Catalogue no. 31-001-XIE

Monthly Survey of Manufacturing

October 2004

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Monthly Survey of Manufacturing

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Symbols

The following standard symbols are used in Statistics Canada publications:

.	not available for any reference period
..	not available for a specific reference period
...	not applicable
0	true zero or a value rounded to zero
0s	value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
p	preliminary
r	revised
x	confidential to meet secrecy requirements of the *Statistics Act*
E	use with caution
F	too unreliable to be published

Acknowledgments

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

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 consult our documentation on Statistics Canada's Website.

Schedule of releases

Schedule of releases	Monthly survey of manufacturing
Reference period	Release date
November 2004	January 20, 2005
December 2004	February 14, 2005
January 2005	March 15, 2005
February 2005	April 15, 2005
March 2005	May 13, 2005
April 2005	June 14, 2005
May 2005	July 14, 2005
June 2005	August 15, 2005
July 2005	September 14, 2005
August 2005	October 14, 2005
September 2005	November 15, 2005
October 2005	December 14, 2005
November 2005	January 18, 2006
December 2005	February 16, 2006

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Highlights

Monthly Survey of Manufacturing

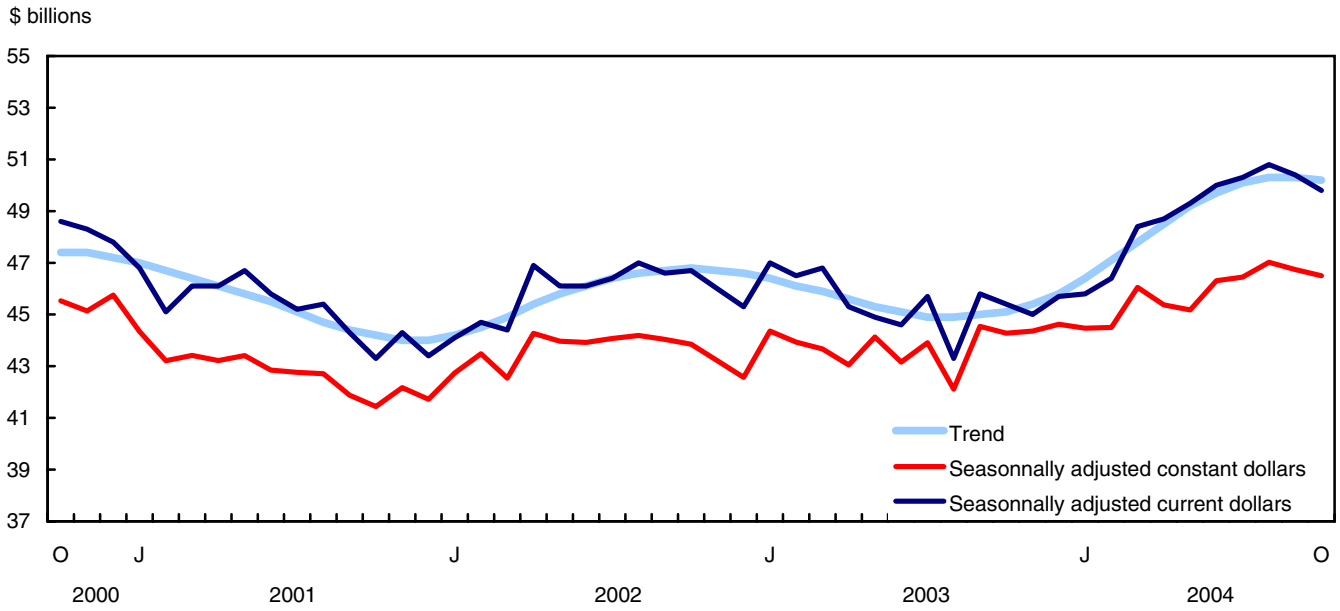
- Following eight months of sustained growth in 2004, manufacturing activity has taken a downturn. In October, manufacturers reported fewer shipments for the second month in a row. Finished product inventories also continued to accumulate and fewer new orders were received.

Analysis – October 2004

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

Chart 1

Manufacturing shipments drop for a second month in a row



The momentum stalls

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

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

Text Table 1

Shipments by province and territory

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

Factories cutting jobs

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

Shipments weaken

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

Motor vehicle manufacturing pulls down durable goods

Most industries (14 of 21) accounting for 71% of total shipments, fell back in October. The slowdown was concentrated in the durable goods sector (-2.0%). Motor vehicle manufacturing was the main contributor with a 7.1% decrease in shipments to $5.8 billion. A drop off in motor vehicle sales, particularly in the United States, led manufacturers to sharply lower production in October.

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

Non-durable shipments slid a more modest 0.4% to $21.7 billion. Shipments of chemical products fell 2.1% to $3.9 billion, while paper manufacturing declined 2.1% to $2.7 billion, as both prices and demand for paper products decreased in recent months.

