



Monthly Survey of Manufacturing

June 2003



How to obtain more information

Specific inquiries about this product and related statistics or services should be directed to: Marketing and Dissemination Section, Manufacturing, Construction & Energy Division, Statistics Canada, Ottawa, Ontario, K1A 0T6 (telephone: (613) 951-9497, toll free: 1-866-873-8789, fax.: (613) 951-9499, e-mail: manufact@statcan.ca).

For information on the wide range of data available from Statistics Canada, you can contact us by calling one of our toll-free numbers. You can also contact us by e-mail or by visiting our Web site.

National inquiries line	1 800 263-1136
National telecommunications device for the hearing impaired	1 800 363-7629
Depository Services Program inquiries	1 800 700-1033
Fax line for Depository Services Program	1 800 889-9734
E-mail inquiries	infostats@statcan.ca
Web site	www.statcan.ca

Ordering and subscription information

This product, Catalogue no. 31-001-XIE, is published monthly in electronic format on the Statistics Canada Internet site at a price of CDN \$15.00 per issue and CDN \$147.00 for a one-year subscription. To obtain single issues, visit our Web site at www.statcan.ca, and select Products and Services.

This product is also available in print through a Print-on-Demand service, at a price of CDN \$49.00 per issue and CDN \$278.00 for a one-year subscription. The following additional shipping charges apply for delivery outside Canada:

	Single issue	Annual subscription
United States	CDN \$6.00	CDN \$72.00
Other countries	CDN \$10.00	CDN \$120.00

All prices exclude sales taxes.

The printed version can be ordered by

- Phone (Canada and United States) **1 800 267-6677**
- Fax (Canada and United States) **1 877 287-4369**
- E-mail **order@statcan.ca**
- Mail Statistics Canada
Dissemination Division
Circulation Management
120 Parkdale Avenue
Ottawa, Ontario K1A 0T6
- And, in person at the Statistics Canada Regional Centre nearest you.

When notifying us of a change in your address, please provide both old and new addresses.

Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner and in the official language of their choice. To this end, the Agency has developed standards of service which its employees observe in serving its clients. To obtain a copy of these service standards, please contact Statistics Canada toll free at 1 800 263-1136.



Statistics Canada
Manufacturing, Construction & Energy Division
Monthly Survey of Manufacturing Section

Monthly Survey of Manufacturing

June 2003

Published by authority of the Minister responsible for Statistics Canada

© Minister of Industry, 2003

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without prior written permission from Licence Services, Marketing Division, Statistics Canada, Ottawa, Ontario, Canada K1A 0T6.

August 2003

Catalogue no. 31-001-XIE, Vol. 57, No. 6

ISSN 1496-2306

Frequency: Monthly

Ottawa

La version française de cette publication est disponible sur demande (n° 31-001-XIF au catalogue).

Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.

Symbols

The following symbols are used in this Statistics Canada publication:

- . not available for any reference period.
- .. not available for a specific reference period.
- ... not applicable.
- x suppressed to meet the confidentiality requirements of the Statistics Act.

Notice to users

Estimates in this publication are subject to revision to accommodate newly received information. It is advisable to always use data from the most recent issue.

In the following tables, some components may not add exactly to the total, because of rounding.

For a complete description of concepts, methodology and definitions, please refer to the "Survey Documentation" section at the end of this publication or consult Statistics Canada's Website at www.statcan.ca/english/sdds/2101.htm .

A note on CANSIM

The data published in Monthly Survey of Manufacturing (Tables 304-0014 and 304-0015) (Catalogue No. 31-001-XIE) are also available in machine-readable form through CANSIM (Canadian Socio-Economic Information Management System). Users interested in accessing data via CANSIM should contact one of Statistics Canada's regional centres at the numbers listed on the inside front cover of this Publication, or contact the Marketing Division, Statistics Canada R.H. Coats Building, Ottawa, Ontario, K1A 0T6 (613) 951-8200.

Acknowledgement

This publication was prepared under the direction of:

- **Marcelle Dion**, Director, Manufacturing, Construction & Energy Division
- **Daniela Ravindra**, Chief, Monthly Survey of Manufacturing
- **Russell Kowaluk**, Economist, is the author of this publication.

Table of contents

	Page
Highlights	6
Products and services	10
Statistical Tables	
1. All Manufacturing Industries	11
2. Motor Vehicle, and Parts and Accessories Industries	12
3. All Manufacturing Industries except Motor Vehicle, Parts and Accessories Industries	13
4. Shipments by Major Group and Selected Industries	14
5. Inventories by Major Group and Selected Industries	16
6. Unfilled Orders by Selected Major Group and Industries	18
7. New Orders by Selected Major Group and Industries	20
8. Shipments and Inventory Owned for Selected Industries, Unadjusted	22
9. Inventories owned by stage of fabrication	30
10. Shipments by Major Group and Province, Unadjusted	31
Survey Documentation	37

Highlights

Manufacturing shipments decreased 0.5% to \$41.9 billion in June, culminating a lacklustre second quarter. Manufacturers sliced 4.4% off shipments in the second quarter, wiping out the first quarter's gains.

Other manufacturing indicators reported mixed signals. Unfilled orders continued to slide in June (-1.3%), the tenth consecutive decline. On the positive front, inventory levels decreased for the second month in a row and new orders also picked up in June, following a two-month decline.

Decreases in shipments were extensive in June, including 14 of 21 industries, accounting for 78% of total shipments. Meanwhile, the trend for shipments has remained negative for the eighth consecutive month.

Motor vehicle manufacturing pulls down Ontario shipments

Ontario bore the brunt of the drop, as six provinces reported lower shipments in June. Shipments in Ontario fell by \$410 million (-1.8%) to \$22.3 billion, a four-month low in 2003. Motor vehicles, primary metals and machinery manufacturing contributed to the decline.

Shipments in British Columbia contracted by \$41.2 million (-1.5%) to \$2.7 billion. The slide was concentrated in the paper and chemical industries, and marked the sixth consecutive drop in manufacturing activity.

Quebec made up lost ground in June, partly offsetting Canada's overall decline in shipments during the month. Shipments rose by \$164.6 million (+1.7) to \$9.7 billion, following a string of three monthly decreases. A boost in quarter-end production of computer and electronic products contributed to the rise.

Alberta was badly hit by the closure of the international export market for beef products. Shipments went down by 143 million (-4.0%).

Weak second quarter

Although the manufacturing sector started the year on a relatively positive note, the second quarter was far from stellar. Fewer new orders filled the books in the second quarter and the level of unfilled orders continued to weaken. Manufacturers cut shipments by a sizable 4.4% to \$126.6 billion in the second quarter, after posting a 1.5% rise in the first.

A significantly stronger Canadian dollar, coupled with the ongoing adverse affects of the single case of bovine spongiform encephalopathy (BSE), or mad cow disease, detected in Alberta in May, contributed to the downturn in manufacturing activity this quarter. The US economy, however, is showing some early indications of a modest recovery.

Shipments by province and territory

	May 2003	June 2003	May to June 2003
Seasonally adjusted			
	\$ millions		% change
Newfoundland and Labrador	196	220	12.4
Prince Edward Island	114	113	-1.5
Nova Scotia	730	711	-2.5
New Brunswick	1,015	1,072	5.6
Quebec	9,570	9,734	1.7
Ontario	22,759	22,349	-1.8
Manitoba	940	938	-0.3
Saskatchewan	613	622	1.5
Alberta	3,478	3,472	-0.2
British Columbia	2,708	2,667	-1.5
Yukon, Northwest Territories and Nunavut	5	5	3.2

Manufacturers' concerns linger

In July, manufacturers noted concerns with lower levels of unfilled orders and higher finished-product inventories. According to the recent release of the Business Conditions Survey, manufacturers do not expect to increase production in the coming three months.

Manufacturing employment increased slightly in July

According to the latest release of the Labour Force Survey, employment in manufacturing increased slightly in July (+0.1%). Employment has declined 61,000 (-2.6%) over the first seven months of 2003, primarily the result of continued weakness in Ontario. In the United States, factory employment has fallen 2.7% over the same period.

US manufacturers boast a second consecutive monthly increase in shipments

While Canadian manufacturers faced a dismal second quarter, their US counterparts began to stir. After an extended period of weakness, dating back to the 2001 recession, US shipments rose a healthy 1.1% in June, following a 0.3% increase in May. Durable and non-durable goods manufacturers both contributed to the rise.

Manufacturers in the US also reported optimistic results for inventories and orders. Inventories fell back 0.2%, the fourth consecutive decline. Meanwhile, unfilled orders were up 0.3%.

Autos and machinery drive down Canadian shipments

In June, shipments of motor vehicles decreased 3.4% to \$5.3 billion, the third decline in 2003. Shipments are the lowest since last December (\$4.7 billion). The start of summer's annual shutdowns in late June at some plants, and manufacturers' ongoing efforts to reduce retail inventory levels, contributed to the lower shipments. Quarterly shipments edged back 1.4%, following a robust first quarter (+5.3%).

The machinery and paper industries also reported sharp declines in June. Shipments of machinery fell 5.4% to \$1.8 billion, following May's strong gain (+3.0%). The completion of several contracts contributed to May's rise. Paper manufacturing declined for the third straight month to \$2.6 billion (-2.8%).

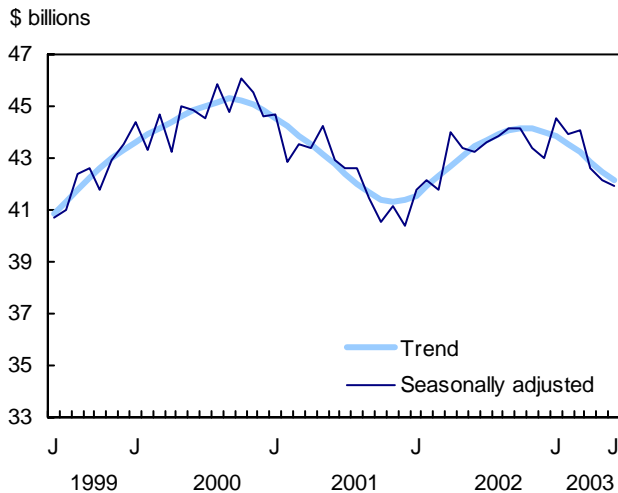
Mad cow disease hammers meat processors

The food industry also reported lower shipments in June, as the effects of mad cow disease battered parts of the industry. Food shipments fell 1.0% to \$5.2 billion, following a 1.3% drop in May. Shipments are at the lowest level since July 2002.

Key international export markets for Canadian beef products remained closed in June following the diagnosis of a single case of mad cow disease in an Alberta cow on May 20. Manufacturers of the animal (except poultry) slaughtering industry reported shipments of \$638.7 million, down 15.5% from May, and well off June 2002 levels (-27%).

In Alberta, the province hit hardest by the closure of the international export market for beef products, shipments of slaughtered animals (excluding poultry) plunged a staggering 33.7% in June. This follows an 8.4% drop in May. Processing and meat-packing plants have been adversely affected by the export ban, as many farmers held on to their herds of slaughter cattle, pending a lift of the ban.

Shipments decline three months in a row



Manufacturers reduce inventory levels in June

For the second straight month, manufacturers reported lower inventory levels. In June, inventories fell back 0.9% to \$62.9 billion, following a 0.7% drop in May. The inventory trend remained unchanged for a third month.

Since mid-2002, inventories had been on a steady rise as manufacturers faced weak global demand. Total inventories, which had bottomed out at \$61.6 billion one year ago, peaked again by April 2003 at \$63.9 billion, the highest level since mid-2001. Production slowdowns during the second quarter of 2003 contributed to a \$1.0 billion decline in inventories over the last two months.

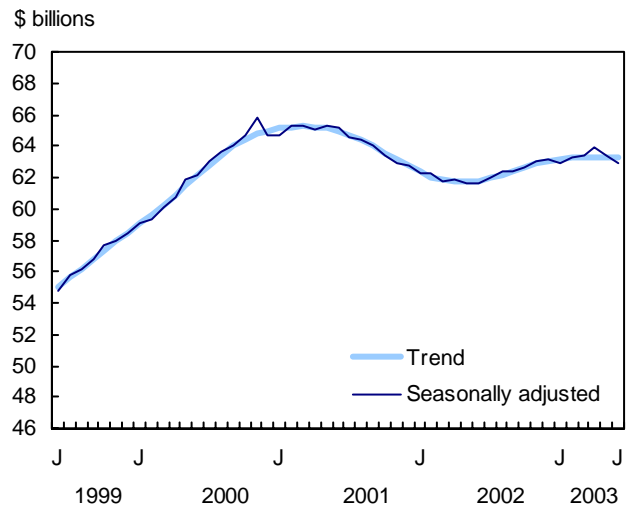
Manufacturers of primary metals (-2.8%) and computers and electronic products (-2.8%) were the main contributors to the lower inventories in June.

All three stages of fabrication were responsible for the decline in June's inventories. Raw materials decreased 0.8% to \$27.2 billion, the third consecutive drop. Meanwhile, goods-in-process inventories fell 1.1%, the fourth decrease since the start of the year.

Finished-product inventories decline for the first time since January

Finished-product inventories, which increased almost 3.0% from January to May, fell back 0.7% to \$19.9 billion in June, the first decline in five months. The trend, which remained positive since July 2002, continued to slow in recent months.

Inventories decline for a second month in a row



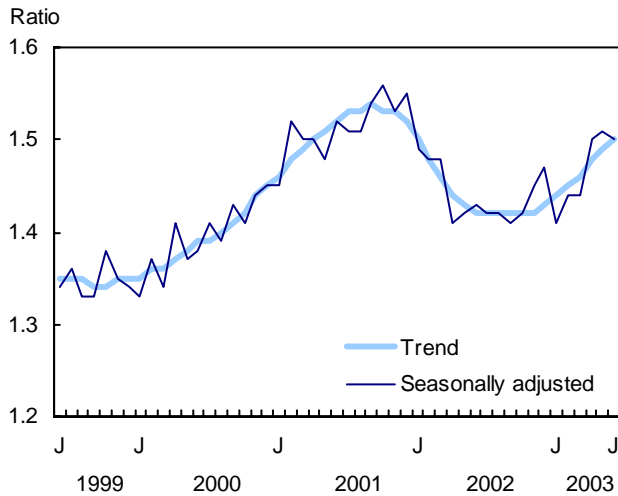
Inventory-to-shipment ratio remains high

Following a significant jump in April, the inventory-to-shipment ratio remained near record highs for the third month in a row. In June, the ratio edged back slightly to 1.50 from May's 1.51, which was the highest level since December 2001 (1.55). Lower shipments and inventories contributed to the relatively stable ratio.

The inventory-to-shipment ratio hovered around 1.43 from January to March. A higher ratio indicates some difficulty by manufacturers to clear inventories due to weakening demand.

The finished-product inventory-to-shipment ratio dropped slightly to 0.47. The ratio has been on an upward trend since the autumn of 2002. The ratio is a measure of the time that would be required in order to exhaust finished-product inventories if shipments were to remain at their current level.

The inventory-to-shipment ratio slips slightly



Unfilled orders fall ten months straight

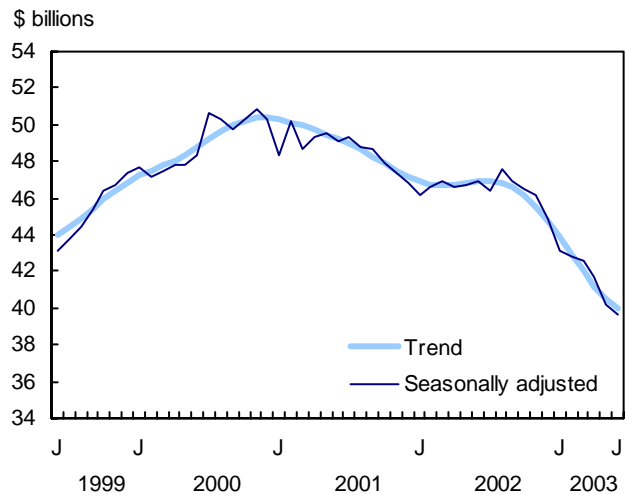
Fewer unfilled orders continued to impede the manufacturing sector. In June, unfilled orders declined a further 1.3% to \$39.6 billion, the lowest level in almost six years, and the tenth consecutive decrease. This remains the longest string of declines since the 1990-1991 recession.

More than one-third (34%) of manufacturers reported in July's Business Conditions Survey that their level of unfilled orders was lower than normal. Only 6% said it was higher than normal.

Widespread weaknesses in unfilled orders were reported in June, and were led by the beleaguered aerospace products and parts industry. Unfilled orders dropped 2.7% to \$12.3 billion, the twenty-first consecutive decrease by aerospace manufacturers. Manufacturers have received fewer orders for new aircraft and parts, as many global airlines continue to struggle financially during the current downturn of the aviation sector.

The computer and electronic products industry reported an 8.0% decline in unfilled orders. Orders were \$3.6 billion in June, the lowest level in 16 months. Machinery manufacturers also reported a 3.7% decline in unfilled orders to \$6.0 billion. This follows an 11.0% drop in May.

Unfilled orders slide again



New orders pick up in June

New orders rose 2.0% to \$41.4 billion in June, following decreases in April (-5.0%) and May (-2.7%). Increases in the transportation equipment and machinery industries offset a sharp decline in new orders for computers.

Note to readers

In addition to current-month estimates, data for the previous three months are regularly revised. Factors influencing revisions include late receipt of company data, incorrect information reported earlier, replacement of estimates with actual figures (once available), and seasonal adjustments. Consult the appropriate CANSIM tables for revised data.

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

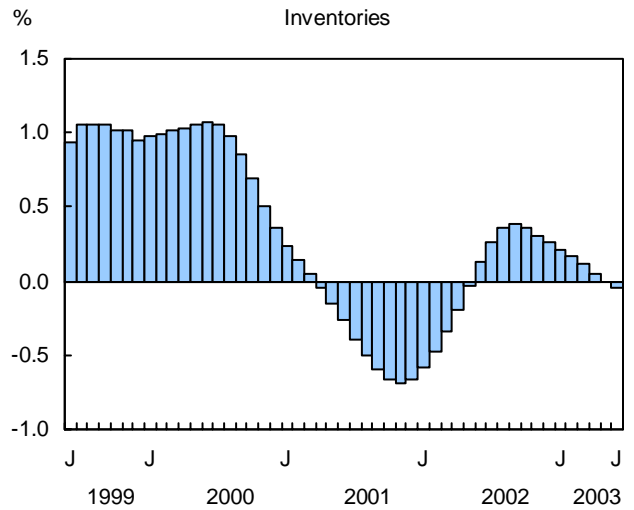
Durable goods industries include clothing, wood products, non-metallic mineral products, primary metals, fabricated metal products, machinery, computer and electronic products, electrical equipment, appliance and components, transportation equipment, furniture and related products and miscellaneous manufacturing.

