity growth in the Canadian manufacturing sector. The study found that exporters had annual growth in labour productivity that was 0.6 percentage points higher than non-exporters during the past two decades.

The annual growth in shipments of exporters was 0.3 percentage points higher, while the annual growth in wages was 0.6 percentage points higher.

The study identified a number of mechanisms through which export-market participation raises productivity growth. These were increases in plant specialization, learning by exporting, increased innovation and exposure to international competition.

Canadian manufacturing plants that began to export during the past two decades increased their product specialization (and therefore their production-run length) relative to those that did not export. The increase in product specialization allowed the manufacturing plants to exploit economies of scale.

The study also found that exporting facilitates the transfer of knowledge across countries and enhances

the innovation process in the Canadian economy. Exporting was linked to an increase in the use of foreign technology at plants.

It was also connected to an increase in the incidence of collaboration agreements on research and development with foreign buyers. Finally, exporting improved the flow of information about foreign technologies to Canadian plants.

Productivity gains from export-market participation do not materialize from thin air. Exporters tend to be the more innovative firms, both before and after they enter export markets. But becoming exporters led to changes in the nature of innovation. This was associated with the greater use of advanced technologies, thereby increasing the intensity of process innovation.

To accomplish this, exporters acquired more foreign technologies and developed enhanced absorptive capacities that allowed them to ingest new knowledge. Exporters invested more in research and development and staff training, thereby developing a greater capacity for absorbing foreign technologies.

The research paper *Trade Liberalization: Export-Market Participation, Productivity Growth and Innovation*, no. 27 (11F0027MIE2004027, free) is now available online. From the *Our products and services* page, under *Browse our Internet publications*, choose *Free*, then *National accounts*.

Additional information on other papers related to productivity growth and innovation, can be found in the publication *Update on Economic Analysis* (11-623-XIE, free).

For more information, or to enquire about the concepts, methods or data quality of this release, contact John Baldwin (613-951-8588) or Wulong Gu (613-951-0754), Micro-economic Analysis Division. ■

Biotechnology Use and Development Survey

2003 (preliminary)

Biotechnology continued its phenomenal growth in Canada between 2001 and 2003, according to new preliminary data from the Biotechnology Use and Development Survey.

There were 496 innovative biotechnology firms in Canada in 2003, a 32% increase from 375 in 2001 and a 76% increase from 282 firms in 1997.

Biotechnology key indicators 2003

	Innovative biotechnology companies	Employees with biotechnology-related activities	Biotech- nology revenues	Biotech- nology R&D expenditures
			\$ millions	\$ millions
Canada	496	11,931	3,821	1,487
Province				
Quebec	146	3,695	480	490
Ontario	130	3,557	2,026	453
Manitoba	21	1,213	145 ^E	56 ^E
Saskatchewan	35	380	71	23
Alberta	44	718	298	88
British Columbia	93	2,158	780	370
Atlantic	27	210	21	7
Size				
Small (0 to 49 employees)	355	3,557	469	495
Medium (50 to 149 employees)	77	3,746	909	699
Large (150 employees and over)	64	4,628	2,443	293

^E Use with caution.

Half of the increase in the number of firms between 2001 and 2003 is explained by the creation of new firms during this period.

Combined, these 496 companies generated revenues of \$3.8 billion in 2003, up 7% from 2001. Their spending on research and development also increased 11% to \$1.5 billion.

Biotechnology companies have more than quadrupled their revenues since 1997, making biotech a fast growing activity.

An innovative biotechnology firm is a firm that uses biotechnology for the purpose of developing new products or processes.

Large biotech companies, or those with at least 150 employees, represented only 13% of the 496 biotech firms in 2003, but accounted for 64% of biotech revenues. Nearly three-quarters of all companies were small firms, that is, they had fewer than 50 employees.

Medium-sized firms, those with between 50 and 149 employees accounted for 47% of spending on biotechnology research and development.

More than 70% of the innovative biotechnology firms were in only three provinces: Quebec, Ontario and British Columbia. These provinces continue to comprise the bulk of Canadian biotechnology activity, accounting for more than 80% of biotechnology revenues in 2003.

Ontario firms led the way in biotechnology revenues, whereas those in Quebec accounted for the largest

share of biotechnology firms, biotech employees and research and development spending.

Despite an increase in the number of firms, the number of employees working in biotechnology-related activities remained stable at about 11,900.

Definitions, data sources and methods: survey number 4226.

Preliminary data from the 2003 Biotechnology Use and Development Survey are now available.

To request data tables or to enquire about the concepts, methods or data quality of this release, contact Antoine Rose (613-951-9919; antoine.rose@statcan.ca) or Lara Raoub (613-951-3490; lara.raoub@statcan.ca), Science, Innovation and Electronic Information Division. ■

Export and import price indexes October 2004

Current- and fixed-weighted export and import price indexes (1997=100) on a balance of payments basis are now available. Price indexes are listed from January 1997 to October 2004 for the five commodity sections and the major commodity groups (62 exports and 61 imports).

Current- and fixed-weighted US price indexes (1997=100) are also available on a customs basis. Price indexes are listed from January 1997 to October 2004. Included with the US commodity indexes are the 10 all-countries and US-only Standard International Trade Classification section indexes.

Indexes for the five commodity sections and the major commodity groups are also available now on a customs basis.

Available on CANSIM: tables 228-0001 to 228-0003 and 228-0033 to 228-0046.

Definitions, data sources and methods: survey numbers, including related surveys, 2201, 2202 and 2203.

The October 2004 issue of *Canadian International Merchandise Trade*, Vol. 58, no. 10 (65-001-XIB, \$15/\$151) is now available. See *How to order products*.

For more information, or to enquire about the concepts, methods or data quality of this release, contact Anne Couillard (1-800-294-5583; 613-951-9647), International Trade Division. ■

Refined petroleum products

October 2004 (preliminary)

Data on the production, inventories and domestic sales of refined petroleum products are now available for October 2004. Other selected data about these products are also available.

Definitions, data sources and methods: survey number 2150.

For more information, or to enquire about the concepts, methods or data quality of this release, contact the dissemination officer (1-866-873-8789; 613-951-9497; (energ@statcan.ca), Energy, Manufacturing, Construction and Energy Division. ■

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
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● Productivity, hourly compensation and unit labour cost, 1995 Growth in productivity among Canadian businesses also noticeably weak again in 1996, accompanied by sluggish gains in employment and slow economic growth during the year.	4
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