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

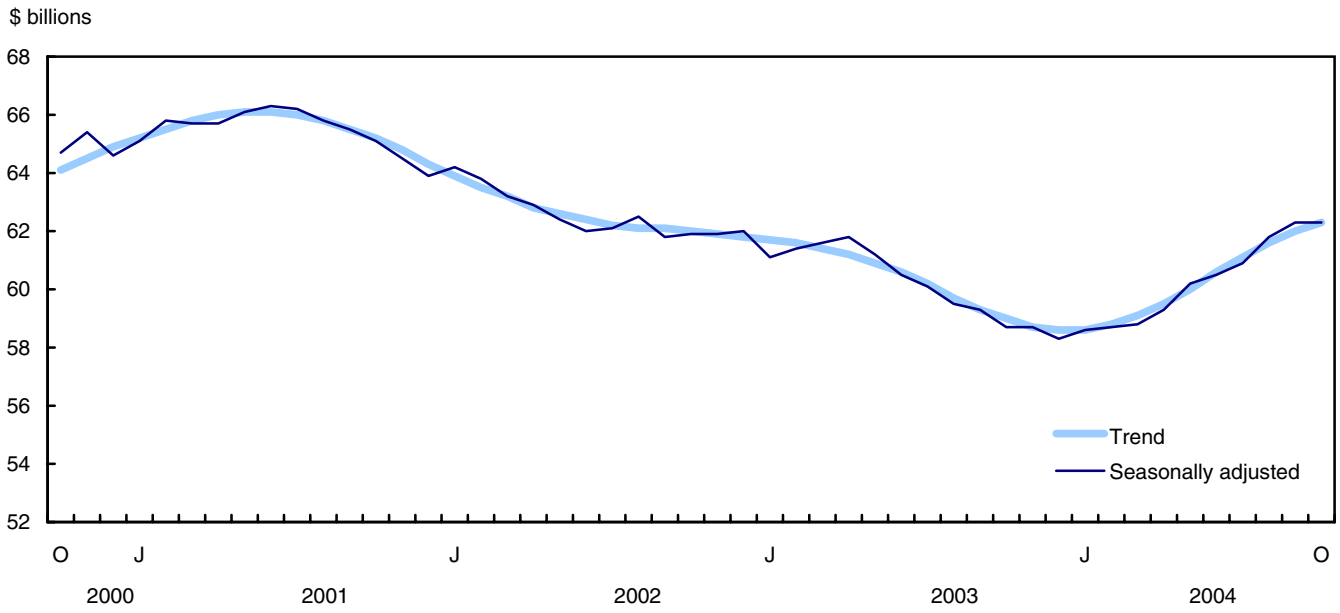
Shipments drop in Ontario

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

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

Chart 2

Manufacturers face rising finished-products



Finished product inventories build

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

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

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

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

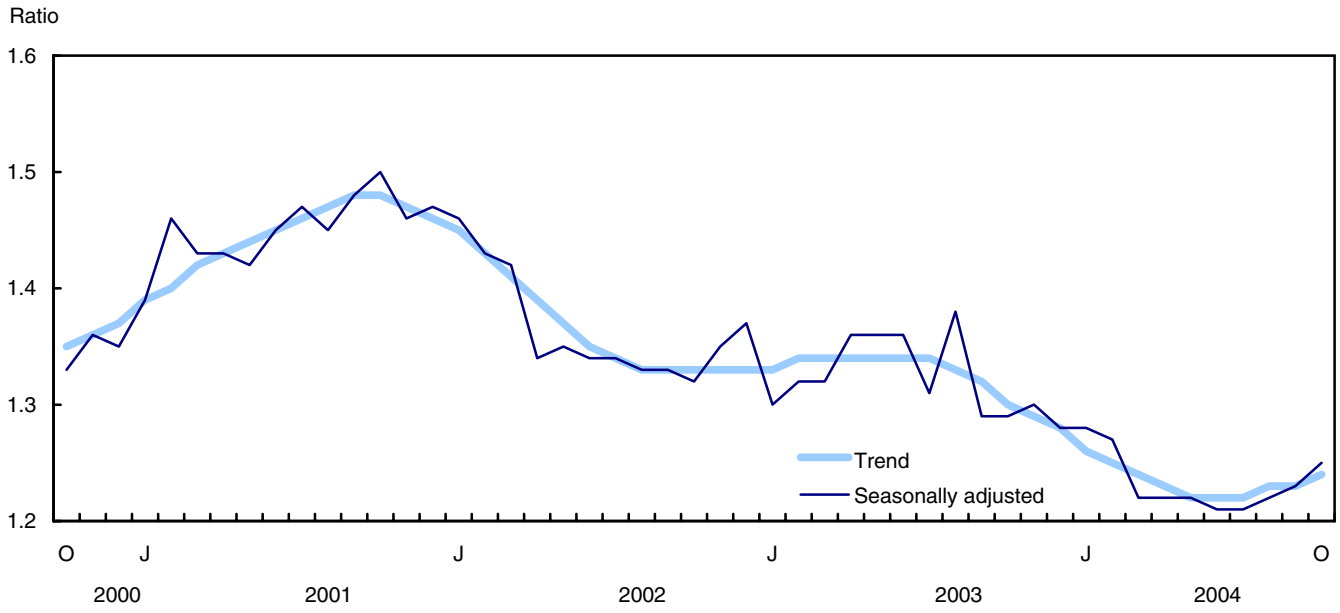
Inventory-to-shipment ratio edges upwards again