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

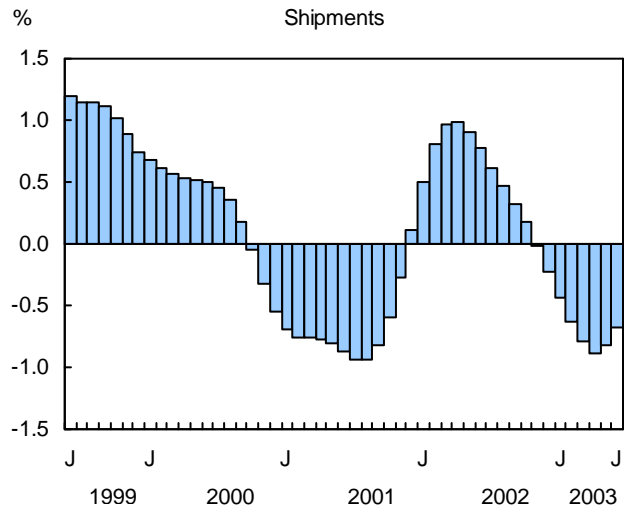
New orders are those received whether shipped in the current month or not. They are measured as the sum of shipments for the current month plus the change in unfilled orders. Some people interpret new orders as orders that will lead to future demand. This is inappropriate since the "new orders" variable 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.

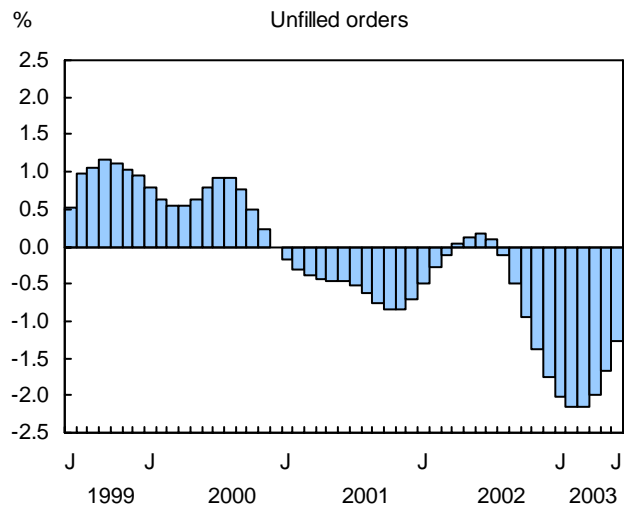
Monthly change in trend



Monthly change in trend



Monthly change in trend



Products and Services

Related Products and Data Sources

- Manufacturing Industries of Canada, 31-203-XPB
- Business Condition Survey, CANSIM (\$) tables 302-0007 and 302-0008
- Perspectives on Labour and Income, 75-001-XIE or 75-001-XPE
- Industrial Product Price Indexes, 62-011-XIE or 62-011-XPB
- Industrial Capacity Utilization Rates CANSIM II table 028-0002

Special Requests (\$)

You may obtain custom tabulations on a cost recoverable basis by contacting the Marketing and Dissemination Section. This service enables you to specify tables and time series to meet your own requirements on an ad hoc or regular basis.

Schedule of releases

Reference period
November 2002
December 2002
January 2003
February 2003
March 2003
April 2003
May 2003
June 2003
July 2003
August 2003
September 2003
October 2003
November 2003
December 2003

Monthly Survey of Manufacturing

Release date
January 22, 2003
February 18, 2003
March 18, 2003
April 16, 2003
May 15, 2003
June 13, 2003
July 16, 2003
August 14, 2003
September 16, 2003
October 15, 2003
November 14, 2003
December 16, 2003
January 21, 2004
February 13, 2004

Using the above release dates as a reference, you may view the corresponding highlights (free) from the Daily www.statcan.ca/english/dai-quo/. Just click on "Previous Issues" on the side menu bar and select the release date of your choice.

To view the MSM survey questionnaire www.statcan.ca/english/sdds/2101.htm

For further information concerning our products and services, contact us at:

Marketing and Dissemination Section
Manufacturing, Construction and Energy Division
Statistics Canada
Telephone: (613) 951-9497
Toll free: 1-866-873-8789
Fax.: (613) 951-9499
E-mail: manufact@statcan.ca

Table 1
All manufacturing industries

Period	Unadjusted				Seasonally adjusted					
	Shipments	Inventories	Unfilled orders	New orders	Shipments	Inventories	Unfilled orders	New orders		
\$ millions										
June 2002	44,509	61,190	46,755	44,165	43,228	61,612	46,933	43,400		
July 2002	39,887	61,205	46,885	40,016	43,649	61,958	46,440	43,156		
August 2002	45,110	62,231	48,159	46,122	43,851	62,407	47,556	44,968		
September 2002	45,149	62,193	47,324	44,308	44,134	62,320	46,963	43,541		
October 2002	47,191	62,295	46,773	46,640	44,132	62,580	46,491	43,660		
November 2002	44,305	63,129	46,202	43,734	43,385	62,989	46,127	43,021		
December 2002	39,721	62,389	44,536	38,054	42,998	63,161	44,820	41,690		
January 2003	41,879	62,601	42,643	39,986	44,520	62,929	43,123	42,823		
February 2003	40,817	63,980	42,588	40,762	43,901	63,307	42,807	43,584		
March 2003	45,280	64,512	42,467	45,159	44,070	63,368	42,616	43,879		
April 2003	43,099	64,519	41,336	41,967	42,587	63,896	41,707	41,679		
May 2003	44,494	63,627	40,097	43,255	42,128	63,450	40,149	40,570		
June 2003	43,522	62,407	39,279	42,705	41,903	62,895	39,610	41,364		
Month to month % change										
Shipments		Inventories		Inventory to shipments ratio		Unfilled orders		New orders		
Seasonally adjusted	Trend	Seasonally adjusted	Trend	Seasonally adjusted	Trend	Seasonally adjusted	Trend	Seasonally adjusted	Trend	
June 2002	-0.3	0.8	-0.1	0.1	1.43	1.42	0.4	0.2	-0.2	0.8
July 2002	1.0	0.6	0.6	0.3	1.42	1.42	-1.1	0.1	-0.6	0.5
August 2002	0.5	0.5	0.7	0.4	1.42	1.42	2.4	-0.1	4.2	0.2
September 2002	0.6	0.3	-0.1	0.4	1.41	1.42	-1.2	-0.5	-3.2	-0.1
October 2002	0.0	0.2	0.4	0.4	1.42	1.42	-1.0	-1.0	0.3	-0.3
November 2002	-1.7	0.0	0.7	0.3	1.45	1.42	-0.8	-1.4	-1.5	-0.5
December 2002	-0.9	-0.2	0.3	0.3	1.47	1.43	-2.8	-1.8	-3.1	-0.6
January 2003	3.5	-0.4	-0.4	0.2	1.41	1.44	-3.8	-2.0	2.7	-0.7
February 2003	-1.4	-0.6	0.6	0.2	1.44	1.45	-0.7	-2.1	1.8	-0.7
March 2003	0.4	-0.8	0.1	0.1	1.44	1.46	-0.4	-2.1	0.7	-0.8
April 2003	-3.4	-0.9	0.8	0.0	1.50	1.48	-2.1	-2.0	-5.0	-0.7
May 2003	-1.1	-0.8	-0.7	0.0	1.51	1.49	-3.7	-1.7	-2.7	-0.5
June 2003	-0.5	-0.7	-0.9	0.0	1.50	1.50	-1.3	-1.3	2.0	-0.3

Table 2
Motor vehicle, and parts and accessories industries

Period	Unadjusted				Seasonally adjusted																																																																																																																																																																																
	Shipments	Inventories	Unfilled orders	New orders	Shipments	Inventories	Unfilled orders	New orders																																																																																																																																																																													
\$ millions																																																																																																																																																																																					
June 2002	8,707	3,356	1,697	8,702	8,363	3,439	1,699	8,348																																																																																																																																																																													
July 2002	5,546	3,527	1,776	5,625	8,803	3,576	1,733	8,837																																																																																																																																																																													
August 2002	8,832	3,490	1,939	8,995	8,590	3,493	1,894	8,750																																																																																																																																																																													
September 2002	8,417	3,525	2,060	8,537	8,347	3,512	2,031	8,485																																																																																																																																																																													
October 2002	9,054	3,445	1,968	8,962	8,298	3,450	1,959	8,226																																																																																																																																																																													
November 2002	8,695	3,660	1,933	8,660	8,124	3,586	1,932	8,097																																																																																																																																																																													
December 2002	6,157	3,689	1,855	6,079	7,258	3,751	1,853	7,179																																																																																																																																																																													
January 2003	8,166	3,585	1,834	8,145	8,236	3,552	1,816	8,199																																																																																																																																																																													
February 2003	8,211	3,630	1,787	8,164	8,076	3,580	1,779	8,039																																																																																																																																																																													
March 2003	8,926	3,529	1,724	8,863	8,335	3,495	1,730	8,286																																																																																																																																																																													
April 2003	8,538	3,501	1,630	8,444	8,010	3,496	1,687	7,967																																																																																																																																																																													
May 2003	8,739	3,415	1,588	8,697	7,981	3,399	1,624	7,918																																																																																																																																																																													
June 2003	8,412	3,217	1,591	8,415	7,847	3,293	1,632	7,854																																																																																																																																																																													
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4">Month to month % change</th> <th colspan="2" rowspan="2">Inventory to shipments ratio</th> <th colspan="4">Month to month % change</th> </tr> <tr> <th colspan="2">Shipments</th> <th colspan="2">Inventories</th> <th colspan="2">Unfilled orders</th> <th colspan="2">New orders</th> </tr> <tr> <th>Seasonally adjusted</th> <th>Trend</th> <th>Seasonally adjusted</th> <th>Trend</th> <th>Seasonally adjusted</th> <th>Trend</th> <th>Seasonally adjusted</th> <th>Trend</th> <th>Seasonally adjusted</th> <th>Trend</th> </tr> </thead> <tbody> <tr> <td>June 2002</td> <td>0.5</td> <td>0.8</td> <td>-1.1</td> <td>0.6</td> <td>0.41</td> <td>0.41</td> <td>-0.9</td> <td>3.2</td> <td>-0.2</td> <td>0.9</td> </tr> <tr> <td>July 2002</td> <td>5.3</td> <td>0.4</td> <td>4.0</td> <td>0.6</td> <td>0.41</td> <td>0.41</td> <td>2.0</td> <td>3.1</td> <td>5.9</td> <td>0.4</td> </tr> <tr> <td>August 2002</td> <td>-2.4</td> <td>0.0</td> <td>-2.3</td> <td>0.6</td> <td>0.41</td> <td>0.41</td> <td>9.2</td> <td>2.7</td> <td>-1.0</td> <td>-0.1</td> </tr> <tr> <td>September 2002</td> <td>-2.8</td> <td>-0.3</td> <td>0.6</td> <td>0.5</td> <td>0.42</td> <td>0.42</td> <td>7.3</td> <td>1.8</td> <td>-3.0</td> <td>-0.5</td> </tr> <tr> <td>October 2002</td> <td>-0.6</td> <td>-0.5</td> <td>-1.8</td> <td>0.4</td> <td>0.42</td> <td>0.42</td> <td>-3.5</td> <td>0.7</td> <td>-3.1</td> <td>-0.8</td> </tr> <tr> <td>November 2002</td> <td>-2.1</td> <td>-0.7</td> <td>3.9</td> <td>0.2</td> <td>0.44</td> <td>0.43</td> <td>-1.4</td> <td>-0.6</td> <td>-1.6</td> <td>-1.0</td> </tr> <tr> <td>December 2002</td> <td>-10.7</td> <td>-0.8</td> <td>4.6</td> <td>0.0</td> <td>0.52</td> <td>0.43</td> <td>-4.1</td> <td>-1.6</td> <td>-11.3</td> <td>-1.0</td> </tr> <tr> <td>January 2003</td> <td>13.5</td> <td>-0.8</td> <td>-5.3</td> <td>-0.3</td> <td>0.43</td> <td>0.43</td> <td>-2.0</td> <td>-2.4</td> <td>14.2</td> <td>-0.9</td> </tr> <tr> <td>February 2003</td> <td>-1.9</td> <td>-0.7</td> <td>0.8</td> <td>-0.6</td> <td>0.44</td> <td>0.43</td> <td>-2.1</td> <td>-2.7</td> <td>-2.0</td> <td>-0.8</td> </tr> <tr> <td>March 2003</td> <td>3.2</td> <td>-0.7</td> <td>-2.4</td> <td>-0.9</td> <td>0.42</td> <td>0.43</td> <td>-2.8</td> <td>-2.8</td> <td>3.1</td> <td>-0.7</td> </tr> <tr> <td>April 2003</td> <td>-3.9</td> <td>-0.8</td> <td>0.0</td> <td>-1.0</td> <td>0.44</td> <td>0.43</td> <td>-2.5</td> <td>-2.4</td> <td>-3.8</td> <td>-0.7</td> </tr> <tr> <td>May 2003</td> <td>-0.4</td> <td>-0.8</td> <td>-2.8</td> <td>-0.9</td> <td>0.43</td> <td>0.43</td> <td>-3.7</td> <td>-1.7</td> <td>-0.6</td> <td>-0.6</td> </tr> <tr> <td>June 2003</td> <td>-1.7</td> <td>-0.7</td> <td>-3.1</td> <td>-0.7</td> <td>0.42</td> <td>0.43</td> <td>0.5</td> <td>-1.0</td> <td>-0.8</td> <td>-0.5</td> </tr> </tbody> </table>											Month to month % change				Inventory to shipments ratio		Month to month % change				Shipments		Inventories		Unfilled orders		New orders		Seasonally adjusted	Trend	Seasonally adjusted	Trend	Seasonally adjusted	Trend	Seasonally adjusted	Trend	Seasonally adjusted	Trend	June 2002	0.5	0.8	-1.1	0.6	0.41	0.41	-0.9	3.2	-0.2	0.9	July 2002	5.3	0.4	4.0	0.6	0.41	0.41	2.0	3.1	5.9	0.4	August 2002	-2.4	0.0	-2.3	0.6	0.41	0.41	9.2	2.7	-1.0	-0.1	September 2002	-2.8	-0.3	0.6	0.5	0.42	0.42	7.3	1.8	-3.0	-0.5	October 2002	-0.6	-0.5	-1.8	0.4	0.42	0.42	-3.5	0.7	-3.1	-0.8	November 2002	-2.1	-0.7	3.9	0.2	0.44	0.43	-1.4	-0.6	-1.6	-1.0	December 2002	-10.7	-0.8	4.6	0.0	0.52	0.43	-4.1	-1.6	-11.3	-1.0	January 2003	13.5	-0.8	-5.3	-0.3	0.43	0.43	-2.0	-2.4	14.2	-0.9	February 2003	-1.9	-0.7	0.8	-0.6	0.44	0.43	-2.1	-2.7	-2.0	-0.8	March 2003	3.2	-0.7	-2.4	-0.9	0.42	0.43	-2.8	-2.8	3.1	-0.7	April 2003	-3.9	-0.8	0.0	-1.0	0.44	0.43	-2.5	-2.4	-3.8	-0.7	May 2003	-0.4	-0.8	-2.8	-0.9	0.43	0.43	-3.7	-1.7	-0.6	-0.6	June 2003	-1.7	-0.7	-3.1	-0.7	0.42	0.43	0.5	-1.0	-0.8	-0.5
Month to month % change				Inventory to shipments ratio		Month to month % change																																																																																																																																																																															
Shipments		Inventories				Unfilled orders		New orders																																																																																																																																																																													
Seasonally adjusted	Trend	Seasonally adjusted	Trend	Seasonally adjusted	Trend	Seasonally adjusted	Trend	Seasonally adjusted	Trend																																																																																																																																																																												
June 2002	0.5	0.8	-1.1	0.6	0.41	0.41	-0.9	3.2	-0.2	0.9																																																																																																																																																																											
July 2002	5.3	0.4	4.0	0.6	0.41	0.41	2.0	3.1	5.9	0.4																																																																																																																																																																											
August 2002	-2.4	0.0	-2.3	0.6	0.41	0.41	9.2	2.7	-1.0	-0.1																																																																																																																																																																											
September 2002	-2.8	-0.3	0.6	0.5	0.42	0.42	7.3	1.8	-3.0	-0.5																																																																																																																																																																											
October 2002	-0.6	-0.5	-1.8	0.4	0.42	0.42	-3.5	0.7	-3.1	-0.8																																																																																																																																																																											
November 2002	-2.1	-0.7	3.9	0.2	0.44	0.43	-1.4	-0.6	-1.6	-1.0																																																																																																																																																																											
December 2002	-10.7	-0.8	4.6	0.0	0.52	0.43	-4.1	-1.6	-11.3	-1.0																																																																																																																																																																											
January 2003	13.5	-0.8	-5.3	-0.3	0.43	0.43	-2.0	-2.4	14.2	-0.9																																																																																																																																																																											
February 2003	-1.9	-0.7	0.8	-0.6	0.44	0.43	-2.1	-2.7	-2.0	-0.8																																																																																																																																																																											
March 2003	3.2	-0.7	-2.4	-0.9	0.42	0.43	-2.8	-2.8	3.1	-0.7																																																																																																																																																																											
April 2003	-3.9	-0.8	0.0	-1.0	0.44	0.43	-2.5	-2.4	-3.8	-0.7																																																																																																																																																																											
May 2003	-0.4	-0.8	-2.8	-0.9	0.43	0.43	-3.7	-1.7	-0.6	-0.6																																																																																																																																																																											
June 2003	-1.7	-0.7	-3.1	-0.7	0.42	0.43	0.5	-1.0	-0.8	-0.5																																																																																																																																																																											

Table 3

All manufacturing industries except motor vehicle, parts and accessories industries

Period	Unadjusted				Seasonally adjusted					
	Shipments	Inventories	Unfilled orders	New orders	Shipments	Inventories	Unfilled orders	New orders		
\$ millions										
June 2002	35,801	57,834	45,058	35,462	34,865	58,174	45,234	35,052		
July 2002	34,340	57,678	45,109	34,391	34,846	58,383	44,707	34,319		
August 2002	36,279	58,740	46,220	37,127	35,261	58,914	45,663	36,218		
September 2002	36,732	58,668	45,264	35,771	35,787	58,808	44,932	35,056		
October 2002	38,137	58,850	44,804	37,678	35,834	59,130	44,532	35,434		
November 2002	35,610	59,468	44,269	35,075	35,260	59,403	44,195	34,923		
December 2002	33,564	58,700	42,681	31,975	35,740	59,410	42,967	34,511		
January 2003	33,713	59,016	40,809	31,841	36,284	59,376	41,307	34,624		
February 2003	32,607	60,350	40,801	32,598	35,825	59,728	41,027	35,546		
March 2003	36,354	60,983	40,743	36,296	35,735	59,873	40,886	35,593		
April 2003	34,561	61,019	39,705	33,524	34,577	60,400	40,020	33,711		
May 2003	35,755	60,212	38,509	34,558	34,147	60,051	38,525	32,652		
June 2003	35,110	59,190	37,688	34,290	34,056	59,602	37,978	33,510		
Month to month % change										
Shipments		Inventories		Inventory to shipments ratio		Unfilled orders		New orders		
Seasonally adjusted	Trend	Seasonally adjusted	Trend	Seasonally adjusted	Trend	Seasonally adjusted	Trend	Seasonally adjusted	Trend	
June 2002	-0.6	0.8	0.0	0.1	1.67	1.67	0.4	0.1	-0.2	0.8
July 2002	-0.1	0.7	0.4	0.2	1.68	1.66	-1.2	0.0	-2.1	0.6
August 2002	1.2	0.6	0.9	0.3	1.67	1.65	2.1	-0.2	5.5	0.3
September 2002	1.5	0.5	-0.2	0.4	1.64	1.65	-1.6	-0.6	-3.2	0.0
October 2002	0.1	0.3	0.5	0.4	1.65	1.65	-0.9	-1.0	1.1	-0.2
November 2002	-1.6	0.1	0.5	0.3	1.68	1.66	-0.8	-1.4	-1.4	-0.3
December 2002	1.4	-0.1	0.0	0.3	1.66	1.66	-2.8	-1.8	-1.2	-0.5
January 2003	1.5	-0.4	-0.1	0.2	1.64	1.67	-3.9	-2.0	0.3	-0.6
February 2003	-1.3	-0.6	0.6	0.2	1.67	1.69	-0.7	-2.1	2.7	-0.7
March 2003	-0.3	-0.8	0.2	0.2	1.68	1.70	-0.3	-2.1	0.1	-0.8
April 2003	-3.2	-0.9	0.9	0.1	1.75	1.72	-2.1	-2.0	-5.3	-0.7
May 2003	-1.2	-0.8	-0.6	0.0	1.76	1.74	-3.7	-1.7	-3.1	-0.5
June 2003	-0.3	-0.7	-0.7	0.0	1.75	1.75	-1.4	-1.3	2.6	-0.2

Table 4
Shipments by major group and selected industries

	NAICS Code	Unadjusted					
		Current periods					
		June 2003	May 2003	April 2003	March 2003		
		\$ millions					
Food manufacturing	311	5,454	5,556	5,226	5,203		
Beverage and tobacco product manufacturing	312	1,279	1,210	1,073	1,078		
Textile mills	313	260	267	261	265		
Textile product mills	314	203	213	194	195		
Clothing manufacturing	315	440	476	511	545		
Leather and allied product manufacturing	316	42	48	44	49		
Wood product manufacturing	321	2,341	2,382	2,326	2,330		
Paper manufacturing	322	2,571	2,690	2,723	2,785		
Printing and related support activities	323	804	857	861	901		
Petroleum and coal products manufacturing	324	2,719	2,777	2,766	3,580		
Chemical manufacturing	325	3,423	3,762	3,426	3,542		
Plastics and rubber products manufacturing	326	1,999	2,079	2,055	1,979		
Non-metallic mineral product manufacturing	327	1,156	1,122	948	829		
Primary metal manufacturing	331	2,630	2,748	2,818	2,942		
Fabricated metal product manufacturing	332	2,454	2,374	2,300	2,310		
Machinery manufacturing	333	1,887	1,978	1,887	2,085		
Computer and electronic product manufacturing	334	1,645	1,421	1,342	1,713		
Electrical equipment, appliance and component manufacturing	335	799	771	735	805		
Transportation equipment manufacturing	336	9,912	10,254	10,112	10,605		
Motor vehicle manufacturing	3361	5,703	6,010	5,868	6,051		
Motor vehicle body and trailer manufacturing	3362	232	263	255	259		
Motor vehicle parts manufacturing	3363	2,710	2,729	2,670	2,875		
Aerospace product and parts manufacturing	3364	778	776	843	839		
Railroad rolling stock manufacturing	3365	273	258	234	292		
Ship and boat building	3366	84	115	99	100		
Furniture and related product manufacturing	337	1,049	1,054	1,041	1,069		
Miscellaneous manufacturing	339	456	454	450	469		
Non-durable goods industries		18,754	19,458	18,628	19,577		
Durable goods industries		24,768	25,035	24,471	25,703		
Manufacturing		43,522	44,494	43,099	45,280		
		Previous year		Year-to-date		Annual	
		June 2002	May 2002	% Change from 2002	2003	% Change from 2001	2002
		\$ millions					
Food manufacturing	311	5,425	5,555	2.3	31,009	1.1	62,911
Beverage and tobacco product manufacturing	312	1,277	1,175	1.9	6,388	3.7	13,304
Textile mills	313	285	298	-9.6	1,520	-3.7	3,210
Textile product mills	314	217	234	-7.9	1,164	0.5	2,520
Clothing manufacturing	315	489	528	-7.4	2,984	-3.0	6,785
Leather and allied product manufacturing	316	53	53	-15.1	273	-9.9	777
Wood product manufacturing	321	2,510	2,896	-9.3	13,724	7.2	29,498
Paper manufacturing	322	2,701	2,706	0.5	15,967	-4.4	32,726
Printing and related support activities	323	803	878	0.4	4,988	-4.1	10,061
Petroleum and coal products manufacturing	324	2,569	2,612	28.5	18,231	1.1	32,350
Chemical manufacturing	325	3,188	3,611	10.5	20,574	4.0	37,769
Plastics and rubber products manufacturing	326	2,064	2,167	1.7	11,754	6.7	23,002
Non-metallic mineral product manufacturing	327	1,081	1,122	6.3	5,467	9.7	11,586
Primary metal manufacturing	331	2,668	2,911	4.9	16,835	8.8	32,216
Fabricated metal product manufacturing	332	2,325	2,445	1.1	13,670	2.8	27,510
Machinery manufacturing	333	2,056	2,128	-6.1	11,453	1.3	24,113
Computer and electronic product manufacturing	334	1,967	1,905	-17.1	8,935	-16.5	21,255
Electrical equipment, appliance and component manufacturing	335	794	816	-4.4	4,537	-7.6	9,335
Transportation equipment manufacturing	336	10,555	11,127	-2.9	60,774	4.6	119,746
Motor vehicle manufacturing	3361	5,831	6,311	-1.0	34,555	5.7	65,797
Motor vehicle body and trailer manufacturing	3362	237	253	1.7	1,434	8.5	2,704
Motor vehicle parts manufacturing	3363	2,876	3,088	-3.0	16,436	10.2	32,741
Aerospace product and parts manufacturing	3364	1,083	973	-15.5	5,293	-15.0	12,472
Railroad rolling stock manufacturing	3365	254	238	10.5	1,577	5.4	2,878
Ship and boat building	3366	173	147	-31.4	552	20.6	1,242
Furniture and related product manufacturing	337	1,016	1,054	2.0	6,186	2.4	12,303
Miscellaneous manufacturing	339	465	520	0.3	2,654	8.5	5,527
Non-durable goods industries		18,582	19,289	6.5	111,869	1.1	218,631
Durable goods industries		25,927	27,452	-3.2	147,221	2.5	299,874
Manufacturing		44,509	46,742	0.8	259,090	1.9	518,505

Table 4

Shipments by major group and selected industries - concluded

	NAICS Code	Change from May	Seasonally adjusted						
			Current periods						
			June 2003	May 2003	April 2003	March 2003			
			\$ millions						
Food manufacturing	311	-51	5,246	5,296	5,367	5,349			
Beverage and tobacco product manufacturing	312	-21	1,112	1,132	1,114	1,129			
Textile mills	313	-4	244	248	248	251			
Textile product mills	314	-2	193	195	191	192			
Clothing manufacturing	315	-12	503	514	522	513			
Leather and allied product manufacturing	316	-3	52	55	56	57			
Wood product manufacturing	321	15	2,176	2,161	2,197	2,262			
Paper manufacturing	322	-74	2,618	2,692	2,731	2,746			
Printing and related support activities	323	-9	834	843	834	852			
Petroleum and coal products manufacturing	324	-36	2,801	2,837	2,942	3,608			
Chemical manufacturing	325	-9	3,309	3,318	3,289	3,412			
Plastics and rubber products manufacturing	326	-27	1,865	1,892	1,932	1,936			
Non-metallic mineral product manufacturing	327	25	1,009	984	994	1,023			
Primary metal manufacturing	331	-20	2,609	2,629	2,724	2,791			
Fabricated metal product manufacturing	332	90	2,369	2,279	2,322	2,312			
Machinery manufacturing	333	-103	1,818	1,921	1,866	1,939			
Computer and electronic product manufacturing	334	97	1,541	1,444	1,481	1,502			
Electrical equipment, appliance and component manufacturing	335	13	767	754	740	751			
Transportation equipment manufacturing	336	-108	9,362	9,471	9,555	9,948			
Motor vehicle manufacturing	3361	-186	5,272	5,458	5,448	5,624			
Motor vehicle body and trailer manufacturing	3362	-7	221	229	218	241			
Motor vehicle parts manufacturing	3363	52	2,575	2,523	2,562	2,711			
Aerospace product and parts manufacturing	3364	11	827	817	831	851			
Railroad rolling stock manufacturing	3365	-1	256	257	269	248			
Ship and boat building	3366	-6	77	83	84	84			
Furniture and related product manufacturing	337	0	1,031	1,030	1,031	1,028			
Miscellaneous manufacturing	339	12	446	434	453	467			
Non-durable goods industries		-234	18,274	18,508	18,703	19,533			
Durable goods industries		10	23,629	23,620	23,885	24,537			
Manufacturing		-225	41,903	42,128	42,587	44,070			
			Change from previous month		Trend change from previous month				
			June 2003	May 2003	April 2003	June 2003	May 2003	April 2003	March 2003
			percentage						
Food manufacturing	311	-1.0	-1.3	0.3	-0.4	-0.3	-0.2	-0.1	
Beverage and tobacco product manufacturing	312	-1.8	1.6	-1.3	0.0	-0.2	-0.2	-0.2	
Textile mills	313	-1.6	0.0	-1.4	-0.4	-0.5	-0.6	-0.7	
Textile product mills	314	-1.0	1.9	-0.7	-0.1	-0.3	-0.6	-0.9	
Clothing manufacturing	315	-2.3	-1.5	1.9	-1.1	-1.5	-1.9	-2.1	
Leather and allied product manufacturing	316	-5.0	-1.4	-1.9	-1.0	-1.5	-2.0	-2.4	
Wood product manufacturing	321	0.7	-1.6	-2.9	-1.0	-1.5	-1.8	-1.9	
Paper manufacturing	322	-2.8	-1.4	-0.5	-0.7	-0.7	-0.7	-0.6	
Printing and related support activities	323	-1.1	1.1	-2.1	-0.3	-0.3	-0.3	-0.1	
Petroleum and coal products manufacturing	324	-1.3	-3.6	-18.5	-1.7	-1.9	-1.8	-1.4	
Chemical manufacturing	325	-0.3	0.9	-3.6	-0.5	-0.6	-0.6	-0.3	
Plastics and rubber products manufacturing	326	-1.4	-2.1	-0.2	-0.7	-0.7	-0.6	-0.5	
Non-metallic mineral product manufacturing	327	2.5	-1.0	-2.8	-0.2	-0.4	-0.4	-0.2	
Primary metal manufacturing	331	-0.8	-3.5	-2.4	-1.3	-1.4	-1.3	-1.0	
Fabricated metal product manufacturing	332	4.0	-1.9	0.4	0.3	0.3	0.3	0.2	
Machinery manufacturing	333	-5.4	3.0	-3.8	-0.7	-0.9	-1.0	-1.1	
Computer and electronic product manufacturing	334	6.7	-2.5	-1.4	-1.5	-1.9	-2.2	-2.2	
Electrical equipment, appliance and component manufacturing	335	1.8	1.8	-1.5	0.3	0.3	0.1	-0.1	
Transportation equipment manufacturing	336	-1.1	-0.9	-3.9	-0.7	-1.0	-1.1	-1.1	
Motor vehicle manufacturing	3361	-3.4	0.2	-3.1	-0.6	-0.6	-0.4	-0.3	
Motor vehicle body and trailer manufacturing	3362	-3.3	5.0	-9.4	-0.5	-0.7	-0.7	-0.6	
Motor vehicle parts manufacturing	3363	2.1	-1.5	-5.5	-0.9	-1.2	-1.5	-1.5	
Aerospace product and parts manufacturing	3364	1.3	-1.7	-2.4	-2.1	-3.4	-4.2	-4.2	
Railroad rolling stock manufacturing	3365	-0.4	-4.4	8.3	0.7	0.7	0.8	0.7	
Ship and boat building	3366	-7.2	-1.0	0.8	0.1	0.5	0.8	0.9	
Furniture and related product manufacturing	337	0.0	-0.1	0.3	-0.1	-0.2	-0.3	-0.3	
Miscellaneous manufacturing	339	2.8	-4.2	-3.1	-0.6	-0.8	-1.0	-0.9	
Non-durable goods industries		-1.3	-1.0	-4.2	-0.7	-0.7	-0.7	-0.5	
Durable goods industries		0.0	-1.1	-2.7	-0.7	-0.9	-1.0	-1.0	
Manufacturing		-0.5	-1.1	-3.4	-0.7	-0.8	-0.9	-0.8	

Table 5
Inventories by major group and selected industries

	NAICS Code	Unadjusted					
		Current periods					
		June 2003	May 2003	April 2003	March 2003		
		\$ millions					
Food manufacturing	311	4,808	4,774	4,795	4,892		
Beverage and tobacco product manufacturing	312	1,703	1,743	1,752	1,771		
Textile mills	313	448	456	460	462		
Textile product mills	314	307	314	327	325		
Clothing manufacturing	315	1,339	1,250	1,213	1,191		
Leather and allied product manufacturing	316	149	137	130	122		
Wood product manufacturing	321	4,308	4,602	5,022	5,487		
Paper manufacturing	322	3,629	3,632	3,647	3,624		
Printing and related support activities	323	701	699	712	714		
Petroleum and coal products manufacturing	324	1,676	1,599	1,760	1,691		
Chemical manufacturing	325	6,039	6,074	6,170	6,108		
Plastics and rubber products manufacturing	326	2,156	2,249	2,244	2,217		
Non-metallic mineral product manufacturing	327	1,224	1,242	1,255	1,232		
Primary metal manufacturing	331	4,745	4,863	4,860	4,868		
Fabricated metal product manufacturing	332	3,643	3,686	3,722	3,664		
Machinery manufacturing	333	4,456	4,600	4,526	4,454		
Computer and electronic product manufacturing	334	4,061	4,298	4,306	4,239		
Electrical equipment, appliance and component manufacturing	335	1,338	1,390	1,424	1,388		
Transportation equipment manufacturing	336	13,145	13,483	13,613	13,437		
Motor vehicle manufacturing	3361	1,327	1,471	1,505	1,598		
Motor vehicle body and trailer manufacturing	3362	474	471	485	502		
Motor vehicle parts manufacturing	3363	1,890	1,945	1,996	1,931		
Aerospace product and parts manufacturing	3364	8,035	8,122	8,111	7,883		
Railroad rolling stock manufacturing	3365	1,095	1,142	1,196	1,189		
Ship and boat building	3366	113	118	125	130		
Furniture and related product manufacturing	337	1,530	1,521	1,529	1,562		
Miscellaneous manufacturing	339	1,002	1,016	1,053	1,064		
Non-durable goods industries		21,616	21,677	21,997	21,926		
Durable goods industries		40,791	41,950	42,522	42,586		
Manufacturing		62,407	63,627	64,519	64,512		
		Previous year		Year-to-date		Average per month	
		June 2002	May 2002	% Change from 2002	Average 2003	% Change from 2001	2002
		\$ millions					
Food manufacturing	311	4,763	4,747	1.8	4,835	3.4	4,832
Beverage and tobacco product manufacturing	312	1,763	1,769	0.9	1,740	5.0	1,717
Textile mills	313	474	495	-10.5	457	-9.3	486
Textile product mills	314	333	326	-1.8	316	-13.1	324
Clothing manufacturing	315	1,259	1,201	3.2	1,218	-12.5	1,174
Leather and allied product manufacturing	316	157	147	-4.6	131	-8.9	137
Wood product manufacturing	321	4,155	4,289	3.6	4,883	-6.3	4,449
Paper manufacturing	322	3,487	3,619	-0.1	3,601	-7.0	3,548
Printing and related support activities	323	680	692	-2.7	689	-5.7	702
Petroleum and coal products manufacturing	324	1,566	1,595	1.5	1,662	-10.6	1,614
Chemical manufacturing	325	5,049	5,180	15.4	5,982	4.0	5,277
Plastics and rubber products manufacturing	326	2,022	2,024	8.8	2,194	0.8	2,039
Non-metallic mineral product manufacturing	327	1,227	1,239	0.3	1,233	2.0	1,206
Primary metal manufacturing	331	4,483	4,454	9.0	4,890	0.4	4,657
Fabricated metal product manufacturing	332	3,553	3,526	5.1	3,656	2.1	3,492
Machinery manufacturing	333	4,473	4,626	-2.3	4,530	1.2	4,609
Computer and electronic product manufacturing	334	4,489	4,683	-12.0	4,290	-22.5	4,654
Electrical equipment, appliance and component manufacturing	335	1,395	1,406	-2.0	1,371	-16.3	1,384
Transportation equipment manufacturing	336	13,379	13,475	1.1	13,357	-1.3	13,441
Motor vehicle manufacturing	3361	1,594	1,750	-10.0	1,538	2.9	1,730
Motor vehicle body and trailer manufacturing	3362	408	421	16.0	482	-6.3	417
Motor vehicle parts manufacturing	3363	1,762	1,761	12.9	1,941	3.9	1,762
Aerospace product and parts manufacturing	3364	7,938	7,878	2.2	7,862	0.3	7,817
Railroad rolling stock manufacturing	3365	1,291	1,293	-5.7	1,205	-14.0	1,338
Ship and boat building	3366	115	117	-23.5	126	-35.7	145
Furniture and related product manufacturing	337	1,403	1,402	9.7	1,522	1.1	1,427
Miscellaneous manufacturing	339	1,079	1,037	2.6	1,052	3.3	1,059
Non-durable goods industries		20,294	20,595	4.9	21,606	-0.7	20,676
Durable goods industries		40,896	41,338	0.9	42,001	-4.7	41,553
Manufacturing		61,190	61,933	2.2	63,608	-3.4	62,229