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

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

Chart 3

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



Manufacturers have fewer unfilled orders

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

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

Fewer new orders of motor vehicles

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

Chart 4

Backlog of unfilled orders continues to weaken

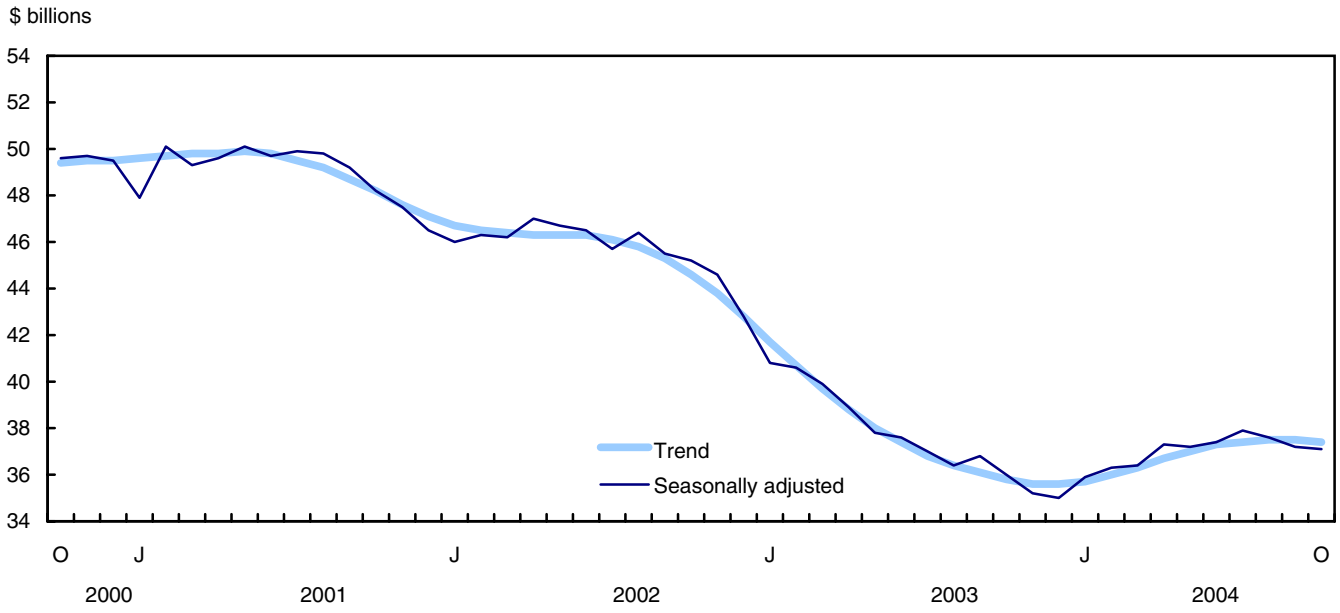


Chart 5

Inventories - Monthly change in trend

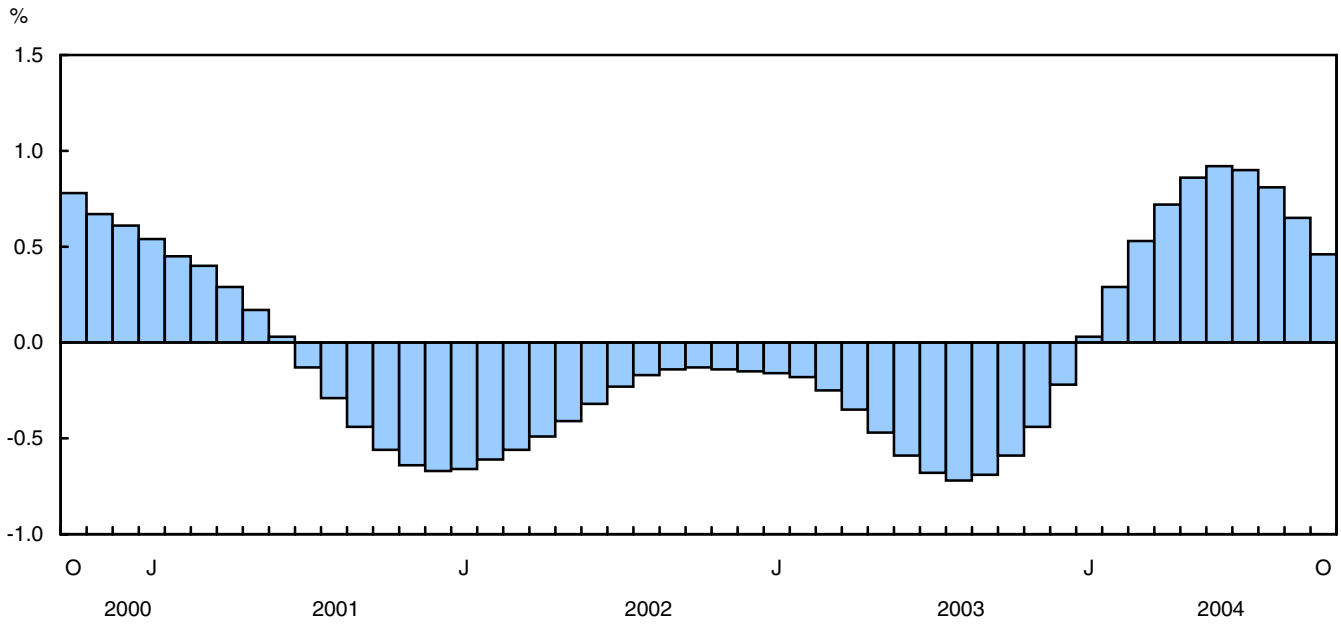


Chart 6

Shipments - Monthly change in trend

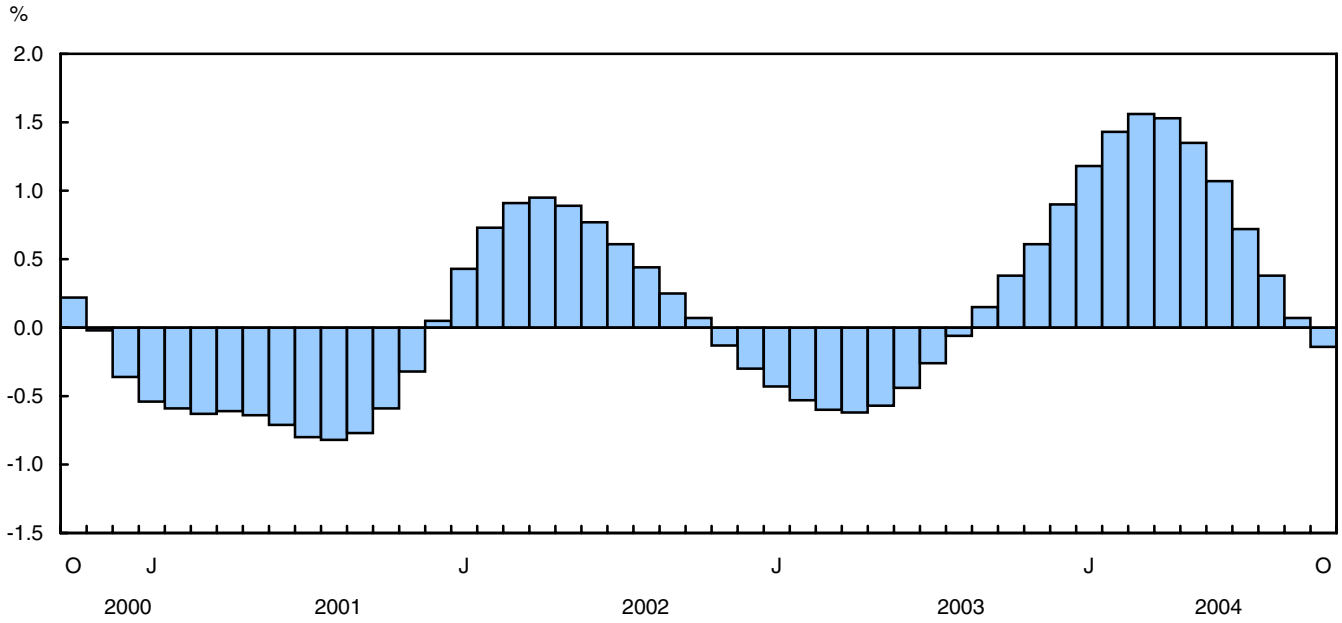
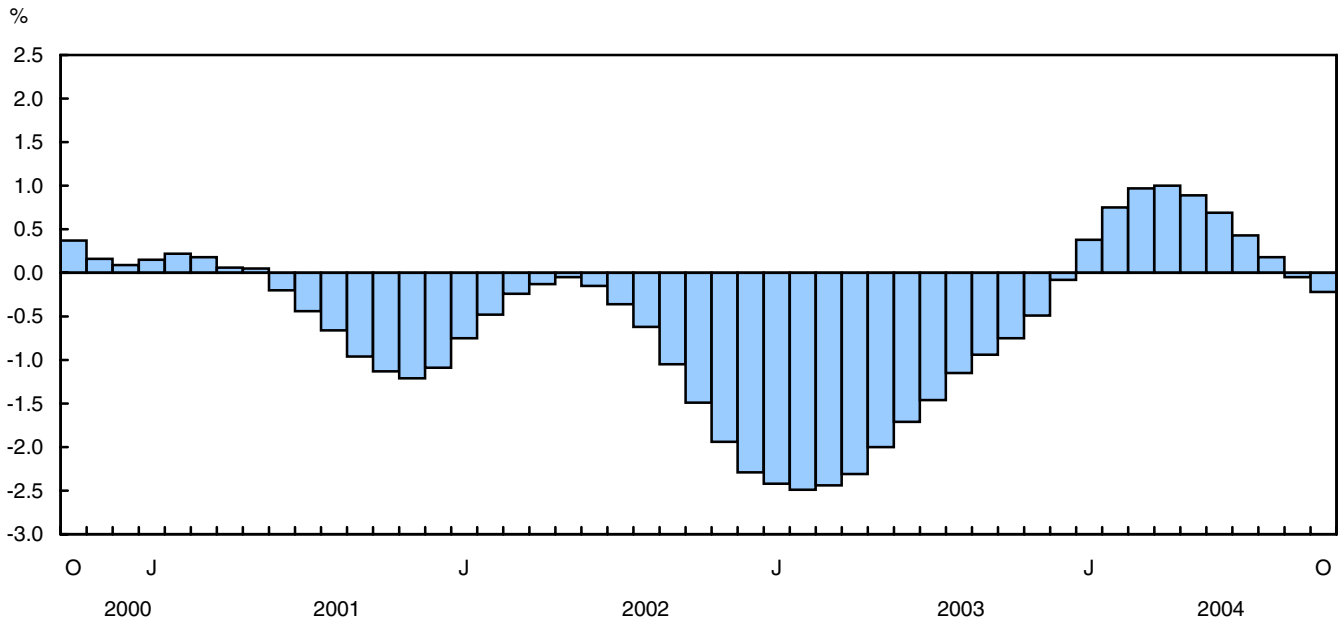