Table 5
Inventories by major group and selected industries - concluded

	NAICS Code	Change from May	Seasonally adjusted						
			Current periods						
			June 2003	May 2003	April 2003	March 2003			
			\$ millions						
Food manufacturing	311	18	4,869	4,851	4,884	4,956			
Beverage and tobacco product manufacturing	312	-14	1,670	1,684	1,692	1,711			
Textile mills	313	0	453	453	455	456			
Textile product mills	314	-5	306	312	322	319			
Clothing manufacturing	315	16	1,228	1,212	1,217	1,199			
Leather and allied product manufacturing	316	4	133	129	130	128			
Wood product manufacturing	321	-77	4,619	4,696	4,667	4,671			
Paper manufacturing	322	64	3,639	3,575	3,574	3,551			
Printing and related support activities	323	14	724	710	710	698			
Petroleum and coal products manufacturing	324	57	1,653	1,596	1,724	1,635			
Chemical manufacturing	325	61	6,174	6,113	5,950	5,914			
Plastics and rubber products manufacturing	326	-55	2,155	2,210	2,183	2,167			
Non-metallic mineral product manufacturing	327	-7	1,201	1,208	1,209	1,180			
Primary metal manufacturing	331	-140	4,820	4,960	4,996	5,022			
Fabricated metal product manufacturing	332	-38	3,614	3,653	3,700	3,641			
Machinery manufacturing	333	-79	4,530	4,609	4,524	4,492			
Computer and electronic product manufacturing	334	-119	4,164	4,283	4,266	4,261			
Electrical equipment, appliance and component manufacturing	335	-44	1,313	1,357	1,403	1,376			
Transportation equipment manufacturing	336	-207	13,104	13,310	13,737	13,395			
Motor vehicle manufacturing	3361	-62	1,385	1,447	1,508	1,575			
Motor vehicle body and trailer manufacturing	3362	11	474	463	459	470			
Motor vehicle parts manufacturing	3363	-44	1,908	1,952	1,988	1,921			
Aerospace product and parts manufacturing	3364	-51	7,933	7,984	8,260	7,910			
Railroad rolling stock manufacturing	3365	-47	1,095	1,142	1,196	1,189			
Ship and boat building	3366	-3	121	124	125	125			
Furniture and related product manufacturing	337	10	1,531	1,521	1,514	1,548			
Miscellaneous manufacturing	339	-14	994	1,008	1,041	1,049			
Non-durable goods industries		143	21,776	21,633	21,624	21,534			
Durable goods industries		-698	41,119	41,817	42,272	41,834			
Manufacturing		-555	62,895	63,450	63,896	63,368			
			Change from previous month		Trend change from previous month				
			June 2003	May 2003	April 2003	June 2003	May 2003	April 2003	March 2003
			percentage						
Food manufacturing	311	0.4	-0.7	-1.4	-0.2	-0.2	-0.2	-0.1	
Beverage and tobacco product manufacturing	312	-0.9	-0.4	-1.1	-0.6	-0.7	-0.7	-0.7	
Textile mills	313	0.0	-0.5	-0.1	0.0	-0.1	-0.1	-0.2	
Textile product mills	314	-1.7	-3.1	0.8	-0.6	-0.6	-0.4	-0.4	
Clothing manufacturing	315	1.3	-0.4	1.5	0.3	0.4	0.4	0.5	
Leather and allied product manufacturing	316	2.8	-0.2	1.4	0.4	0.2	-0.1	-0.4	
Wood product manufacturing	321	-1.6	0.6	-0.1	0.0	0.2	0.4	0.6	
Paper manufacturing	322	1.8	0.0	0.6	0.6	0.6	0.5	0.4	
Printing and related support activities	323	2.0	-0.1	1.8	0.6	0.7	0.8	0.7	
Petroleum and coal products manufacturing	324	3.6	-7.5	5.5	0.8	0.9	1.0	0.9	
Chemical manufacturing	325	1.0	2.7	0.6	1.0	1.3	1.5	1.6	
Plastics and rubber products manufacturing	326	-2.5	1.2	0.7	-0.2	-0.1	0.1	0.3	
Non-metallic mineral product manufacturing	327	-0.6	0.0	2.4	-0.1	-0.2	-0.2	-0.2	
Primary metal manufacturing	331	-2.8	-0.7	-0.5	-0.6	-0.5	-0.3	0.0	
Fabricated metal product manufacturing	332	-1.0	-1.3	1.6	0.1	0.3	0.4	0.5	
Machinery manufacturing	333	-1.7	1.9	0.7	-0.3	-0.3	-0.4	-0.4	
Computer and electronic product manufacturing	334	-2.8	0.4	0.1	-0.5	-0.7	-0.7	-0.8	
Electrical equipment, appliance and component manufacturing	335	-3.2	-3.3	1.9	-0.8	-0.6	-0.4	-0.2	
Transportation equipment manufacturing	336	-1.6	-3.1	2.5	-0.2	-0.2	-0.3	-0.3	
Motor vehicle manufacturing	3361	-4.3	-4.1	-4.2	-2.1	-2.6	-3.0	-3.0	
Motor vehicle body and trailer manufacturing	3362	2.3	1.0	-2.4	-0.3	-0.1	0.3	0.8	
Motor vehicle parts manufacturing	3363	-2.2	-1.8	3.5	0.3	0.5	0.7	0.9	
Aerospace product and parts manufacturing	3364	-0.6	-3.3	4.4	0.5	0.6	0.6	0.6	
Railroad rolling stock manufacturing	3365	-4.1	-4.5	0.6	-2.5	-3.2	-3.6	-3.7	
Ship and boat building	3366	-2.4	-1.0	-0.3	-1.1	-1.2	-1.1	-0.9	
Furniture and related product manufacturing	337	0.7	0.5	-2.2	0.0	0.1	0.2	0.3	
Miscellaneous manufacturing	339	-1.4	-3.3	-0.7	-1.5	-1.7	-1.8	-1.7	
Non-durable goods industries		0.7	0.0	0.4	0.4	0.5	0.5	0.5	
Durable goods industries		-1.7	-1.1	1.0	-0.3	-0.2	-0.2	-0.1	
Manufacturing		-0.9	-0.7	0.8	0.0	0.0	0.0	0.1	

Table 6
Unfilled orders by selected major group and industries

	NAICS Code	Unadjusted					
		Current periods					
		June 2003	May 2003	April 2003	March 2003		
		\$ millions					
Textile mills	313	212	220	233	242		
Textile product mills	314	55	62	72	75		
Clothing manufacturing	315	345	341	357	339		
Leather and allied product manufacturing	316	42	36	36	31		
Plastics and rubber products manufacturing	326	1,009	1,198	1,290	1,307		
Primary metal manufacturing	331	1,632	1,691	1,707	1,703		
Fabricated metal product manufacturing	332	2,721	2,715	2,757	2,842		
Machinery manufacturing	333	6,018	6,250	7,021	7,210		
Computer and electronic product manufacturing	334	3,601	3,914	3,895	4,048		
Electrical equipment, appliance and component manufacturing	335	930	1,005	1,014	1,014		
Transportation equipment manufacturing	336	19,646	19,762	19,937	20,696		
Motor vehicle manufacturing	3361	766	759	812	861		
Motor vehicle body and trailer manufacturing	3362	581	620	619	631		
Motor vehicle parts manufacturing	3363	825	829	818	864		
Aerospace product and parts manufacturing	3364	12,182	12,640	12,675	13,382		
Ship and boat building	3366	55	57	57	32		
Miscellaneous manufacturing	339	161	162	158	171		
Non-durable goods industries		2,801	2,853	3,048	3,014		
Durable goods industries		36,478	37,244	38,288	39,453		
Manufacturing		39,279	40,097	41,336	42,467		
		Previous year		Year-to-date		Average per month	
		June 2002	May 2002	% Change from 2002	Average 2003	% Change from 2001	2002
		\$ millions					
Textile mills	313	280	281	-14.6	240	9.3	276
Textile product mills	314	52	51	34.0	69	2.7	55
Clothing manufacturing	315	352	351	-6.1	324	-7.0	324
Leather and allied product manufacturing	316	45	44	-6.2	32	-18.2	31
Plastics and rubber products manufacturing	326	1,057	1,128	4.3	1,230	15.6	1,254
Primary metal manufacturing	331	1,896	1,947	-5.8	1,700	25.1	1,795
Fabricated metal product manufacturing	332	2,871	2,834	-3.4	2,798	0.3	2,878
Machinery manufacturing	333	6,713	6,688	-3.1	6,607	4.3	6,709
Computer and electronic product manufacturing	334	4,136	3,865	4.3	3,945	-8.4	3,977
Electrical equipment, appliance and component manufacturing	335	955	969	5.9	1,007	-30.5	977
Transportation equipment manufacturing	336	25,687	26,257	-20.6	20,488	-8.7	25,566
Motor vehicle manufacturing	3361	1,041	1,039	-16.2	838	4.2	1,052
Motor vehicle body and trailer manufacturing	3362	602	614	4.6	629	8.4	590
Motor vehicle parts manufacturing	3363	656	663	33.7	854	24.2	729
Aerospace product and parts manufacturing	3364	18,078	18,523	-29.4	13,129	-12.0	17,877
Ship and boat building	3366	16	18	153.3	44	-37.0	18
Miscellaneous manufacturing	339	181	202	-19.1	176	-12.1	226
Non-durable goods industries		2,647	2,690	7.7	2,958	15.3	2,867
Durable goods industries		44,109	44,409	-12.3	38,444	-5.4	43,740
Manufacturing		46,755	47,099	-11.1	41,402	-4.3	46,606

Table 6

Unfilled orders by selected major group and industries - concluded

	NAICS Code	Change from May	Seasonally adjusted						
			Current periods						
			June 2003	May 2003	April 2003	March 2003			
\$ millions									
Textile mills	313	-3	214	217	223	223			
Textile product mills	314	-9	56	65	68	73			
Clothing manufacturing	315	-1	312	313	326	321			
Leather and allied product manufacturing	316	3	29	26	28	30			
Plastics and rubber products manufacturing	326	-70	1,237	1,307	1,319	1,308			
Primary metal manufacturing	331	-18	1,590	1,607	1,631	1,661			
Fabricated metal product manufacturing	332	6	2,721	2,715	2,757	2,842			
Machinery manufacturing	333	-231	6,018	6,250	7,021	7,210			
Computer and electronic product manufacturing	334	-313	3,601	3,914	3,895	4,048			
Electrical equipment, appliance and component manufacturing	335	-75	930	1,005	1,014	1,014			
Transportation equipment manufacturing	336	30	19,826	19,796	20,384	20,932			
Motor vehicle manufacturing	3361	7	766	759	812	861			
Motor vehicle body and trailer manufacturing	3362	-12	588	599	563	584			
Motor vehicle parts manufacturing	3363	0	866	866	875	870			
Aerospace product and parts manufacturing	3364	-348	12,317	12,664	13,120	13,658			
Ship and boat building	3366	2	53	51	58	34			
Miscellaneous manufacturing	339	12	186	175	165	177			
Non-durable goods industries		69	3,019	2,951	3,054	2,993			
Durable goods industries		-608	36,590	37,198	38,652	39,623			
Manufacturing		-539	39,610	40,149	41,707	42,616			
			Change from previous month		Trend change from previous month				
			June 2003	May 2003	April 2003	June 2003	May 2003	April 2003	March 2003
percentage									
Textile mills	313	-1.3	-2.4	0.0	-2.7	-3.6	-4.2	-4.3	
Textile product mills	314	-13.9	-4.8	-5.9	-2.7	-2.1	-1.1	0.2	
Clothing manufacturing	315	-0.5	-4.0	1.5	0.3	0.5	0.6	0.7	
Leather and allied product manufacturing	316	12.1	-7.4	-6.5	-0.8	-2.0	-3.0	-3.2	
Plastics and rubber products manufacturing	326	-5.3	-0.9	0.9	-0.8	-0.9	-0.9	-0.8	
Primary metal manufacturing	331	-1.1	-1.5	-1.8	-1.2	-1.8	-2.3	-2.5	
Fabricated metal product manufacturing	332	0.2	-1.5	-3.0	-0.6	-0.7	-0.8	-0.6	
Machinery manufacturing	333	-3.7	-11.0	-2.6	-0.6	-0.6	-0.4	-0.1	
Computer and electronic product manufacturing	334	-8.0	0.5	-3.8	-2.5	-2.6	-2.5	-2.2	
Electrical equipment, appliance and component manufacturing	335	-7.4	-0.9	0.0	-1.9	-1.8	-1.4	-0.9	
Transportation equipment manufacturing	336	0.1	-2.9	-2.6	-1.6	-2.3	-3.0	-3.4	
Motor vehicle manufacturing	3361	1.0	-6.6	-5.7	-1.4	-3.0	-4.4	-5.3	
Motor vehicle body and trailer manufacturing	3362	-2.0	6.5	-3.5	-0.4	-0.5	-0.6	-0.7	
Motor vehicle parts manufacturing	3363	0.0	-1.1	0.7	-0.6	-0.6	-0.5	-0.1	
Aerospace product and parts manufacturing	3364	-2.7	-3.5	-3.9	-2.1	-2.9	-3.6	-4.1	
Ship and boat building	3366	3.6	-11.4	69.8	6.6	8.9	11.3	13.5	
Miscellaneous manufacturing	339	6.7	5.9	-6.9	0.2	-1.3	-3.0	-4.3	
Non-durable goods industries		2.3	-3.4	2.0	0.0	-0.1	-0.1	-0.1	
Durable goods industries		-1.6	-3.8	-2.4	-1.4	-1.8	-2.1	-2.3	
Manufacturing		-1.3	-3.7	-2.1	-1.3	-1.7	-2.0	-2.1	

Table 7

New orders by selected major group and industries

	NAICS Code	Unadjusted					
		Current periods					
		June 2003	May 2003	April 2003	March 2003		
		\$ millions					
Textile mills	313	251	254	252	241		
Textile product mills	314	196	203	192	196		
Clothing manufacturing	315	443	461	529	603		
Leather and allied product manufacturing	316	48	49	49	55		
Plastics and rubber products manufacturing	326	1,810	1,987	2,038	2,036		
Primary metal manufacturing	331	2,570	2,732	2,822	2,902		
Fabricated metal product manufacturing	332	2,460	2,333	2,215	2,271		
Machinery manufacturing	333	1,655	1,207	1,697	2,559		
Computer and electronic product manufacturing	334	1,332	1,440	1,188	1,735		
Electrical equipment, appliance and component manufacturing	335	724	762	735	784		
Transportation equipment manufacturing	336	9,797	10,079	9,352	9,969		
Motor vehicle manufacturing	3361	5,710	5,956	5,819	5,999		
Motor vehicle body and trailer manufacturing	3362	193	264	243	229		
Motor vehicle parts manufacturing	3363	2,705	2,740	2,624	2,864		
Aerospace product and parts manufacturing	3364	320	742	136	460		
Ship and boat building	3366	82	114	124	97		
Miscellaneous manufacturing	339	455	458	438	450		
Non-durable goods industries		18,702	19,263	18,662	19,560		
Durable goods industries		24,003	23,991	23,306	25,599		
Manufacturing		42,705	43,255	41,967	45,159		
		Previous year		Year-to-date		Annual	
		June 2002	May 2002	% Change from 2002	2003	% Change from 2001	2002
		\$ millions					
Textile mills	313	284	290	-15.7	1,470	-0.8	3,253
Textile product mills	314	217	228	-8.9	1,159	2.0	2,527
Clothing manufacturing	315	491	524	-7.0	3,053	-2.2	6,769
Leather and allied product manufacturing	316	54	57	-13.0	293	-10.6	770
Plastics and rubber products manufacturing	326	1,993	2,089	0.7	11,402	6.2	23,082
Primary metal manufacturing	331	2,616	2,952	0.5	16,669	10.9	32,658
Fabricated metal product manufacturing	332	2,363	2,371	-0.4	13,607	2.6	27,584
Machinery manufacturing	333	2,082	2,192	-9.2	10,974	-3.3	23,507
Computer and electronic product manufacturing	334	2,237	1,915	-25.0	8,439	-8.9	21,693
Electrical equipment, appliance and component manufacturing	335	781	855	-3.8	4,464	1.6	9,275
Transportation equipment manufacturing	336	9,985	11,209	-8.4	56,842	3.6	117,133
Motor vehicle manufacturing	3361	5,833	6,335	-2.0	34,334	6.4	65,879
Motor vehicle body and trailer manufacturing	3362	225	230	-2.3	1,441	8.7	2,741
Motor vehicle parts manufacturing	3363	2,869	3,132	-3.6	16,394	11.0	33,006
Aerospace product and parts manufacturing	3364	638	1,119	-69.8	1,474	-39.5	9,017
Ship and boat building	3366	171	145	-27.3	584	24.0	1,248
Miscellaneous manufacturing	339	444	508	0.3	2,601	8.5	5,508
Non-durable goods industries		18,538	19,205	6.4	111,702	1.0	218,796
Durable goods industries		25,626	27,773	-7.0	142,132	3.2	297,812
Manufacturing		44,165	46,978	-1.5	253,834	2.3	516,608

Table 7

New orders by selected major group and industries - concluded

	NAICS Code	Change from May	Seasonally adjusted						
			Current periods						
			June 2003	May 2003	April 2003	March 2003			
\$ millions									
Textile mills	313	-1	241	242	248	224			
Textile product mills	314	-8	184	191	187	190			
Clothing manufacturing	315	0	501	501	527	537			
Leather and allied product manufacturing	316	2	55	53	54	53			
Plastics and rubber products manufacturing	326	-84	1,795	1,880	1,943	2,047			
Primary metal manufacturing	331	-13	2,591	2,605	2,694	2,751			
Fabricated metal product manufacturing	332	137	2,375	2,238	2,237	2,273			
Machinery manufacturing	333	436	1,586	1,150	1,676	2,412			
Computer and electronic product manufacturing	334	-234	1,228	1,463	1,327	1,525			
Electrical equipment, appliance and component manufacturing	335	-52	692	744	740	730			
Transportation equipment manufacturing	336	509	9,392	8,883	9,007	9,263			
Motor vehicle manufacturing	3361	-126	5,279	5,405	5,399	5,572			
Motor vehicle body and trailer manufacturing	3362	-56	210	265	197	215			
Motor vehicle parts manufacturing	3363	62	2,575	2,513	2,568	2,714			
Aerospace product and parts manufacturing	3364	119	480	360	293	406			
Ship and boat building	3366	2	79	77	108	81			
Miscellaneous manufacturing	339	14	457	443	441	462			
Non-durable goods industries		-62	18,342	18,404	18,764	19,553			
Durable goods industries		856	23,022	22,166	22,914	24,326			
Manufacturing		794	41,364	40,570	41,679	43,879			
			Change from previous month		Trend change from previous month				
			June 2003	May 2003	April 2003	June 2003	May 2003	April 2003	March 2003
percentage									
Textile mills	313	-0.6	-2.2	10.5	0.6	0.3	-0.2	-0.8	
Textile product mills	314	-4.0	2.5	-1.7	-0.3	-0.7	-1.1	-1.4	
Clothing manufacturing	315	0.0	-4.9	-2.0	-1.2	-1.6	-2.0	-2.1	
Leather and allied product manufacturing	316	4.6	-1.6	2.4	-0.3	-1.0	-1.9	-2.9	
Plastics and rubber products manufacturing	326	-4.5	-3.3	-5.1	-0.7	-0.7	-0.7	-0.6	
Primary metal manufacturing	331	-0.5	-3.3	-2.1	-1.0	-1.1	-1.2	-1.1	
Fabricated metal product manufacturing	332	6.1	0.0	-1.6	0.5	0.4	0.1	-0.1	
Machinery manufacturing	333	37.9	-31.4	-30.5	-0.7	-1.4	-2.0	-2.0	
Computer and electronic product manufacturing	334	-16.0	10.2	-13.0	-1.0	-2.2	-3.1	-3.7	
Electrical equipment, appliance and component manufacturing	335	-7.0	0.6	1.3	0.2	-0.2	-0.5	-0.7	
Transportation equipment manufacturing	336	5.7	-1.4	-2.8	0.9	0.6	0.1	-0.4	
Motor vehicle manufacturing	3361	-2.3	0.1	-3.1	-0.3	-0.3	-0.2	-0.2	
Motor vehicle body and trailer manufacturing	3362	-21.0	34.4	-8.3	-0.2	-0.4	-0.5	-0.6	
Motor vehicle parts manufacturing	3363	2.5	-2.1	-5.4	-0.9	-1.3	-1.6	-1.7	
Aerospace product and parts manufacturing	3364	33.1	23.0	-27.8	20.4	20.4	13.3	1.8	
Ship and boat building	3366	3.2	-28.9	33.5	-0.8	-0.1	0.5	1.0	
Miscellaneous manufacturing	339	3.2	0.6	-4.6	0.0	-0.1	-0.4	-0.7	
Non-durable goods industries		-0.3	-1.9	-4.0	-0.7	-0.7	-0.7	-0.5	
Durable goods industries		3.9	-3.3	-5.8	0.0	-0.3	-0.7	-1.0	
Manufacturing		2.0	-2.7	-5.0	-0.3	-0.5	-0.7	-0.8	

Table 8a
Shipments for selected industries, unadjusted

	NAICS Code	Current periods			
		June 2003	May 2003	April 2003	March 2003
\$ millions					
Food manufacturing	311				
Animal food manufacturing	3111	417	455	446	426
Starch and vegetable fat and oil manufacturing	31122	238	275	264	268
Sugar and confectionery product manufacturing	3113	335	333	348	333
Fruit and vegetable preserving and specialty food manufacturing	3114	447	472	470	488
Dairy product manufacturing	3115	962	972	915	879
Meat product manufacturing	3116	1,297	1,450	1,409	1,466
Cookie, cracker and pasta manufacturing	31182	109	113	116	112
Other food manufacturing	3119	529	530	515	497
Beverage and tobacco product manufacturing	312				
Soft drink and ice manufacturing	31211	389	380	329	319
Breweries	31212	415	384	308	300
Wineries	31213	53	52	45	45
Distilleries	31214	68	69	101	96
Tobacco manufacturing	3122	354	326	288	319
Textile mills	313				
Fibre, yarn and thread mills	3131	33	35	37	39
Fabric mills	3132	170	177	171	175
Textile and fabric finishing and fabric coating	3133	57	56	53	51
Textile product mills	314				
Carpet and rug mills	31411	74	78	75	75
Textile bag and canvas mills	31491	31	29	24	24
Clothing manufacturing	315				
Hosiery and sock mills	31511	34	41	36	39
Other clothing knitting mills	31519	41	40	41	38
Men's and boys' cut and sew clothing manufacturing	31522	150	163	167	180
Women's and girls' cut and sew clothing manufacturing	31523	143	151	179	206
Clothing accessories and other clothing manufacturing	3159	19	22	19	19
Leather and allied product manufacturing	316				
Footwear manufacturing	3162	25	27	22	27
Wood product manufacturing	321				
Sawmills and wood preservation	3211	1,229	1,277	1,288	1,326
Veneer, plywood and engineered wood product manufacturing	3212	577	557	539	525
Other wood product manufacturing	3219	535	548	499	478
Paper manufacturing	322				
Pulp, paper and paperboard mills	3221	1,779	1,863	1,920	1,959
Paperboard container manufacturing	32221	438	459	449	464
Paper bag and coated and treated paper manufacturing	32222	167	177	181	192
Other converted paper product manufacturing	32229	137	148	133	131
Printing and related support activities	323				
Printing	32311	764	811	817	857
Support activities for printing	32312	39	45	44	44
Petroleum and coal products manufacturing	324				
Petroleum refineries	32411	2,456	2,540	2,582	3,388
Chemical manufacturing	325				
Other basic inorganic chemical manufacturing	32518	241	246	232	241
Other basic organic chemical manufacturing	32519	221	219	241	264
Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	3252	540	569	579	633
Pesticide and other agricultural chemical manufacturing	32532	81	71	70	73
Pharmaceutical and medicine manufacturing	3254	762	753	739	762
Paint and coating manufacturing	32551	188	180	168	169
Adhesive manufacturing	32552	57	68	61	55
Soap and cleaning compound manufacturing	32561	120	116	120	124
Toilet preparation manufacturing	32562	159	138	146	157
Printing ink manufacturing	32591	33	35	37	36
All other chemical product manufacturing	32599	333	347	348	364

Table 8a

Shipments for selected industries, unadjusted - continued

	NAICS Code	Current periods			
		June 2003	May 2003	April 2003	March 2003
		\$ millions			
Plastics and rubber products manufacturing	326				
Plastic pipe, pipe fitting and unsupported profile shape manufacturing	32612	162	160	156	141
Polystyrene foam product manufacturing	32614	34	29	27	29
Other plastic product manufacturing	32619	838	891	865	765
Other rubber product manufacturing	32629	199	208	208	223
Non-metallic mineral product manufacturing	327				
Clay product and refractory manufacturing	3271	60	65	58	52
Glass and glass product manufacturing	3272	220	224	209	197
Cement manufacturing	32731	154	140	106	80
Ready-mix concrete manufacturing	32732	261	230	162	127
Other concrete product manufacturing	32739	114	105	76	81
Abrasive product manufacturing	32791	32	37	37	40
All other non-metallic mineral product manufacturing	32799	114	122	128	109
Primary metal manufacturing	331				
Iron and steel mills and ferro-alloy manufacturing	3311	846	902	926	923
Iron and steel pipes and tubes manufacturing from purchased steel	33121	216	214	206	261
Foundries	3315	279	283	273	298
Fabricated metal product manufacturing	332				
Cutlery and hand tool manufacturing	3322	43	49	46	43
Plate work and fabricated structural product manufacturing	33231	370	312	321	327
Power boiler and heat exchanger manufacturing	33241	192	104	100	109
Spring and wire product manufacturing	3326	115	119	115	118
Coating, engraving, heat treating and allied activities	3328	208	222	234	238
Other fabricated metal product manufacturing	3329	255	260	274	257
Machinery manufacturing	333				
Agricultural implement manufacturing	33311	166	183	219	224
Ventilation, heating, air-conditioning and commercial refrigeration equipment manufacturing	3334	174	169	186	184
All other general-purpose machinery manufacturing	33399	124	146	150	174
Computer and electronic product manufacturing	334				
Computer and peripheral equipment manufacturing	3341	386	276	239	401
Communications equipment manufacturing	3342	525	352	379	471
Audio and video equipment manufacturing	3343	15	15	18	14
Electrical equipment, appliance and component manufacturing	335				
Lighting fixture manufacturing	33512	69	70	62	67
Small electrical appliance manufacturing	33521	19	21	19	21
Major appliance manufacturing	33522	132	132	133	130
Battery manufacturing	33591	12	12	12	12
Communication and energy wire and cable manufacturing	33592	107	94	95	108
All other electrical equipment and component manufacturing	33599	64	74	63	65
Transportation equipment manufacturing	336				
Motor vehicle manufacturing	3361	5,703	6,010	5,868	6,051
Motor vehicle parts manufacturing	3363	2,710	2,729	2,670	2,875
Aerospace product and parts manufacturing	3364	778	776	843	839
Railroad rolling stock manufacturing	3365	273	258	234	292
Ship and boat building	3366	84	115	99	100
Furniture and related product manufacturing	337				
Household and institutional furniture and kitchen cabinet manufacturing	3371	590	603	590	579
Office furniture (including fixtures) manufacturing	3372	382	371	381	424
Miscellaneous manufacturing	339				
Medical equipment and supplies manufacturing	3391	128	114	109	122
Other miscellaneous manufacturing	3399	328	340	341	347

Table 8a

Shipments for selected industries, unadjusted - continued

	NAICS Code	Previous year		Year-to-date		Annual	
		June 2002	May 2002	% Change from 2002	2003	% Change from 2001	2002
\$ millions							
Food manufacturing	311						
Animal food manufacturing	3111	439	465	-1.9	2,594	6.1	5,392
Starch and vegetable fat and oil manufacturing	31122	214	235	13.4	1,507	3.3	2,811
Sugar and confectionery product manufacturing	3113	312	313	10.8	1,919	1.4	3,846
Fruit and vegetable preserving and specialty food manufacturing	3114	453	481	-2.1	2,788	-1.7	5,923
Dairy product manufacturing	3115	827	866	11.1	5,354	1.2	9,887
Meat product manufacturing	3116	1,554	1,562	-5.6	8,340	-6.6	17,674
Cookie, cracker and pasta manufacturing	31182	111	112	-4.3	664	-7.7	1,425
Other food manufacturing	3119	472	500	8.8	2,924	11.9	5,723
Beverage and tobacco product manufacturing	312						
Soft drink and ice manufacturing	31211	358	338	11.4	1,893	5.2	3,688
Breweries	31212	409	376	-1.3	1,870	2.0	4,103
Wineries	31213	57	45	8.3	267	11.8	585
Distilleries	31214	107	92	-5.6	524	9.1	1,265
Tobacco manufacturing	3122	347	324	-2.1	1,835	1.3	3,663
Textile mills	313						
Fibre, yarn and thread mills	3131	41	43	-14.0	211	-5.0	465
Fabric mills	3132	183	189	-8.2	998	-3.2	2,067
Textile and fabric finishing and fabric coating	3133	60	66	-10.7	311	-4.1	678
Textile product mills	314						
Carpet and rug mills	31411	81	79	-3.0	438	-3.6	890
Textile bag and canvas mills	31491	41	45	-34.0	148	7.2	429
Clothing manufacturing	315						
Hosiery and sock mills	31511	36	41	-4.4	226	0.4	511
Other clothing knitting mills	31519	29	34	31.4	246	0.1	519
Men's and boys' cut and sew clothing manufacturing	31522	172	185	-9.4	1,010	-4.9	2,360
Women's and girls' cut and sew clothing manufacturing	31523	152	166	-7.6	1,022	-3.7	2,221
Clothing accessories and other clothing manufacturing	3159	19	22	-1.9	113	-4.0	242
Leather and allied product manufacturing	316						
Footwear manufacturing	3162	29	27	-19.8	153	-5.8	518
Wood product manufacturing	321						
Sawmills and wood preservation	3211	1,491	1,793	-19.5	7,585	4.4	17,697
Veneer, plywood and engineered wood product manufacturing	3212	538	569	2.3	3,193	6.1	6,230
Other wood product manufacturing	3219	481	534	13.8	2,946	18.2	5,571
Paper manufacturing	322						
Pulp, paper and paperboard mills	3221	1,945	1,913	-2.0	11,188	-6.8	23,505
Paperboard container manufacturing	32221	394	411	14.7	2,656	3.4	4,914
Paper bag and coated and treated paper manufacturing	32222	191	202	-5.4	1,074	3.0	2,212
Other converted paper product manufacturing	32229	129	138	3.7	804	0.6	1,610
Printing and related support activities	323						
Printing	32311	760	836	0.3	4,737	-1.4	9,557
Support activities for printing	32312	43	42	1.5	251	-37.0	504
Petroleum and coal products manufacturing	324						
Petroleum refineries	32411	2,272	2,342	31.5	16,990	0.8	29,276
Chemical manufacturing	325						
Other basic inorganic chemical manufacturing	32518	227	234	10.5	1,442	6.8	2,726
Other basic organic chemical manufacturing	32519	204	226	9.8	1,387	1.8	2,521
Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	3252	554	578	6.9	3,439	0.6	6,379
Pesticide and other agricultural chemical manufacturing	32532	58	36	20.5	361	-13.4	341
Pharmaceutical and medicine manufacturing	3254	664	703	12.9	4,350	22.0	8,402
Paint and coating manufacturing	32551	182	190	-0.5	981	-1.4	1,875
Adhesive manufacturing	32552	55	67	1.4	334	12.2	624
Soap and cleaning compound manufacturing	32561	129	132	-4.2	724	-7.5	1,516
Toilet preparation manufacturing	32562	144	128	4.7	898	3.2	1,663
Printing ink manufacturing	32591	36	36	0.5	207	13.3	419
All other chemical product manufacturing	32599	327	366	6.2	2,086	2.6	4,104

Table 8a

Shipments for selected industries, unadjusted - continued

	NAICS Code	Previous year		Year-to-date		Annual	
		June 2002	May 2002	% Change from 2002	2003	% Change from 2001	2002
\$ millions							
Plastics and rubber products manufacturing	326						
Plastic pipe, pipe fitting and unsupported profile shape manufacturing	32612	169	185	2.8	872	4.2	1,758
Polystyrene foam product manufacturing	32614	29	32	4.6	161	3.8	321
Other plastic product manufacturing	32619	875	897	1.6	4,781	8.6	9,435
Other rubber product manufacturing	32629	215	221	-1.4	1,223	0.0	2,409
Non-metallic mineral product manufacturing	327						
Clay product and refractory manufacturing	3271	56	57	11.1	328	5.0	613
Glass and glass product manufacturing	3272	213	229	2.9	1,208	6.2	2,396
Cement manufacturing	32731	145	144	-0.8	598	5.7	1,425
Ready-mix concrete manufacturing	32732	239	227	1.3	963	9.1	2,337
Other concrete product manufacturing	32739	116	115	5.7	488	1.3	1,127
Abrasive product manufacturing	32791	36	39	4.5	222	36.5	450
All other non-metallic mineral product manufacturing	32799	106	124	18.8	686	28.8	1,314
Primary metal manufacturing	331						
Iron and steel mills and ferro-alloy manufacturing	3311	871	933	8.1	5,500	11.3	10,368
Iron and steel pipes and tubes manufacturing from purchased steel	33121	215	216	14.1	1,411	1.4	2,529
Foundries	3315	270	296	2.8	1,677	8.7	3,161
Fabricated metal product manufacturing	332						
Cutlery and hand tool manufacturing	3322	35	41	18.0	268	6.3	467
Plate work and fabricated structural product manufacturing	33231	354	397	-5.3	1,945	0.4	4,286
Power boiler and heat exchanger manufacturing	33241	91	90	34.7	658	7.6	1,022
Spring and wire product manufacturing	3326	123	136	-6.0	702	9.8	1,477
Coating, engraving, heat treating and allied activities	3328	217	234	3.4	1,349	20.0	2,633
Other fabricated metal product manufacturing	3329	251	266	2.5	1,532	9.5	3,005
Machinery manufacturing	333						
Agricultural implement manufacturing	33311	200	240	-14.0	1,122	6.1	2,323
Ventilation, heating, air-conditioning and commercial refrigeration equipment manufacturing	3334	194	233	-7.0	1,043	9.7	2,298
All other general-purpose machinery manufacturing	33399	190	196	-21.0	847	15.4	2,275
Computer and electronic product manufacturing	334						
Computer and peripheral equipment manufacturing	3341	487	372	-27.5	1,819	-16.6	4,699
Communications equipment manufacturing	3342	746	745	-33.0	2,512	-23.7	7,137
Audio and video equipment manufacturing	3343	15	16	-5.7	96	-7.2	218
Electrical equipment, appliance and component manufacturing	335						
Lighting fixture manufacturing	33512	73	80	-7.4	400	-3.7	877
Small electrical appliance manufacturing	33521	18	21	6.0	118	-9.3	250
Major appliance manufacturing	33522	134	152	-4.1	771	12.4	1,529
Battery manufacturing	33591	11	12	1.0	71	-15.1	139
Communication and energy wire and cable manufacturing	33592	123	118	-25.1	577	-42.2	1,436
All other electrical equipment and component manufacturing	33599	66	70	1.0	394	-2.3	772
Transportation equipment manufacturing	336						
Motor vehicle manufacturing	3361	5,831	6,311	-1.0	34,555	5.7	65,797
Motor vehicle parts manufacturing	3363	2,876	3,088	-3.0	16,436	10.2	32,741
Aerospace product and parts manufacturing	3364	1,083	973	-15.5	5,293	-15.0	12,472
Railroad rolling stock manufacturing	3365	254	238	10.5	1,577	5.4	2,878
Ship and boat building	3366	173	147	-31.4	552	20.6	1,242
Furniture and related product manufacturing	337						
Household and institutional furniture and kitchen cabinet manufacturing	3371	596	633	-4.3	3,473	7.7	7,133
Office furniture (including fixtures) manufacturing	3372	348	345	13.7	2,296	-6.0	4,319
Miscellaneous manufacturing	339						
Medical equipment and supplies manufacturing	3391	121	138	-7.5	684	5.3	1,432
Other miscellaneous manufacturing	3399	345	382	3.3	1,969	9.7	4,095