Chart 7

Unfilled orders - Monthly change in trend



Note to readers

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

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

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

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

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

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

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

Related products

Selected publications from Statistics Canada

31-203-XPB	Manufacturing industries of Canada, national and provincial areas

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, KIA 0T6 (613) 951-8200.

Selected CANSIM tables from Statistics Canada

304-0014	Manufacturers' shipments, inventories, orders and inventory to shipment ratios, by North American Industry Classification System (NAICS), Canada
304-0015	Manufacturing shipments, by North American Industry Classification System (NAICS) and province
377-0008	Real manufacturing shipments, orders, inventory owned and inventory/shipment ratio, 1997 dollars, seasonally adjusted
302-0007	Business conditions survey, by North American Industrial Classification System (NAICS), manufacturing industries, Canada
302-0008	Business conditions survey, Canadian manufacturing industries, by province
028-0002	Industrial capacity utilization rates, by North American Industry Classification System (NAICS)

Selected surveys from Statistics Canada

2101	Monthly Survey of Manufacturing
2152	Business Conditions Survey (BCS)
2821	Capacity Utilization Rates

Selected tables of Canadian statistics from Statistics Canada

- *Canadian Statistics - Manufacturing shipments, provinces and territories, monthly*
- *Canadian Statistics - Manufacturing shipments by industry groups (monthly)*
- *Economic indicators - Canada*
- *Canadian Statistics - Manufacturing shipments*
- *Canadian Statistics - Manufacturing shipments, provinces and territories*
- *Canadian Statistics - Business condition survey of the manufacturing sector*
- *Canadian Statistics - Business condition survey of the manufacturing sector, provinces*
- *Canadian Statistics - Industrial capacity utilization rates*

Statistical Tables

Table 1-1

All manufacturing industries - Shipments, inventories and orders

Period	Unadjusted				Seasonally adjusted			
	Shipments	Inventories	Unfilled orders	New orders	Shipments	Inventories	Unfilled orders	New orders
	$ millions							
October 2003	48,508	58,200	36,005	47,286	45,373	58,748	35,984	44,519
November 2003	44,983	58,646	35,049	44,027	44,993	58,708	35,204	44,213
December 2003	42,991	57,195	34,653	42,595	45,678	58,301	35,020	45,493
January 2004	42,408	58,233	35,548	43,303	45,801	58,572	35,931	46,712
February 2004	43,757	59,751	36,284	44,493	46,355	58,671	36,346	46,770
March 2004	52,181	60,081	36,343	52,239	48,366	58,838	36,362	48,381
April 2004	49,460	60,186	37,216	50,332	48,749	59,304	37,279	49,667
May 2004	51,363	60,696	37,510	51,658	49,296	60,154	37,226	49,243
June 2004	53,572	60,203	37,357	53,418	49,988	60,492	37,375	50,136
July 2004	45,551	60,314	38,248	46,442	50,325	60,938	37,906	50,856
August 2004	51,960	61,777	37,820	51,532	50,760	61,837	37,608	50,461
September 2004	52,781	61,939	37,449	52,410	50,424	62,269	37,211	50,027
October 2004	51,320	61,857	37,014	50,886	49,768	62,347	37,081	49,639

Table 1-2

All manufacturing industries - Month to month % change and trend

Period	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
October 2003	-1.0	0.4	-0.9	-0.6	1.29	1.30	-2.3	-0.8	-3.7	0.5
November 2003	-0.8	0.6	-0.1	-0.4	1.30	1.29	-2.2	-0.5	-0.7	0.8
December 2003	1.5	0.9	-0.7	-0.2	1.28	1.28	-0.5	-0.1	2.9	1.2
January 2004	0.3	1.2	0.5	0.0	1.28	1.26	2.6	0.4	2.7	1.5
February 2004	1.2	1.4	0.2	0.3	1.27	1.25	1.2	0.8	0.1	1.7
March 2004	4.3	1.6	0.3	0.5	1.22	1.24	0.0	1.0	3.4	1.7
April 2004	0.8	1.5	0.8	0.7	1.22	1.23	2.5	1.0	2.7	1.5
May 2004	1.1	1.4	1.4	0.9	1.22	1.22	-0.1	0.9	-0.9	1.3
June 2004	1.4	1.1	0.6	0.9	1.21	1.22	0.4	0.7	1.8	0.9
July 2004	0.7	0.7	0.7	0.9	1.21	1.22	1.4	0.4	1.4	0.5
August 2004	0.9	0.4	1.5	0.8	1.22	1.23	-0.8	0.2	-0.8	0.2
September 2004	-0.7	0.1	0.7	0.7	1.23	1.23	-1.1	-0.1	-0.9	-0.1
October 2004	-1.3	-0.1	0.1	0.5	1.25	1.24	-0.3	-0.2	-0.8	-0.3

Table 2-1

Motor vehicle, and parts and accessories industries - Shipments, inventories and orders

Period	Unadjusted				Seasonally adjusted			
	Shipments	Inventories	Unfilled orders	New orders	Shipments	Inventories	Unfilled orders	New orders
	$ millions							
October 2003	9,022	3,082	1,710	9,083	8,286	3,110	1,680	8,342
November 2003	8,116	3,166	1,771	8,177	7,980	3,093	1,730	8,030
December 2003	7,139	3,001	1,797	7,165	8,233	3,067	1,765	8,267
January 2004	7,785	3,091	1,821	7,810	8,221	3,065	1,801	8,258
February 2004	8,329	3,276	1,872	8,380	8,128	3,214	1,859	8,185
March 2004	10,209	3,440	1,970	10,306	8,701	3,365	1,974	8,817
April 2004	9,592	3,551	2,036	9,659	8,828	3,505	2,083	8,936
May 2004	9,552	3,511	2,070	9,586	8,922	3,441	2,093	8,933
June 2004	10,219	3,338	2,022	10,171	8,980	3,406	2,054	8,941
July 2004	5,629	3,351	2,126	5,733	8,959	3,442	2,119	9,024
August 2004	9,460	3,509	2,032	9,365	9,116	3,534	2,025	9,022
September 2004	9,537	3,458	1,922	9,427	9,125	3,495	1,919	9,019
October 2004	8,789	3,373	1,804	8,671	8,596	3,443	1,808	8,485

Table 2-2

Motor vehicle, and parts and accessories industries - Month to month % change and trend

Period	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
October 2003	-0.6	-0.4	-1.7	0.0	0.38	0.38	3.5	2.2	-0.1	-0.2
November 2003	-3.7	-0.1	-0.5	0.3	0.39	0.38	3.0	2.9	-3.7	0.0
December 2003	3.2	0.3	-0.8	0.8	0.37	0.38	2.0	3.5	3.0	0.4
January 2004	-0.1	0.8	-0.1	1.2	0.37	0.38	2.1	3.7	-0.1	0.9
February 2004	-1.1	1.4	4.9	1.6	0.40	0.38	3.2	3.5	-0.9	1.4
March 2004	7.1	1.7	4.7	1.7	0.39	0.38	6.2	3.0	7.7	1.6
April 2004	1.5	1.8	4.2	1.7	0.40	0.38	5.5	2.2	1.4	1.6
May 2004	1.1	1.6	-1.8	1.4	0.39	0.38	0.5	1.2	0.0	1.4
June 2004	0.7	1.2	-1.0	1.1	0.38	0.38	-1.9	0.1	0.1	0.9
July 2004	-0.2	0.6	1.1	0.8	0.38	0.38	3.2	-1.0	0.9	0.3
August 2004	1.8	0.0	2.7	0.4	0.39	0.39	-4.4	-1.9	0.0	-0.2
September 2004	0.1	-0.6	-1.1	0.1	0.38	0.39	-5.2	-2.4	0.0	-0.7
October 2004	-5.8	-0.9	-1.5	-0.1	0.40	0.39	-5.8	-2.6	-5.9	-0.9

Table 3-1

All manufacturing industries except motor vehicle, parts and accessories industries - Shipments, inventories and orders

Period	Unadjusted				Seasonally adjusted			
	Shipments	Inventories	Unfilled orders	New orders	Shipments	Inventories	Unfilled orders	New orders
	$ millions							
October 2003	39,487	55,118	34,295	38,203	37,087	55,638	34,303	36,177
November 2003	36,867	55,480	33,278	35,850	37,013	55,615	33,474	36,183
December 2003	35,852	54,194	32,856	35,430	37,445	55,234	33,255	37,226
January 2004	34,622	55,142	33,726	35,493	37,579	55,507	34,130	38,454
February 2004	35,428	56,475	34,412	36,113	38,228	55,457	34,487	38,585
March 2004	41,972	56,641	34,373	41,933	39,665	55,473	34,387	39,564
April 2004	39,867	56,635	35,180	40,674	39,922	55,799	35,196	40,731
May 2004	41,811	57,185	35,440	42,071	40,374	56,713	35,133	40,311
June 2004	43,352	56,865	35,335	43,247	41,007	57,086	35,321	41,195
July 2004	39,922	56,963	36,122	40,709	41,366	57,496	35,787	41,832
August 2004	42,500	58,268	35,788	42,166	41,644	58,303	35,583	41,440
September 2004	43,244	58,482	35,526	42,982	41,299	58,774	35,292	41,008
October 2004	42,531	58,484	35,210	42,215	41,172	58,904	35,274	41,154

Table 3-2

All manufacturing industries except motor vehicle, parts and accessories industries - Month to month % change and trend

Period	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
October 2003	-1.1	0.6	-0.9	-0.6	1.50	1.51	-2.6	-0.9	-4.5	0.7
November 2003	-0.2	0.8	0.0	-0.5	1.50	1.49	-2.4	-0.7	0.0	1.0
December 2003	1.2	1.0	-0.7	-0.3	1.48	1.47	-0.7	-0.3	2.9	1.4
January 2004	0.4	1.3	0.5	0.0	1.48	1.45	2.6	0.2	3.3	1.7
February 2004	1.7	1.4	-0.1	0.2	1.45	1.44	1.0	0.6	0.3	1.8
March 2004	3.8	1.5	0.0	0.5	1.40	1.42	-0.3	0.9	2.5	1.7
April 2004	0.6	1.5	0.6	0.7	1.40	1.41	2.4	0.9	2.9	1.5
May 2004	1.1	1.3	1.6	0.8	1.40	1.40	-0.2	0.9	-1.0	1.3
June 2004	1.6	1.1	0.7	0.9	1.39	1.40	0.5	0.7	2.2	0.9
July 2004	0.9	0.8	0.7	0.9	1.39	1.40	1.3	0.5	1.5	0.6
August 2004	0.7	0.5	1.4	0.8	1.40	1.41	-0.6	0.3	-0.9	0.3
September 2004	-0.8	0.2	0.8	0.7	1.42	1.41	-0.8	0.1	-1.0	0.0
October 2004	-0.3	0.0	0.2	0.5	1.43	1.42	-0.1	-0.1	0.4	-0.1