Table 8b
Inventory owned for selected industries, unadjusted

	NAICS Code	Current periods			
		June 2003	May 2003	April 2003	March 2003
\$ millions					
Food manufacturing	311				
Animal food manufacturing	3111	284	271	279	283
Starch and vegetable fat and oil manufacturing	31122	171	167	208	216
Sugar and confectionery product manufacturing	3113	385	360	342	348
Fruit and vegetable preserving and specialty food manufacturing	3114	826	843	843	869
Dairy product manufacturing	3115	809	799	794	809
Meat product manufacturing	3116	781	779	842	870
Cookie, cracker and pasta manufacturing	31182	130	127	129	123
Other food manufacturing	3119	479	489	472	470
Beverage and tobacco product manufacturing	312				
Soft drink and ice manufacturing	31211	274	282	264	252
Breweries	31212	180	183	174	166
Wineries	31213	222	214	217	224
Distilleries	31214	450	456	460	504
Tobacco manufacturing	3122	577	608	636	625
Textile mills	313				
Fibre, yarn and thread mills	3131	58	53	52	56
Fabric mills	3132	328	336	340	336
Textile and fabric finishing and fabric coating	3133	62	68	67	70
Textile product mills	314				
Carpet and rug mills	31411	86	85	87	88
Textile bag and canvas mills	31491	46	49	50	51
Clothing manufacturing	315				
Hosiery and sock mills	31511	165	154	154	145
Other clothing knitting mills	31519	138	129	125	114
Men's and boys' cut and sew clothing manufacturing	31522	442	418	410	418
Women's and girls' cut and sew clothing manufacturing	31523	362	328	312	313
Clothing accessories and other clothing manufacturing	3159	78	75	73	67
Leather and allied product manufacturing	316				
Footwear manufacturing	3162	106	95	87	79
Wood product manufacturing	321				
Sawmills and wood preservation	3211	2,753	2,988	3,369	3,767
Veneer, plywood and engineered wood product manufacturing	3212	677	726	770	815
Other wood product manufacturing	3219	878	888	882	905
Paper manufacturing	322				
Pulp, paper and paperboard mills	3221	2,515	2,521	2,546	2,552
Paperboard container manufacturing	32221	567	564	562	540
Paper bag and coated and treated paper manufacturing	32222	276	275	279	282
Other converted paper product manufacturing	32229	161	155	154	154
Printing and related support activities	323				
Printing	32311	693	690	704	704
Support activities for printing	32312	8	9	8	10
Petroleum and coal products manufacturing	324				
Petroleum refineries	32411	1,372	1,293	1,449	1,403
Chemical manufacturing	325				
Other basic inorganic chemical manufacturing	32518	194	193	192	181
Other basic organic chemical manufacturing	32519	157	163	164	166
Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	3252	589	633	625	573
Pesticide and other agricultural chemical manufacturing	32532	109	111	135	132
Pharmaceutical and medicine manufacturing	3254	3,266	3,225	3,169	3,207
Paint and coating manufacturing	32551	271	266	273	263
Adhesive manufacturing	32552	92	88	91	90
Soap and cleaning compound manufacturing	32561	107	112	105	106
Toilet preparation manufacturing	32562	184	192	191	188
Printing ink manufacturing	32591	53	52	49	48
All other chemical product manufacturing	32599	318	317	319	325

Table 8b

Inventory owned for selected industries, unadjusted - continued

	NAICS Code	Current periods			
		June 2003	May 2003	April 2003	March 2003
		\$ millions			
Plastics and rubber products manufacturing	326				
Plastic pipe, pipe fitting and unsupported profile shape manufacturing	32612	225	229	235	233
Polystyrene foam product manufacturing	32614	37	38	39	40
Other plastic product manufacturing	32619	896	938	920	941
Other rubber product manufacturing	32629	184	191	193	188
Non-metallic mineral product manufacturing	327				
Clay product and refractory manufacturing	3271	90	96	96	92
Glass and glass product manufacturing	3272	274	278	279	280
Cement manufacturing	32731	185	193	201	202
Ready-mix concrete manufacturing	32732	100	99	96	96
Other concrete product manufacturing	32739	92	94	93	87
Abrasive product manufacturing	32791	124	131	133	130
All other non-metallic mineral product manufacturing	32799	144	144	147	149
Primary metal manufacturing	331				
Iron and steel mills and ferro-alloy manufacturing	3311	1,996	2,045	2,072	2,080
Iron and steel pipes and tubes manufacturing from purchased steel	33121	601	632	624	612
Foundries	3315	299	309	298	307
Fabricated metal product manufacturing	332				
Cutlery and hand tool manufacturing	3322	80	80	82	88
Plate work and fabricated structural product manufacturing	33231	484	484	476	457
Power boiler and heat exchanger manufacturing	33241	163	187	191	187
Spring and wire product manufacturing	3326	157	155	155	153
Coating, engraving, heat treating and allied activities	3328	147	154	167	165
Other fabricated metal product manufacturing	3329	551	560	567	564
Machinery manufacturing	333				
Agricultural implement manufacturing	33311	517	526	548	547
Ventilation, heating, air-conditioning and commercial refrigeration equipment manufacturing	3334	345	341	333	336
All other general-purpose machinery manufacturing	33399	408	395	360	376
Computer and electronic product manufacturing	334				
Computer and peripheral equipment manufacturing	3341	565	592	576	572
Communications equipment manufacturing	3342	1,997	2,164	2,166	2,138
Audio and video equipment manufacturing	3343	56	58	59	58
Electrical equipment, appliance and component manufacturing	335				
Lighting fixture manufacturing	33512	130	131	139	146
Small electrical appliance manufacturing	33521	47	47	49	48
Major appliance manufacturing	33522	174	192	197	190
Battery manufacturing	33591	55	59	62	61
Communication and energy wire and cable manufacturing	33592	283	291	293	279
All other electrical equipment and component manufacturing	33599	106	108	108	105
Transportation equipment manufacturing	336				
Motor vehicle manufacturing	3361	1,327	1,471	1,505	1,598
Motor vehicle parts manufacturing	3363	1,890	1,945	1,996	1,931
Aerospace product and parts manufacturing	3364	8,035	8,122	8,111	7,883
Railroad rolling stock manufacturing	3365	1,095	1,142	1,196	1,189
Ship and boat building	3366	113	118	125	130
Furniture and related product manufacturing	337				
Household and institutional furniture and kitchen cabinet manufacturing	3371	839	843	840	861
Office furniture (including fixtures) manufacturing	3372	440	428	426	433
Miscellaneous manufacturing	339				
Medical equipment and supplies manufacturing	3391	172	169	169	166
Other miscellaneous manufacturing	3399	829	847	883	897

Table 8b

Inventory owned for selected industries, unadjusted - continued

	NAICS Code	Previous year		Year-to-date		Average per month	
		June 2002	May 2002	% Change from 2002	Average 2003	% Change from 2001	2002
\$ millions							
Food manufacturing	311						
Animal food manufacturing	3111	260	259	5.1	275	7.2	263
Starch and vegetable fat and oil manufacturing	31122	171	171	13.1	204	6.5	189
Sugar and confectionery product manufacturing	3113	369	352	0.1	356	-1.3	359
Fruit and vegetable preserving and specialty food manufacturing	3114	803	788	5.5	864	7.6	868
Dairy product manufacturing	3115	773	790	5.3	793	5.3	748
Meat product manufacturing	3116	866	908	-10.0	829	-1.6	884
Cookie, cracker and pasta manufacturing	31182	109	110	12.3	127	-1.9	115
Other food manufacturing	3119	499	489	0.1	474	4.4	482
Beverage and tobacco product manufacturing	312						
Soft drink and ice manufacturing	31211	277	269	4.0	255	13.8	253
Breweries	31212	173	185	5.1	171	10.2	168
Wineries	31213	205	200	7.6	222	12.6	209
Distilleries	31214	490	485	3.4	480	12.1	484
Tobacco manufacturing	3122	619	630	-5.4	613	-6.2	602
Textile mills	313						
Fibre, yarn and thread mills	3131	52	60	-11.0	55	-22.3	58
Fabric mills	3132	365	377	-14.5	335	-7.1	368
Textile and fabric finishing and fabric coating	3133	57	58	17.2	68	-7.4	60
Textile product mills	314						
Carpet and rug mills	31411	85	84	5.4	85	-21.6	81
Textile bag and canvas mills	31491	76	69	-27.3	49	5.1	67
Clothing manufacturing	315						
Hosiery and sock mills	31511	137	139	9.2	147	-0.7	136
Other clothing knitting mills	31519	119	111	16.2	118	0.2	103
Men's and boys' cut and sew clothing manufacturing	31522	403	379	11.8	409	-19.9	369
Women's and girls' cut and sew clothing manufacturing	31523	369	342	-3.1	336	-7.8	351
Clothing accessories and other clothing manufacturing	3159	63	61	12.8	71	-14.6	64
Leather and allied product manufacturing	316						
Footwear manufacturing	3162	111	99	-3.8	87	-10.9	92
Wood product manufacturing	321						
Sawmills and wood preservation	3211	2,738	2,858	0.0	3,256	-9.8	2,996
Veneer, plywood and engineered wood product manufacturing	3212	621	646	10.5	743	-4.4	652
Other wood product manufacturing	3219	797	786	12.6	884	7.2	801
Paper manufacturing	322						
Pulp, paper and paperboard mills	3221	2,487	2,596	-2.7	2,525	-8.5	2,549
Paperboard container manufacturing	32221	511	516	5.0	548	-5.0	514
Paper bag and coated and treated paper manufacturing	32222	246	256	9.3	276	2.2	254
Other converted paper product manufacturing	32229	151	150	5.1	153	-3.8	147
Printing and related support activities	323						
Printing	32311	665	680	-1.9	680	-4.4	688
Support activities for printing	32312	15	12	-35.8	9	-42.6	14
Petroleum and coal products manufacturing	324						
Petroleum refineries	32411	1,248	1,283	1.2	1,363	-12.4	1,322
Chemical manufacturing	325						
Other basic inorganic chemical manufacturing	32518	175	185	-5.3	185	-4.3	184
Other basic organic chemical manufacturing	32519	126	136	10.6	160	-23.8	146
Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	3252	470	514	10.2	581	-18.9	525
Pesticide and other agricultural chemical manufacturing	32532	102	160	-22.5	121	-20.3	133
Pharmaceutical and medicine manufacturing	3254	2,646	2,611	24.7	3,157	32.8	2,665
Paint and coating manufacturing	32551	247	255	2.3	261	-9.1	249
Adhesive manufacturing	32552	80	82	7.1	88	15.5	81
Soap and cleaning compound manufacturing	32561	137	144	-25.1	107	-11.8	129
Toilet preparation manufacturing	32562	144	144	25.3	188	-6.8	162
Printing ink manufacturing	32591	50	49	0.5	51	-4.2	50
All other chemical product manufacturing	32599	319	312	4.8	320	-0.9	312

Table 8b

Inventory owned for selected industries, unadjusted - concluded

	NAICS Code	Previous year		Year-to-date		Average per month	
		June 2002	May 2002	% Change from 2002	Average 2003	% Change from 2001	2002
\$ millions							
Plastics and rubber products manufacturing	326						
Plastic pipe, pipe fitting and unsupported profile shape manufacturing	32612	209	212	2.9	229	-6.3	223
Polystyrene foam product manufacturing	32614	32	32	23.9	38	1.6	31
Other plastic product manufacturing	32619	851	847	10.6	918	7.8	848
Other rubber product manufacturing	32629	179	189	-0.2	189	-7.2	189
Non-metallic mineral product manufacturing	327						
Clay product and refractory manufacturing	3271	88	88	2.6	92	-12.2	89
Glass and glass product manufacturing	3272	266	277	-0.6	277	2.8	272
Cement manufacturing	32731	198	199	-4.7	197	-1.9	187
Ready-mix concrete manufacturing	32732	103	101	-6.6	97	-8.6	102
Other concrete product manufacturing	32739	82	86	6.1	90	1.3	82
Abrasive product manufacturing	32791	167	167	-11.6	132	32.0	151
All other non-metallic mineral product manufacturing	32799	141	143	7.0	146	0.9	141
Primary metal manufacturing	331						
Iron and steel mills and ferro-alloy manufacturing	3311	1,953	1,893	10.1	2,112	-1.1	2,050
Iron and steel pipes and tubes manufacturing from purchased steel	33121	526	524	19.2	607	6.7	543
Foundries	3315	279	293	3.4	300	1.0	287
Fabricated metal product manufacturing	332						
Cutlery and hand tool manufacturing	3322	84	82	4.3	85	9.3	83
Plate work and fabricated structural product manufacturing	33231	456	456	4.0	464	2.9	448
Power boiler and heat exchanger manufacturing	33241	154	136	26.8	179	27.1	148
Spring and wire product manufacturing	3326	152	153	3.8	156	-7.4	154
Coating, engraving, heat treating and allied activities	3328	148	146	8.8	162	16.4	156
Other fabricated metal product manufacturing	3329	562	555	1.7	560	3.6	548
Machinery manufacturing	333						
Agricultural implement manufacturing	33311	491	502	5.9	539	1.5	510
Ventilation, heating, air-conditioning and commercial refrigeration equipment manufacturing	3334	349	342	-4.1	336	6.8	345
All other general-purpose machinery manufacturing	33399	330	322	13.8	380	12.2	363
Computer and electronic product manufacturing	334						
Computer and peripheral equipment manufacturing	3341	612	622	-6.6	582	-42.7	607
Communications equipment manufacturing	3342	2,304	2,477	-16.8	2,171	-19.6	2,447
Audio and video equipment manufacturing	3343	53	50	21.3	57	-10.6	51
Electrical equipment, appliance and component manufacturing	335						
Lighting fixture manufacturing	33512	160	163	-14.6	140	-2.7	160
Small electrical appliance manufacturing	33521	44	42	21.9	48	-19.2	43
Major appliance manufacturing	33522	156	161	12.0	181	10.6	160
Battery manufacturing	33591	73	75	-17.1	60	44.2	70
Communication and energy wire and cable manufacturing	33592	299	295	-7.4	279	-42.2	291
All other electrical equipment and component manufacturing	33599	104	109	-6.3	107	-24.2	111
Transportation equipment manufacturing	336						
Motor vehicle manufacturing	3361	1,594	1,750	-10.0	1,538	2.9	1,730
Motor vehicle parts manufacturing	3363	1,762	1,761	12.9	1,941	3.9	1,762
Aerospace product and parts manufacturing	3364	7,938	7,878	2.2	7,862	0.3	7,817
Railroad rolling stock manufacturing	3365	1,291	1,293	-5.7	1,205	-14.0	1,338
Ship and boat building	3366	115	117	-23.5	126	-35.7	145
Furniture and related product manufacturing	337						
Household and institutional furniture and kitchen cabinet manufacturing	3371	769	772	13.5	839	9.7	772
Office furniture (including fixtures) manufacturing	3372	377	378	8.6	426	-11.1	398
Miscellaneous manufacturing	339						
Medical equipment and supplies manufacturing	3391	186	191	-6.3	171	-5.8	180
Other miscellaneous manufacturing	3399	893	845	4.5	882	5.4	879

Table 9
Inventories owned by stage of fabrication

Period covered	Unadjusted			
	Raw materials	Goods in process	Finished products	Total inventories
June 2002	26,301	15,759	19,130	61,190
July 2002	26,991	15,554	18,660	61,205
August 2002	27,198	16,209	18,823	62,231
September 2002	27,108	15,941	19,144	62,193
October 2002	27,379	15,975	18,942	62,295
November 2002	27,237	16,282	19,610	63,129
December 2002	27,600	15,742	19,047	62,389
January 2003	27,863	15,527	19,210	62,601
February 2003	28,300	15,874	19,806	63,980
March 2003	28,431	15,820	20,261	64,512
April 2003	27,940	16,148	20,431	64,519
May 2003	27,083	16,165	20,379	63,627
June 2003	26,592	15,796	20,019	62,407
Period covered	Seasonally adjusted			
	Raw materials	Goods in process	Finished products	Total inventories
June 2002	26,840	15,780	18,992	61,612
July 2002	27,334	15,814	18,811	61,958
August 2002	27,420	16,152	18,835	62,407
September 2002	27,319	15,812	19,189	62,320
October 2002	27,450	15,913	19,217	62,580
November 2002	27,331	16,014	19,643	62,989
December 2002	27,591	15,943	19,626	63,161
January 2003	27,471	15,952	19,506	62,929
February 2003	27,661	15,917	19,730	63,307
March 2003	27,779	15,774	19,815	63,368
April 2003	27,741	16,143	20,012	63,896
May 2003	27,447	15,950	20,053	63,450
June 2003	27,220	15,772	19,904	62,895

Table 10
Shipments by major group and province, unadjusted

Province	Current year			
	June 2003	May 2003	April 2003	March 2003
	\$ millions			
Total				
Newfoundland and Labrador	279	207	157	151
Prince Edward Island	151	133	89	86
Nova Scotia	719	744	682	754
New Brunswick	1,190	1,100	1,056	1,119
Quebec	9,813	9,973	9,670	10,180
Ontario	23,417	24,150	23,560	24,690
Manitoba	976	1,022	1,006	995
Saskatchewan	647	665	647	657
Alberta	3,502	3,645	3,406	3,816
British Columbia	2,821	2,850	2,820	2,826
311 Food manufacturing				
Newfoundland and Labrador	127	78	37	38
Prince Edward Island	109	93	57	62
Nova Scotia	174	175	162	185
New Brunswick	280	175	103	106
Quebec	1,206	1,226	1,129	1,134
Ontario	2,123	2,226	2,163	2,126
Manitoba	248	258	249	252
Saskatchewan	155	164	170	151
Alberta	636	775	787	793
British Columbia	397	386	368	355
312 Beverage and tobacco product manufacturing				
Nova Scotia	23	21	19	18
Quebec	425	383	321	334
Ontario	588	572	534	534
Saskatchewan	6	6	5	5
British Columbia	99	96	84	78
313 Textile mills				
Quebec	170	173	168	168
Ontario	68	73	72	73
314 Textile product mills				
Quebec	84	83	81	84
Ontario	91	102	88	86
Alberta	3	3	3	2
British Columbia	9	9	8	9
315 Clothing manufacturing				
Quebec	265	277	318	338
Ontario	115	142	135	148
Manitoba	22	26	25	24
Saskatchewan	1	2	2	2
Alberta	6	7	7	7
British Columbia	25	17	20	22
316 Leather and allied product manufacturing				
Quebec	23	26	22	24
Ontario	12	13	12	15
321 Wood product manufacturing				
Nova Scotia	46	49	41	40
Quebec	650	677	667	653
Ontario	447	466	442	446
Manitoba	47	44	41	38
Saskatchewan	42	43	38	40
Alberta	200	183	179	173
British Columbia	760	772	780	812

Table 10
Shipments by major group and province, unadjusted - continued

Province	Current year			
	June 2003	May 2003	April 2003	March 2003
	\$ millions			
322 Paper manufacturing				
Nova Scotia	75	79	81	78
Quebec	880	937	934	968
Ontario	786	813	820	868
Alberta	126	127	129	134
British Columbia	411	441	443	445
323 Printing and related support activities				
Quebec	208	239	245	242
Ontario	435	443	453	490
Manitoba	37	40	36	33
Saskatchewan	8	9	8	11
Alberta	45	48	47	50
British Columbia	42	42	43	46
324 Petroleum and coal products manufacturing				
Quebec	537	554	583	770
Ontario	803	843	836	1,074
Alberta	680	689	603	839
British Columbia	64	63	63	63
325 Chemical manufacturing				
Quebec	770	850	754	745
Ontario	1,791	1,812	1,814	1,906
Manitoba	58	94	67	59
Saskatchewan	87	111	81	76
Alberta	565	734	571	635
British Columbia	109	117	117	105
326 Plastics and rubber products manufacturing				
Nova Scotia	87	92	88	84
Quebec	467	484	492	485
Ontario	1,176	1,238	1,228	1,174
Manitoba	43	49	45	41
Saskatchewan	10	10	10	10
Alberta	97	86	81	84
British Columbia	99	100	93	84
327 Non-metallic mineral product manufacturing				
Nova Scotia	16	17	10	8
Quebec	294	296	215	181
Ontario	522	504	450	381
Saskatchewan	13	12	6	4
Alberta	130	115	104	102
British Columbia	130	129	123	117
331 Primary metal manufacturing				
Quebec	1,010	1,043	1,098	1,094
Ontario	1,295	1,424	1,436	1,508
Alberta	75	66	74	104
332 Fabricated metal product manufacturing				
Newfoundland and Labrador	14	14	11	10
Prince Edward Island	2	1	3	2
Nova Scotia	28	21	19	18
New Brunswick	27	20	17	18
Quebec	467	453	417	419
Ontario	1,335	1,374	1,340	1,336
Manitoba	85	69	77	65
Saskatchewan	39	38	37	38
Alberta	321	248	246	270
British Columbia	137	135	134	133

Table 10

Shipments by major group and province, unadjusted - continued

Province	Current year			
	June 2003	May 2003	April 2003	March 2003
	\$ millions			
333 Machinery manufacturing				
Quebec	367	363	341	422
Ontario	983	1,078	989	1,056
Manitoba	83	83	82	93
Saskatchewan	39	48	66	66
Alberta	239	221	231	268
British Columbia	141	144	135	143
334 Computer and electronic product manufacturing				
Quebec	522	415	377	513
Ontario	919	836	778	997
Saskatchewan	9	7	8	9
Alberta	97	63	74	91
British Columbia	64	67	71	67
335 Electrical equipment, appliance and component manufacturing				
Quebec	264	244	230	253
Ontario	436	422	408	452
Manitoba	11	12	14	12
Saskatchewan	13	12	12	13
Alberta	37	33	33	31
British Columbia	27	35	28	34
336 Transportation equipment manufacturing				
Nova Scotia	56	64	57	69
Quebec	819	828	886	927
Ontario	8,682	8,989	8,769	9,215
Manitoba	133	142	165	168
Saskatchewan	23	32	29	28
Alberta	74	74	81	81
British Columbia	105	101	102	100
337 Furniture and related product manufacturing				
Quebec	262	294	283	293
Ontario	592	565	561	580
Manitoba	61	59	60	63
Saskatchewan	7	7	6	7
Alberta	66	68	67	66
British Columbia	43	45	46	44
339 Miscellaneous manufacturing				
Newfoundland and Labrador	1	1	1	1
Quebec	123	126	110	134
Ontario	218	215	231	227
Manitoba	7	7	7	7
Saskatchewan	4	4	5	3
Alberta	31	34	30	27
British Columbia	52	47	47	49

Table 10
Shipments by major group and province, unadjusted - continued

	Previous year		Year-to-date		Annual	
	June 2002	May 2002	% Change from 2002	2003	% Change from 2001	2002
	\$ millions					
Total						
Newfoundland and Labrador	269	192	3.8	1,074	1.3	2,234
Prince Edward Island	148	127	1.6	622	9.5	1,316
Nova Scotia	755	696	6.5	4,289	1.3	8,646
New Brunswick	1,178	1,196	8.5	6,461	3.1	12,632
Quebec	10,340	10,937	-2.6	58,433	0.9	122,059
Ontario	23,829	25,134	0.7	140,789	3.4	277,581
Manitoba	965	1,046	1.8	5,826	0.6	11,538
Saskatchewan	612	631	3.3	3,778	1.3	7,239
Alberta	3,445	3,640	9.7	21,293	-3.4	40,966
British Columbia	2,962	3,137	-2.5	16,496	0.4	34,236
311 Food manufacturing						
Newfoundland and Labrador	150	80	-14.0	353	10.3	891
Prince Edward Island	105	91	0.9	439	8.0	952
Nova Scotia	174	172	2.2	1,021	2.2	2,234
New Brunswick	237	269	-8.2	871	4.6	2,004
Quebec	1,118	1,185	4.4	6,829	1.4	13,573
Ontario	2,090	2,166	2.3	12,472	-0.1	25,085
Manitoba	253	257	0.5	1,486	4.3	3,023
Saskatchewan	139	156	7.9	931	3.3	1,825
Alberta	774	794	0.9	4,471	-1.0	9,055
British Columbia	386	386	5.1	2,139	3.4	4,270
312 Beverage and tobacco product manufacturing						
Nova Scotia	20	19	16.9	109	1.5	213
Quebec	405	371	1.2	1,975	5.7	4,093
Ontario	607	568	1.5	3,129	2.6	6,514
Saskatchewan	11	10	-43.6	28	-7.8	92
British Columbia	98	85	9.4	480	9.1	990
313 Textile mills						
Quebec	184	190	-9.9	974	-2.6	2,069
Ontario	78	89	-13.1	420	-5.3	912
314 Textile product mills						
Quebec	85	96	-6.6	472	-2.1	1,020
Ontario	100	105	-7.4	540	3.8	1,138
Alberta	2	3	3.8	14	-14.4	28
British Columbia	12	13	-34.8	49	4.0	153
315 Clothing manufacturing						
Quebec	288	321	-5.7	1,799	-7.4	3,937
Ontario	139	148	-14.4	827	6.6	2,020
Manitoba	28	25	3.7	147	13.1	376
Saskatchewan	1	1	18.1	11	-5.6	22
Alberta	6	8	-6.9	40	-6.8	89
British Columbia	20	19	5.8	131	-15.8	263
316 Leather and allied product manufacturing						
Quebec	28	29	-9.1	142	-18.8	430
Ontario	13	12	-27.0	76	11.9	225
321 Wood product manufacturing						
Nova Scotia	49	51	-5.7	251	10.1	530
Quebec	674	768	-1.6	3,850	11.9	7,637
Ontario	474	518	-6.8	2,636	7.7	5,622
Manitoba	44	47	-1.8	237	-13.5	501
Saskatchewan	30	37	23.2	238	39.0	430
Alberta	201	214	-7.0	1,076	2.8	2,265
British Columbia	886	1,099	-18.5	4,654	4.8	10,830

Table 10
Shipments by major group and province, unadjusted - continued

	Previous year		Year-to-date		Annual	
	June 2002	May 2002	% Change from 2002	2003	% Change from 2001	2002
	\$ millions					
322 Paper manufacturing						
Nova Scotia	64	52	13.6	450	-17.9	881
Quebec	933	989	-2.4	5,548	-2.7	11,729
Ontario	833	866	-2.2	4,905	-3.6	10,091
Alberta	135	115	4.1	764	4.0	1,553
British Columbia	424	377	10.8	2,548	-11.7	4,790
323 Printing and related support activities						
Quebec	222	254	1.0	1,381	-11.3	2,749
Ontario	430	454	-1.0	2,636	2.0	5,351
Manitoba	35	40	-4.4	207	-6.4	436
Saskatchewan	8	8	11.2	53	6.1	106
Alberta	45	51	-2.2	277	-5.4	574
British Columbia	48	55	-16.1	258	-10.7	608
324 Petroleum and coal products manufacturing						
Quebec	522	533	33.6	3,898	6.7	6,845
Ontario	757	827	24.3	5,405	-2.9	9,861
Alberta	594	608	33.3	4,272	1.0	7,491
British Columbia	67	65	0.8	380	-4.8	754
325 Chemical manufacturing						
Quebec	727	810	3.0	4,429	6.8	8,711
Ontario	1,697	1,821	9.6	10,792	7.8	20,076
Manitoba	52	79	26.0	392	-12.6	616
Saskatchewan	68	70	16.2	462	-10.8	562
Alberta	503	693	19.8	3,706	-6.7	6,456
British Columbia	97	99	24.5	636	7.1	1,076
326 Plastics and rubber products manufacturing						
Nova Scotia	95	106	-7.5	525	6.9	1,141
Quebec	454	490	6.2	2,743	10.7	5,208
Ontario	1,244	1,298	0.6	7,054	6.9	13,805
Manitoba	47	48	0.8	260	7.5	508
Saskatchewan	8	8	14.5	56	5.4	98
Alberta	97	95	1.3	492	-4.0	1,023
British Columbia	98	99	5.9	525	-3.1	1,008
327 Non-metallic mineral product manufacturing						
Nova Scotia	16	17	-2.8	66	1.2	162
Quebec	267	285	5.4	1,265	10.8	2,701
Ontario	469	484	6.8	2,521	4.9	5,264
Saskatchewan	14	14	-11.7	41	-8.2	113
Alberta	146	145	1.9	649	24.1	1,510
British Columbia	122	129	12.6	696	17.0	1,357
331 Primary metal manufacturing						
Quebec	1,034	1,159	-0.6	6,370	7.8	12,712
Ontario	1,348	1,463	7.5	8,545	11.9	16,003
Alberta	73	75	21.8	518	-10.7	896
332 Fabricated metal product manufacturing						
Newfoundland and Labrador	10	6	77.7	65	-15.5	88
Prince Edward Island	2	2	17.0	12	-1.5	25
Nova Scotia	20	21	7.2	124	17.2	264
New Brunswick	23	25	-8.2	119	-5.7	268
Quebec	478	493	-2.6	2,507	1.8	5,329
Ontario	1,343	1,431	-3.2	7,862	4.7	16,165
Manitoba	61	65	33.6	436	-2.0	707
Saskatchewan	43	36	7.2	213	-6.5	416
Alberta	202	222	25.7	1,544	-2.7	2,637
British Columbia	143	144	0.6	787	2.2	1,609

Table 10

Shipments by major group and province, unadjusted - concluded

	Previous year		Year-to-date		Annual	
	June 2002	May 2002	% Change from 2002	2003	% Change from 2001	2002
	\$ millions					
333 Machinery manufacturing						
Quebec	400	361	-5.5	2,176	0.2	4,587
Ontario	1,109	1,221	-8.4	6,006	4.1	12,943
Manitoba	93	106	-14.0	492	9.4	1,042
Saskatchewan	44	52	-13.3	317	7.4	662
Alberta	228	214	-4.5	1,408	-14.5	2,872
British Columbia	144	127	14.7	834	8.7	1,594
334 Computer and electronic product manufacturing						
Quebec	588	653	-18.9	2,683	-18.1	6,588
Ontario	1,114	1,006	-16.7	5,134	-13.9	11,900
Saskatchewan	7	9	4.3	48	12.7	94
Alberta	158	140	-26.9	485	-29.9	1,392
British Columbia	69	64	-2.7	379	-17.7	879
335 Electrical equipment, appliance and component manufacturing						
Quebec	251	265	-0.5	1,457	10.6	2,930
Ontario	447	445	-6.7	2,501	-12.2	5,210
Manitoba	18	21	-25.7	73	-14.7	183
Saskatchewan	17	19	-43.5	70	-45.0	208
Alberta	27	25	23.0	188	9.5	328
British Columbia	25	32	6.5	182	-32.9	345
336 Transportation equipment manufacturing						
Nova Scotia	132	84	-33.2	345	29.7	862
Quebec	1,227	1,211	-23.9	5,586	-7.0	14,134
Ontario	8,812	9,442	0.4	52,657	6.5	100,483
Manitoba	126	143	3.8	871	0.2	1,603
Saskatchewan	34	33	-9.6	166	21.7	349
Alberta	78	64	8.6	450	0.5	785
British Columbia	122	131	-16.3	583	-4.9	1,283
337 Furniture and related product manufacturing						
Quebec	293	314	-2.5	1,627	11.4	3,293
Ontario	538	537	4.8	3,403	-2.2	6,629
Manitoba	54	61	-1.2	358	11.3	743
Saskatchewan	10	9	-16.0	40	3.3	89
Alberta	66	72	-3.9	393	-3.9	838
British Columbia	40	43	9.8	267	14.4	525
339 Miscellaneous manufacturing						
Newfoundland and Labrador	2	2	-43.2	6	22.1	18
Quebec	163	161	-11.4	722	11.3	1,785
Ontario	188	231	10.1	1,266	6.8	2,284
Manitoba	8	9	-14.1	44	-11.0	107
Saskatchewan	4	4	9.5	23	-2.0	44
Alberta	37	36	-6.0	191	7.8	440
British Columbia	47	53	2.5	285	15.0	606

Survey documentation

- About the Monthly Survey of Manufacturing
- Concepts and definitions
- Survey Design and Methodology
- Data Quality

About the Monthly Survey of Manufacturing

The statistics contained in this publication are based on information obtained through a sample survey of 11,000 representative manufacturing establishments across Canada. The Monthly Survey of Manufacturers started in 1947 and although its content has remained essentially the same, it underwent a major redesign with respect to the frame in 1999.

The values (in Canadian dollars) of shipments, inventories and orders are used as indicators of the economic condition of manufacturing industries; as inputs to Canada's Gross Domestic Product; as two components in the Statistics Canada composite indicator; as input to macro- and micro-economic studies and in econometric models (e.g. to determine market share, apparent domestic availability, etc.).

Since 1999, Statistics Canada's Business Register provides the sampling frame for the Monthly Survey of Manufacturing (MSM). The target population for the MSM consists of all statistical establishments on the business register that are classified to the manufacturing sector. The sampling frame for the MSM is determined from the target population after subtracting establishments that represent the bottom 2% of the total manufacturing shipments estimate for each province. These establishments are excluded from the frame so that the sample size can be reduced without significantly affecting quality.

Concepts and Definitions

The Monthly Survey of Manufacturing (MSM) publishes statistical series for manufacturers – shipments, inventories, unfilled orders and new orders. The values of these characteristics represent current monthly estimates of the more complete Annual Survey of Manufactures (ASM) data.

The MSM is a sample survey of approximately 11,000 Canadian manufacturing establishments, which are categorized into over 200 industries. Industries are classified according to the 1997 North American Industrial Classification System (NAICS), which replaced the 1980 Standard Industrial Classification (SIC) system. Reference year 2000 is the last year for which data are released on a SIC basis. The MSM adopted the NAICS for its 2001 reference, while previous years' data have been re-calculated to the new classification system back to 1992. Seasonally adjusted series are available for the main aggregates.

An establishment comprises the smallest manufacturing unit capable of reporting the variables of interest. Data collected by the MSM provides a current 'snapshot' of shipment values by the Canadian manufacturing sector, enabling analysis of the state of the Canadian economy, as well as the health of specific industries in the short- to medium-term. The information is used by both private and public sectors including Statistics Canada, federal and provincial governments, business and trade entities, international and domestic non-governmental organizations, consultants, the business press and private citizens. The data are used for analyzing market share, trends, corporate benchmarking, policy analysis, program development, tax policy and trade policy.

1. Shipments

Shipments are defined as the value of goods manufactured by establishments that have been shipped to a customer. Shipments exclude any wholesaling activity, and any revenues from the rental of equipment or the sale of electricity. Note that in practice, some respondents report financial transactions rather than payments for work done. Shipments are available by 3-digit NAICS, broken down by province.

For the aerospace product and parts, and shipbuilding industries, the value of production is used instead of shipments. This value is calculated by adjusting monthly shipments by the monthly change in goods in process and finished product inventories. Raw materials are not included in the calculation since production tries to measure "work done" during the month. This is done in order to reduce distortions caused by the shipment of high value items as completed sales.

2. Inventories

Measurement of component values of inventory is important for economic studies as well as for derivation of production values. Respondents are asked to report their book values (at cost), of raw materials, any goods in process, and finished product inventories separately. In some cases, respondents estimate a total inventory figure, which is allocated on the basis of proportions reported on the ASM. Inventory levels are calculated on a Canadawide basis, not by province.

3. Orders

a) Unfilled Orders

Unfilled orders represent a backlog or stock of orders that will generate future shipments assuming that they are not cancelled. As with inventories, unfilled orders and new orders levels are calculated on a Canadawide basis, not by province.

The MSM produces estimates for unfilled orders for all industries except for those industries where orders are customarily filled from stocks on hand and order books are not generally maintained. In the case of the aircraft companies, options to purchase are not treated as orders until they are entered into the accounting system.

b) New Orders

New orders represent current demand for manufactured products. Estimates of new orders are derived from shipments and unfilled orders data. All shipments within a month result from either an order received during the month or at some earlier time. New orders can be calculated as the sum of shipments adjusted for the monthly change in unfilled orders.

4. Non-Durable / Durable goods

a) Non-durable goods industries

Non-durable goods industries include Food (NAICS 311), Beverage and Tobacco Products (312), Textile Mills (313), Textile Product Mills (314), Leather and Allied Products (316), Paper (322), Printing and Related Support Activities (323), Petroleum and Coal Products (324), Chemicals (325) and Plastic and Rubber Products (326)

b) Durable goods industries

Durable goods industries include Clothing (NAICS 315), Wood Products (321), Non-Metallic Mineral Products (327), Primary Metals (331), Fabricated Metal Products (332), Machinery (333), Computer and Electronic Products (334), Electrical Equipment, Appliance and Components (335), Transportation Equipment (336), Furniture and Related Products (337) and Miscellaneous Manufacturing (339).

Survey Design and Methodology

Beginning with the August 1999 reference month, the Monthly Survey of Manufacturing (MSM) has undergone an extensive redesign.

Concept Review

It was decided that before any redesign work could begin the basic concepts and definitions of the program would be confirmed.

This was done in two ways: First, a review of user requirements was initiated. This involved revisiting an internal report to ensure that the user requirements from that exercise were being satisfied. As well, another round of internal review with the major users in the National Accounts was undertaken. This was to specifically focus on any data gaps that could be identified.