Table 4-1

Shipments by major group and selected industries - Unadjusted

	NAICS Code	Current periods				Previous year		Year to date		Annual	
		Oct. 2004	Sept. 2004	Aug. 2004	July 2004	Oct. 2003	Sept. 2003	% change from 2003	2004	% change from 2002	2003
		$millions									
Food manufacturing	311	5,933	5,994	5,934	6,001	5,783	5,489	8.5	57,029	1.7	63,436
Beverage and tobacco product manufacturing	312	946	986	1,109	1,141	1,013	1,028	-0.7	9,923	3.2	12,032
Textile mills	313	279	300	268	241	295	305	-3.8	2,780	-11.0	3,421
Textile product mills	314	223	203	201	179	202	192	-1.3	1,926	-10.3	2,297
Clothing manufacturing	315	604	609	586	488	689	648	-7.7	5,531	-6.3	7,075
Leather and allied product manufacturing	316	68	78	68	44	82	96	-16.6	522	-13.7	743
Wood product manufacturing	321	3,202	3,503	3,576	3,323	2,942	2,891	21.2	32,016	-3.4	31,248
Paper manufacturing	322	2,732	2,790	2,826	2,823	2,772	2,818	-1.5	27,616	-3.6	33,204
Printing and related support activities	323	1,054	1,049	999	896	1,028	1,015	1.7	9,765	-0.7	11,590
Petroleum and coal products manufacturing	324	4,344	4,150	4,130	4,021	2,955	3,060	18.8	37,320	9.0	37,355
Chemical manufacturing	325	3,857	3,935	3,948	3,747	3,468	3,393	10.0	38,159	3.6	41,187
Plastics and rubber products manufacturing	326	2,319	2,297	2,293	2,002	2,279	2,188	4.4	21,831	1.0	24,722
Non-metallic mineral product manufacturing	327	1,250	1,281	1,237	1,161	1,229	1,223	4.5	10,659	5.3	11,994
Primary metal manufacturing	331	3,891	3,892	3,751	3,375	3,407	3,331	17.8	36,929	2.3	37,606
Fabricated metal product manufacturing	332	3,272	3,353	3,111	2,694	2,913	2,887	10.6	28,793	0.4	31,026
Machinery manufacturing	333	2,372	2,500	2,266	2,167	2,275	2,283	6.5	22,678	-2.9	25,576
Computer and electronic product manufacturing	334	1,484	1,837	1,619	1,490	1,532	1,954	8.4	16,460	-13.1	18,790
Electrical equipment, appliance and component manufacturing	335	893	929	854	788	864	915	4.7	8,725	-5.7	9,984
Transportation equipment manufacturing	336	10,690	11,142	11,273	7,244	10,840	10,316	4.8	107,211	-3.9	120,949
Motor vehicle manufacturing	3361	5,922	6,534	6,440	3,708	6,028	5,930	3.5	61,017	-6.4	69,258
Motor vehicle body and trailer manufacturing	3362	344	337	303	276	329	303	2.4	3,199	0.1	3,695
Motor vehicle parts manufacturing	3363	2,867	3,002	3,020	1,920	2,994	2,766	6.1	28,083	-0.1	31,433
Aerospace product and parts manufacturing	3364	1,071	822	1,127	955	1,098	899	9.1	10,533	1.5	11,586
Railroad rolling stock manufacturing	3365	244	218	169	177	178	198	-1.1	1,936	-7.7	2,370
Ship and boat building	3366	97	101	94	101	82	73	14.2	1,055	-5.4	1,100
Furniture and related product manufacturing	337	1,302	1,276	1,244	1,135	1,244	1,268	2.5	12,078	1.2	14,035
Miscellaneous manufacturing	339	606	674	669	591	697	661	3.4	6,401	3.5	7,495
Non-durable goods industries [1]		**22,358**	**22,393**	**22,361**	**21,584**	**20,566**	**20,232**	**6.9**	**212,402**	**1.5**	**237,062**
Durable goods industries [2]		**28,962**	**30,388**	**29,598**	**23,967**	**27,942**	**27,729**	**8.8**	**281,949**	**-2.6**	**308,703**
Manufacturing		**51,320**	**52,781**	**51,960**	**45,551**	**48,508**	**47,961**	**8.0**	**494,352**	**-0.8**	**545,765**

1. Non-durable goods industries include the following NAICS: 311, 312, 313, 314, 315, 316, 322, 323, 324, 325, 326
2. Durable goods industries include the following NAICS: 321, 327, 331, 332, 333, 334, 335, 336, 337, 339

Table 4-2

Shipments by major group and selected industries - Seasonally adjusted

	NAICS Code	Change from September	Current periods				Change from previous month			Trend change from previous month			
			Oct. 2004	Sept. 2004	Aug. 2004	July 2004	Oct. 2004	Sept. 2004	Aug. 2004	Oct. 2004	Sept. 2004	Aug. 2004	July 2004
		$ millions					percentage						
Food manufacturing	311	-46	5,698	5,744	5,765	5,873	-0.8	-0.4	-1.8	-0.1	-0.1	0.1	0.2
Beverage and tobacco product manufacturing	312	-6	965	971	994	977	-0.7	-2.2	1.7	-0.4	-0.6	-0.6	-0.6
Textile mills	313	-4	271	274	263	292	-1.4	4.2	-9.7	-0.3	-0.3	-0.3	-0.2
Textile product mills	314	7	204	197	194	189	3.7	1.6	2.7	1.2	1.5	1.6	1.4
Clothing manufacturing	315	-25	521	546	525	523	-4.6	4.0	0.4	-0.4	-0.6	-0.8	-1.0
Leather and allied product manufacturing	316	0	50	51	50	54	-0.5	0.9	-6.9	0.0	-0.1	-0.5	-1.0
Wood product manufacturing	321	-96	3,164	3,260	3,345	3,338	-2.9	-2.5	0.2	-0.8	-0.5	0.2	1.0
Paper manufacturing	322	-58	2,660	2,718	2,761	2,859	-2.1	-1.5	-3.4	-1.0	-0.9	-0.6	-0.2
Printing and related support activities	323	0	996	996	1,002	981	0.0	-0.6	2.1	0.1	0.2	0.4	0.5
Petroleum and coal products manufacturing	324	145	4,193	4,048	3,943	3,914	3.6	2.7	0.7	1.3	1.8	2.5	3.0
Chemical manufacturing	325	-83	3,910	3,994	4,028	3,915	-2.1	-0.9	2.9	0.1	0.4	0.9	1.3
Plastics and rubber products manufacturing	326	-11	2,186	2,197	2,184	2,196	-0.5	0.6	-0.6	0.2	0.4	0.5	0.6
Non-metallic mineral product manufacturing	327	3	1,055	1,052	1,042	1,035	0.2	1.0	0.7	0.1	0.1	0.0	0.0
Primary metal manufacturing	331	41	3,842	3,801	3,868	3,761	1.1	-1.7	2.8	0.3	0.5	0.7	1.0
Fabricated metal product manufacturing	332	5	3,051	3,045	2,975	2,868	0.2	2.4	3.7	0.9	1.2	1.5	1.6
Machinery manufacturing	333	-47	2,328	2,375	2,394	2,339	-2.0	-0.8	2.4	0.0	0.3	0.8	1.2
Computer and electronic product manufacturing	334	-110	1,537	1,647	1,690	1,664	-6.7	-2.5	1.5	-1.8	-1.7	-1.4	-1.1
Electrical equipment, appliance and component manufacturing	335	4	879	875	879	851	0.5	-0.5	3.4	0.1	0.1	0.1	0.1
Transportation equipment manufacturing	336	-344	10,448	10,792	11,011	10,858	-3.2	-2.0	1.4	-0.8	-0.5	-0.1	0.5
Motor vehicle manufacturing	3361	-445	5,841	6,286	6,278	6,251	-7.1	0.1	0.4	-1.2	-0.8	-0.1	0.7
Motor vehicle body and trailer manufacturing	3362	3	333	329	331	332	1.0	-0.5	-0.4	0.4	0.7	1.1	1.5
Motor vehicle parts manufacturing	3363	-83	2,755	2,838	2,838	2,708	-2.9	0.0	4.8	-0.1	-0.1	0.0	0.1
Aerospace product and parts manufacturing	3364	116	1,000	883	1,137	1,095	13.2	-22.3	3.9	-2.0	-2.1	-1.9	-1.3
Railroad rolling stock manufacturing	3365	64	264	199	196	261	32.1	1.9	-25.0	4.7	5.0	4.4	3.3
Ship and boat building	3366	-16	111	128	110	105	-12.8	16.1	4.4	0.3	1.2	2.1	2.7
Furniture and related product manufacturing	337	35	1,238	1,203	1,186	1,209	2.9	1.4	-1.9	0.6	0.6	0.6	0.5
Miscellaneous manufacturing	339	-65	572	637	661	629	-10.2	-3.6	5.1	-0.7	-0.9	-0.9	-0.7
Non-durable goods industries [1]		**-81**	**21,655**	**21,736**	**21,710**	**21,773**	**-0.4**	**0.1**	**-0.3**	**0.1**	**0.3**	**0.6**	**0.9**
Durable goods industries [2]		**-574**	**28,114**	**28,688**	**29,050**	**28,552**	**-2.0**	**-1.2**	**1.7**	**-0.3**	**-0.1**	**0.2**	**0.6**
Manufacturing		**-655**	**49,768**	**50,424**	**50,760**	**50,325**	**-1.3**	**-0.7**	**0.9**	**-0.1**	**0.1**	**0.4**	**0.7**

1. Non-durable goods industries include the following NAICS: 311, 312, 313, 314, 315, 316, 322, 323, 324, 325, 326
2. Durable goods industries include the following NAICS: 321, 327, 331, 332, 333, 334, 335, 336, 337, 339

Table 5-1

Inventories by major group and selected industries - Unadjusted

	NAICS Code	Current periods				Previous year		Year to date		Average per month	
		Oct. 2004	Sept. 2004	Aug. 2004	July 2004	Oct. 2003	Sept. 2003	% change from 2003	Average 2004	% change from 2002	2003
		$millions									
Food manufacturing	311	5,045	4,955	4,774	4,752	4,716	4,706	4.4	4,752	0.2	4,564
Beverage and tobacco product manufacturing	312	1,630	1,592	1,625	1,639	1,618	1,596	-0.8	1,648	2.7	1,650
Textile mills	313	475	483	492	486	499	511	-9.3	478	-8.0	519
Textile product mills	314	376	366	361	361	358	358	-2.0	361	-4.2	365
Clothing manufacturing	315	1,217	1,246	1,269	1,287	1,406	1,481	-12.7	1,287	0.9	1,451
Leather and allied product manufacturing	316	122	138	151	156	126	136	-7.8	134	-9.8	141
Wood product manufacturing	321	4,154	4,159	4,120	4,111	3,930	4,036	-4.0	4,441	-0.9	4,533
Paper manufacturing	322	3,631	3,648	3,656	3,609	3,521	3,494	-0.6	3,582	-1.1	3,588
Printing and related support activities	323	914	918	904	893	866	865	0.4	876	-2.4	870
Petroleum and coal products manufacturing	324	2,361	2,370	2,377	2,337	1,891	1,951	11.0	2,260	0.8	2,009
Chemical manufacturing	325	6,186	6,124	6,115	6,072	5,561	5,571	8.6	6,120	9.3	5,652
Plastics and rubber products manufacturing	326	2,291	2,300	2,308	2,328	2,229	2,207	1.4	2,321	4.4	2,279
Non-metallic mineral product manufacturing	327	1,076	1,096	1,114	1,135	1,062	1,089	0.4	1,136	-0.2	1,125
Primary metal manufacturing	331	5,592	5,451	5,311	5,100	4,686	4,741	0.2	4,948	-1.5	4,902
Fabricated metal product manufacturing	332	4,321	4,310	4,255	4,102	3,504	3,597	5.1	3,917	1.3	3,676
Machinery manufacturing	333	4,853	4,823	4,801	4,609	4,528	4,454	2.4	4,643	-3.2	4,522
Computer and electronic product manufacturing	334	3,890	3,785	3,914	3,852	4,305	4,258	-11.2	3,948	-11.3	4,398
Electrical equipment, appliance and component manufacturing	335	1,921	1,902	1,940	1,938	1,806	1,801	-0.6	1,880	-2.8	1,870
Transportation equipment manufacturing	336	9,312	9,774	9,817	9,143	9,210	9,524	-4.4	9,313	-17.9	9,637
Motor vehicle manufacturing	3361	1,459	1,560	1,587	1,443	1,254	1,348	14.6	1,491	-8.6	1,288
Motor vehicle body and trailer manufacturing	3362	482	466	463	456	443	441	-3.4	456	12.3	466
Motor vehicle parts manufacturing	3363	1,914	1,898	1,922	1,908	1,828	1,820	3.0	1,899	13.1	1,847
Aerospace product and parts manufacturing	3364	4,412	4,789	4,752	4,282	4,585	4,801	-10.2	4,439	-30.5	4,875
Railroad rolling stock manufacturing	3365	813	819	864	831	795	835	-13.3	780	-7.5	876
Ship and boat building	3366	108	104	100	100	131	129	-13.8	110	-1.8	129
Furniture and related product manufacturing	337	1,277	1,274	1,263	1,200	1,202	1,228	-2.0	1,223	2.7	1,238
Miscellaneous manufacturing	339	1,210	1,224	1,209	1,202	1,175	1,196	1.6	1,234	4.1	1,217
Non-durable goods industries [1]		**24,250**	**24,142**	**24,033**	**23,921**	**22,792**	**22,877**	**2.8**	**23,819**	**2.3**	**23,087**
Durable goods industries [2]		**37,606**	**37,797**	**37,744**	**36,393**	**35,408**	**35,924**	**-2.2**	**36,684**	**-7.1**	**37,118**
Manufacturing		**61,857**	**61,939**	**61,777**	**60,314**	**58,200**	**58,801**	**-0.3**	**60,504**	**-3.7**	**60,205**

1. Non-durable goods industries include the following NAICS: 311, 312, 313, 314, 315, 316, 322, 323, 324, 325, 326
2. Durable goods industries include the following NAICS: 321, 327, 331, 332, 333, 334, 335, 336, 337, 339