Secondly, with these gaps or requirements in hand, a survey was conducted in order to ascertain respondent's ability to report existing and new data. The study was also to confirm that respondents understood the definitions, which were being asked by survey analysts.

The result of the concept review was a reduction of the number of questions for the survey from sixteen to seven. Most of the questions that were dropped had to do with the reporting of shipments for work that was partially completed.

Methodology

The new sample design incorporates the 1997 North American Industrial Classification Standard (NAICS) and gives a much higher profile to provincial estimates. Stratification is done by province with equal quality requirements for each province. Large size units are selected with certainty and small units are selected with a probability based on the desired quality of the estimate within a cell.

The opportunity was also taken at this time to allow for the introduction of sample rotation into the survey design. Most of the smaller companies who are asked to participate in the survey will do so only for a set period.

The estimation system generates estimates using the NAICS. The estimates will also continue to be reconciled to the ASM. Provincial estimates for all variables will be produced. A measure of quality (CV) will also be produced.

Components of the Redesigned Survey

Target Population and Sampling Frame

Statistics Canada's business register provides the sampling frame for the MSM. The target population for the MSM consists of all statistical establishments on the business register that are classified to the manufacturing sector (by NAICS). The sampling frame for the MSM is determined from the target population after subtracting establishments that represent the bottom 2% of the total manufacturing shipments estimate for each province. These establishments were excluded from the frame so that the sample size could be reduced without significantly affecting quality.

The Sample

The MSM sample is a probability sample comprised of approximately 11,000 establishments.

Prior to selection, the sampling frame is subdivided into industry-province cells. For the most part, NAICS codes were used. Depending upon the number of establishments within each cell, further subdivisions were made to group similar sized establishments' together (called stratum). An establishment's size was based on its most recently available annual shipments or sales value.

Each industry by province cell has a 'take-all' stratum composed of establishments sampled each month with certainty. This 'take-all' stratum is composed of establishments that are the largest statistical enterprises, and have the largest impact on estimates within a particular industry by province cell. These large statistical enterprises comprise 45% of the national manufacturing shipment estimates.

Each industry - province cell can have at most three 'take-some' strata. Not all establishments within these strata need to be sampled with certainty. A random sample is drawn from the remaining strata. The responses from these sampled establishments are weighted according to the inverse of their probability of selection.

The initial sample was selected in late 1998 and has been refreshed each month by including a sample of new entrants in the frame.

Data Collection

Data collection, data capture, preliminary edit and follow-up of non-respondents are all performed in Statistics Canada regional offices. Sampled establishments are contacted by mail or telephone according to the preference of the respondent. Data capture and preliminary editing are performed simultaneously to ensure the validity of the data.

In some cases, combined reports are received from enterprises or companies with more than one establishment in the sample where respondents prefer not to provide individual establishment reports. Businesses, which do not report or whose reports contain errors, are followed up immediately.

Data Quality

Statistical Edit and Imputation

Data are analyzed within each industry-province cell. Extreme values are listed for inspection by the magnitude of the deviation from average behavior. Respondents are contacted to verify extreme values. Records that fail statistical edits are considered outliers and are not used for imputation.

Values are imputed for the non-responses, for establishments that do not report or only partially complete the survey form. A number of imputation methods are used depending on the variable requiring treatment. Methods include using industry-province cell trends, historical responses, or reference to the ASM. Following imputation, the MSM staff performs a final verification of the responses that have been imputed.

Revisions

In conjunction with preliminary estimates for the current month, estimates for the previous three months are revised to account for any late returns. Data are revised when late responses are received or if an incorrect response was reported earlier.

Estimation

Estimates are calculated by multiplying an estimation weight to an establishment's reported responses. The estimation weight is the inverse of the sampled establishment's probability of selection. Take all units are self-representative.

Benchmarking

The MSM is periodically benchmarked to the most recent results of the Annual Survey of Manufactures (approximately eighteen months after the end of the reference year). Benchmarking is a process designed to calibrate the monthly estimates to the level of the more complete Annual Survey of Manufacturers. The result is that the two surveys have consistent totals at the aggregated level. The MSM estimates were benchmarked to the 1998 ASM with the release of the January 2001 reference month.

Sampling and Non-sampling Errors

The statistics in this publication are estimates derived from a sample survey and, as such, can be subject to errors. The following material is provided to assist the reader in the interpretation of the estimates published.

Estimates derived from a sample survey are subject to a number of different kinds of errors. These errors can be broken down into two major types: sampling and non-sampling.

1. Sampling Errors

Sampling errors are an inherent risk of sample surveys. They result from the difference between the value of a variable if it is randomly sampled and its value if a census is taken (or the average of all possible random values). These errors are present because observations are made only on a sample and not on the entire population.

The sampling error depends on factors such as the size of the sample, variability in the population, sampling design and method of estimation. For example, for a given sample size, the sampling error will depend on the stratification procedure employed, allocation of the sample, choice of the sampling units and method of selection. (Further, even for the same sampling design, we can make different calculations to arrive at the most efficient estimation procedure.) The most important feature of probability sampling is that the sampling error can be measured from the sample itself.

2. Non-sampling Errors

Non-sampling errors result from a systematic flaw in the structure of the data-collection procedure or design of any or all variables examined. They create a difference between the value of a variable obtained by sampling or census methods and the variable's true value. These errors are present whether a sample or a complete census of the population is taken. Non-sampling errors can be attributed to one or more of the following sources:

a) Coverage error: This error can result from incomplete listing and inadequate coverage of the population of interest.

b) Data response error: This error may be due to questionnaire design, the characteristics of a question, inability or unwillingness of the respondent to provide correct information, misinterpretation of the questions or definitional problems.

c) Non-response error: Some respondents may refuse to answer questions, some may be unable to respond, and others may be too late in responding. Data for the non-responding units can be imputed using the data from responding units or some earlier data on the non-responding units if available.

The extent of error due to imputation is usually unknown and is very much dependent on any characteristic differences between the respondent group and the non-respondent group in the survey. This error generally decreases with increases in the response rate and attempts are therefore made to obtain as high a response rate as possible.

d) Processing error: These errors may occur at various stages of processing such as coding, data entry, verification, editing, weighting, and tabulation, etc. Non-sampling errors are difficult to measure. More important, non-sampling errors require control at the level at which their presence does not impair the use and interpretation of the results.

Measures have been undertaken to minimize the non-sampling errors. For example, units have been defined in a most precise manner and the most up-to-date listings have been used. Questionnaires have been carefully designed to minimize different interpretations. As well, detailed acceptance testing has been carried out for the different stages of editing and processing and every possible effort has been made to reduce the non-response rate as well as the response burden.

Measures of Sampling and Non-sampling Errors

1. Sampling Error Measures

The sample used in this survey is one of a large number of all possible samples of the same size that could have been selected using the same sample design under the same general conditions. If it was possible that each one of these samples could be surveyed under essentially the same conditions, with an estimate calculated from each sample, it would be expected that the sample estimates would differ from each other.

The average estimate derived from all these possible sample estimates is termed the expected value. The expected value can also be expressed as the value that would be obtained if a census enumeration were taken under identical conditions of collection and processing. An estimate calculated from a sample survey is said to be precise if it is near the expected value.

Sample estimates may differ from this expected value of the estimates. However, since the estimate is based on a probability sample, the variability of the sample estimate with respect to its expected value can be measured. The variance of an estimate is a measure of the precision of the sample estimate and is defined as the average, over all possible samples, of the squared difference of the estimate from its expected value.

The standard error is a measure of precision in absolute terms. The coefficient of variation, defined as the standard error divided by the sample estimate, is a measure of precision in relative terms. For comparison purposes, one may more readily compare the sampling error of one estimate to the sampling error of another estimate by using the coefficient of variation.

In this publication, the coefficient of variation is used to measure the sampling error of the estimates. However, since the coefficient of variation published for this survey is calculated from the responses of individual units, it also measures some non-sampling error.

The formula used to calculate the published coefficients of variation (CV) in Table 1 is:

$$CV(X) = \frac{S(X)}{X}$$

where X denotes the estimate and S(X) denotes the standard error of X.

In this publication, the coefficient of variation is expressed as a percentage.

Confidence intervals can be constructed around the estimate using the estimate and the coefficient of variation. Thus, for our sample, it is possible to state with a given level of confidence that the expected value will fall within the confidence interval constructed around the estimate. For example, if an estimate of \$12,000,000 has a coefficient of variation of 10%, the standard error will be \$1,200,000 or the estimate multiplied by the coefficient of variation. It can then be stated with 68% confidence that the expected value will fall within the interval whose length equals the standard deviation about the estimate, i.e., between \$10,800,000 and \$13,200,000. Alternatively, it can be stated with 95% confidence that the expected value will fall within the interval whose length equals two standard deviations about the estimate, i.e., between \$9,600,000 and \$14,400,000.

The table below contains the national level CVs, expressed as a percentage, for all manufacturing for the MSM characteristics. For CVs at other aggregate levels, contact the Marketing and Dissemination Section at (613) 951-9497, toll free: 1-866-873-8789 or by e-mail at *manufact@statcan.ca*.

National Level CVs by Characteristic

Month	Shipments	Raw Material Inventories	Goods in Process Inventories	Finished Product Inventories	Unfilled Orders						
						%					
June 2002	0.64	1.41	0.73	1.51	1.37						
July 2002	0.54	0.88	0.62	1.34	1.37						
August 2002	0.53	0.88	0.65	1.36	1.42						
September 2002	0.53	0.90	0.73	1.40	1.52						
October 2002	0.53	0.93	0.72	1.33	1.86						
November 2002	0.50	0.91	0.72	1.25	1.85						
December 2002	0.54	0.92	0.74	1.20	1.82						
January 2003	0.52	0.89	0.75	1.25	1.81						
February 2003	0.52	0.89	0.73	1.25	1.78						
March 2003	0.52	0.92	0.76	1.26	1.75						
April 2003	0.54	0.91	0.78	1.29	1.68						
May 2003	0.55	0.95	0.73	1.30	1.60						
June 2003	0.56	0.95	0.69	1.36	1.53						

2. Non-sampling Error Measures

The exact population value is aimed at or desired by both a sample survey as well as a census. We say the estimate is accurate if it is near this value. Although this value is desired, we cannot assume that the exact value of every unit in the population or sample can be obtained and processed without error. Any difference between the expected value and the exact population value is termed the bias. Systematic biases in the data cannot be measured by the probability measures of sampling error as previously described. The accuracy of a survey estimate is determined by the joint effect of sampling and non-sampling errors.

Three sources of non-sampling error in the MSM are non-response error, imputation error and the error due to editing. To assist users in evaluating these errors, weighted rates that are related to these three types of error are given in Table 2. The following is an example of what is meant by a weighted rate. A cell with a sample of 20 units in which five respond for a particular month would have a response rate of 25%. If these five reporting units represented \$8 million out of a total estimate of \$10 million, the weighted response rate would be 80%.

The definitions of the three weighted rates noted in Table 2 follow. The weighted response rate is the proportion of a characteristic's total estimate that is based upon reported data (excluding data that has been edited). The weighted imputation rate is the proportion of a characteristic's total estimate that is based upon imputed data. The weighted editing rate is the proportion of a characteristic's total estimate that is based upon data that was edited (edited data may have been originally reported or imputed).

The table below contains the three types of weighted rates for each of the characteristics at the national level for all of manufacturing. In the table, the rates (expressed as percentages) are averages over the last thirteen months.

Average National Weighted Rates by Characteristic

Characteristic	Response	Imputation	Editing
Shipments	93.32	3.77	2.91
Raw Materials	79.39	17.32	3.30
Goods in Process	80.02	10.80	9.19
Finished Products	80.71	14.79	4.50
Unfilled Orders	87.64	5.95	6.41

Joint Interpretation of Measures of Error

The measure of non-response error as well as the coefficient of variation must be considered jointly to have an overview of the quality of the estimates. The lower the coefficient of variation and the higher the weighted response rate, the better will be the published estimate.

Seasonal Adjustment

Economic time series contain the elements essential to the description, explanation and forecasting of the behavior of an economic phenomenon. They are statistical records of

the evolution of economic processes through time. In using time series to observe economic activity, economists and statisticians have identified four characteristic behavioral components: the long-term movement or trend, the cycle, the seasonal variations and the irregular fluctuations. These movements are caused by various economic, climatic or institutional factors. The seasonal variations occur periodically on a more or less regular basis over the course of a year. These variations occur as a result of seasonal changes in weather, statutory holidays and other events that occur at fairly regular intervals and thus have a significant impact on the rate of economic activity.

In the interest of accurately interpreting the fundamental evolution of an economic phenomenon and producing forecasts of superior quality, Statistics Canada uses the X11ARIMA/88 seasonal adjustment method to seasonally adjust its time series. This method minimizes the impact of seasonal variations on the series and essentially consists of adding one year of estimated raw data to the end of the original series before it is seasonally adjusted per se. The estimated data are derived from forecasts using ARIMA (Auto Regressive Integrated Moving Average) models of the Box-Jenkins type.

The X-11 part of the X11ARIMA/88 program uses primarily a ratio-to-moving average method. It is used to smooth the modified series and obtain a preliminary estimate of the trend-cycle. It also calculates the ratios of the original series (fitted) to the estimates of the trend-cycle and estimates the seasonal factors from these ratios. The final seasonal factors are produced only after these operations have been repeated several times.

The procedures to determine the seasonal factors necessary to calculate the final seasonally adjusted data are executed every month. This approach ensures that the estimated seasonal factors are derived from an unadjusted series that includes all the available information about the series, i.e. the current month's unadjusted data as well as the previous month's revised unadjusted data.

While seasonal adjustment permits a better understanding of the underlying trend-cycle of a series, the seasonally adjusted series still contains an irregular component. Slight month-to-month variations in the seasonally adjusted series may be simple irregular movements. To get a better idea of the underlying trend, users should examine several months of the seasonally adjusted series.

The Canada seasonally adjusted total is derived indirectly by the summation of the individually seasonally adjusted kinds of business.

Trend

A seasonally adjusted series may contain the effects of irregular influences and special circumstances and these can mask the trend. The short term trend shows the underlying direction in seasonally adjusted series by averaging across months, thus smoothing out the effects of irregular influences. The result is a more stable series. The trend for the last month may be, subject to significant revision as values in future months are included in the averaging process.



Manufacturing, Construction
and Energy Division

Monthly Survey of Manufacturing

Division de la fabrication,
de la construction et de l'énergie

Enquête mensuelle sur les industries manufacturières

Confidential when completed

Collected under the authority of the
Statistics Act, Revised Statutes of
Canada, 1985, Chapter S19.

Confidentiel une fois rempli

Renseignements recueillis en vertu de
La *Loi sur la statistique*, Lois révisées
du Canada, 1985, chapitre S19.

Y-A	M
-----	---

// / / / / / -

If you need assistance, please call telephone No. below.
Si vous avez besoin d'aide, veuillez téléphoner au n° suivant.

Telephone/Téléphone:

Toll Free/Numéro sans frais:

Fax/Télécopieur:

Toll Free Fax/Télécopieur sans frais:



<<

>>

INFORMATION SHARING AGREEMENTS:

To reduce response burden and to ensure more uniform statistics, Statistics Canada has entered into agreements with government departments and agencies for the sharing of data. See the second page for details of the agreements concerning this survey.

ENTENTES DE PARTAGE DES DONNÉES :

Pour alléger le fardeau de réponse et assurer des statistiques plus uniformes, Statistique Canada a conclu des ententes avec des ministères et organismes publics en vue d'un échange de données. Voir la deuxième page pour détails sur les accords concernant cette enquête.

Please correct name, address and establishment coverage if necessary – Veuillez corriger le nom, l'adresse et le regroupement d'établissements s'il y a lieu.

<ul style="list-style-type: none"> • When values are not available by the due date, estimates are acceptable. • Do not report cumulative or year-to-date values. • Leave blank spaces only where values are not normally reported. 		<ul style="list-style-type: none"> • Lorsque les valeurs ne sont pas disponibles à la date d'échéance, on peut accepter un estimé de ces valeurs. • Ne donnez pas des chiffres cumulatifs. • Laissez un espace en blanc seulement où les valeurs ne sont pas normalement rapportées. 	
1. Shipments – Livraisons		2. Inventories – Stocks manufacturiers	
Omit cents – Omettre les cents			
a) Goods of own manufacture Produits de propre fabrication	01	a) Raw materials, fuel, supplies, Matières premières, combustible, fournitures	04
b) Goods purchased for resale Produits achetés pour la revente	02	b) Goods in Process (gross value) Produits en cours (valeur brute)	05
TOTAL	03	c) Finished products of own manufacture Produits finis de propre fabrication	06
		d) Goods purchased for resale Produits achetés pour la revente	07
		TOTAL	08
3. Orders – Commandes		4. Period – Période	
Unfilled orders at month end Commandes non remplies à la fin du mois	09	Closing date of accounting period covered Date de clôture de la période comptable	10
		Month – Mois	Day – Jour
Name of contact – Nom de la personne-ressource		Tel. No. – N° de tél.	Date
		Area code. Ind. rég.	Y-A M D-J
Position – Fonction			
Thank you for your cooperation – Merci de votre collaboration			

INFORMATION SHARING AGREEMENTS:

Section 11 of the federal Statistics Act provides for the joint collection and sharing of information with provincial statistical agencies which (1) have been established under provincial legislation providing substantially the same provisions for confidentiality and penalties for disclosure of confidential information as the federal Statistics Act, and (2) have the provincial or territorial legislative authority to collect this information on their own. Section 11 therefore was designed to reduce response burden and to facilitate the production of consistent and high quality national and provincial statistics.

A Section 11 agreement is in effect with the Institut de la statistique du Québec with respect to establishments located within the boundaries of that province.

ACCORDS DE PARTAGE DES DONNÉES :

L'article 11 de la Loi fédérale sur la statistique prévoit la collecte conjointe et le partage des données avec les organismes statistiques provinciaux qui 1) ont été établis en vertu d'une loi provinciale prévoyant essentiellement le même degré de protection de la confidentialité et les mêmes sanctions relatives à la divulgation d'information confidentielle que la Loi fédérale sur la statistique, et 2) sont autorisés légalement, par leur province ou leur territoire à recueillir eux-mêmes l'information. L'article 11 vise donc à réduire le fardeau de réponse et à faciliter la production de statistiques cohérentes et de bonne qualité aux niveaux fédéral et provincial.

L'accord en vertu de l'article 11 a été conclu avec l'Institut de la statistique du Québec en ce qui a trait aux établissements situés à l'intérieur des limites de cette province.

Comments – Commentaires