Table 5-2

Inventories by major group and selected industries - Seasonally adjusted

	NAICS Code	Change from September	Current periods				Change from previous month			Trend change from previous month			
			Oct. 2004	Sept. 2004	Aug. 2004	July 2004	Oct. 2004	Sept. 2004	Aug. 2004	Oct. 2004	Sept. 2004	Aug. 2004	July 2004
		$ millions					percentage						
Food manufacturing	311	50	4,878	4,828	4,783	4,821	1.0	0.9	-0.8	0.3	0.4	0.4	0.5
Beverage and tobacco product manufacturing	312	2	1,650	1,648	1,644	1,640	0.1	0.3	0.2	0.2	0.2	0.2	0.2
Textile mills	313	-9	476	485	492	488	-1.8	-1.5	0.8	-0.3	-0.1	0.2	0.5
Textile product mills	314	7	376	368	365	367	2.0	0.9	-0.4	0.6	0.7	0.9	0.9
Clothing manufacturing	315	14	1,242	1,228	1,235	1,237	1.1	-0.6	-0.1	0.2	-0.1	-0.6	-1.1
Leather and allied product manufacturing	316	-6	131	137	134	131	-4.3	2.4	1.8	0.1	0.3	0.6	0.7
Wood product manufacturing	321	28	4,522	4,494	4,470	4,389	0.6	0.5	1.8	0.0	0.2	0.4	0.6
Paper manufacturing	322	-39	3,674	3,713	3,651	3,600	-1.1	1.7	1.4	0.5	0.7	0.8	0.8
Printing and related support activities	323	-11	902	913	888	883	-1.2	2.8	0.6	0.5	0.7	0.9	0.9
Petroleum and coal products manufacturing	324	58	2,405	2,347	2,275	2,275	2.5	3.2	0.0	0.7	1.0	1.3	1.6
Chemical manufacturing	325	109	6,360	6,250	6,180	6,180	1.8	1.1	0.0	0.7	0.9	0.9	0.9
Plastics and rubber products manufacturing	326	-5	2,333	2,338	2,335	2,346	-0.2	0.1	-0.5	0.1	0.2	0.3	0.4
Non-metallic mineral product manufacturing	327	5	1,139	1,135	1,130	1,127	0.4	0.4	0.3	0.2	0.3	0.3	0.3
Primary metal manufacturing	331	135	5,486	5,351	5,221	5,057	2.5	2.5	3.2	1.7	2.1	2.4	2.5
Fabricated metal product manufacturing	332	1	4,334	4,333	4,229	4,066	0.0	2.5	4.0	1.4	2.0	2.6	3.0
Machinery manufacturing	333	-12	4,795	4,807	4,747	4,623	-0.2	1.3	2.7	0.5	0.6	0.7	0.8
Computer and electronic product manufacturing	334	-17	3,845	3,861	3,870	3,904	-0.4	-0.2	-0.9	-0.3	-0.3	-0.4	-0.4
Electrical equipment, appliance and component manufacturing	335	-5	1,918	1,923	1,947	1,933	-0.3	-1.2	0.7	0.1	0.2	0.5	0.7
Transportation equipment manufacturing	336	-250	9,365	9,616	9,773	9,448	-2.6	-1.6	3.4	0.0	0.2	0.5	0.8
Motor vehicle manufacturing	3361	-65	1,500	1,565	1,590	1,513	-4.2	-1.6	5.1	-0.5	-0.1	0.4	0.9
Motor vehicle body and trailer manufacturing	3362	10	482	472	468	463	2.1	0.9	1.1	0.9	1.2	1.4	1.5
Motor vehicle parts manufacturing	3363	13	1,943	1,930	1,944	1,929	0.7	-0.7	0.8	0.2	0.3	0.5	0.6
Aerospace product and parts manufacturing	3364	-195	4,396	4,591	4,671	4,472	-4.2	-1.7	4.4	0.1	0.2	0.4	0.7
Railroad rolling stock manufacturing	3365	-6	813	819	864	831	-0.7	-5.3	4.1	-0.6	0.3	1.3	2.2
Ship and boat building	3366	-2	103	105	106	109	-2.1	-1.2	-2.0	-1.1	-1.4	-1.6	-1.7
Furniture and related product manufacturing	337	17	1,282	1,265	1,250	1,205	1.3	1.3	3.7	0.8	1.0	1.2	1.2
Miscellaneous manufacturing	339	6	1,233	1,227	1,217	1,217	0.5	0.8	-0.1	0.2	0.1	-0.1	-0.3
Non-durable goods industries [1]		**171**	**24,427**	**24,256**	**23,982**	**23,967**	**0.7**	**1.1**	**0.1**	**0.4**	**0.6**	**0.7**	**0.8**
Durable goods industries [2]		**-92**	**37,920**	**38,013**	**37,854**	**36,971**	**-0.2**	**0.4**	**2.4**	**0.5**	**0.7**	**0.9**	**1.0**
Manufacturing		**78**	**62,347**	**62,269**	**61,837**	**60,938**	**0.1**	**0.7**	**1.5**	**0.5**	**0.7**	**0.8**	**0.9**

1. Non-durable goods industries include the following NAICS: 311, 312, 313, 314, 315, 316, 322, 323, 324, 325, 326
2. Durable goods industries include the following NAICS: 321, 327, 331, 332, 333, 334, 335, 336, 337, 339

Table 6-1

Unfilled orders by selected major group and industries - Unadjusted

	NAICS Code	Current periods				Previous year		Year to date		Average per month	
		Oct. 2004	Sept. 2004	Aug. 2004	July 2004	Oct. 2003	Sept. 2003	% Change from 2003	Average 2004	% Change from 2002	2003
		$millions									
Textile mills	313	249	236	222	216	211	218	-6.8	222	-20.6	233
Textile product mills	314	111	106	106	92	85	77	7.7	94	6.6	86
Clothing manufacturing	315	173	183	198	211	170	184	-5.7	194	3.6	199
Leather and allied product manufacturing	316	12	17	22	25	24	24	-22.7	22	-2.2	28
Plastics and rubber products manufacturing	326	478	495	464	435	378	388	17.1	432	1.9	366
Primary metal manufacturing	331	1,813	1,982	1,909	1,950	1,758	1,738	6.8	1,883	-2.8	1,757
Fabricated metal product manufacturing	332	4,500	4,511	4,395	4,262	3,568	3,575	16.0	4,096	-1.7	3,522
Machinery manufacturing	333	5,105	5,127	5,190	5,175	4,290	4,364	11.3	4,901	-14.5	4,380
Computer and electronic product manufacturing	334	3,132	3,123	3,203	3,123	3,363	3,526	-10.7	3,157	-5.5	3,483
Electrical equipment, appliance and component manufacturing	335	901	902	913	886	866	861	-4.2	875	-3.5	901
Transportation equipment manufacturing	336	17,495	17,643	18,035	18,833	18,513	19,396	-10.3	18,370	-26.7	20,074
Motor vehicle manufacturing	3361	715	782	833	899	564	538	37.8	778	-25.1	566
Motor vehicle body and trailer manufacturing	3362	475	462	465	470	405	407	7.8	473	-1.5	430
Motor vehicle parts manufacturing	3363	1,089	1,141	1,199	1,227	1,146	1,111	11.2	1,190	25.4	1,093
Aerospace product and parts manufacturing	3364	11,289	11,184	11,171	11,708	11,863	12,596	-13.8	11,644	-34.2	13,167
Ship and boat building	3366	48	44	34	34	78	89	-44.8	47	230.1	83
Miscellaneous manufacturing	339	221	190	198	186	185	196	14.8	186	-13.4	162
Non-durable goods industries [1]		**2,168**	**2,232**	**2,211**	**2,202**	**2,015**	**2,158**	**-0.4**	**2,065**	**7.1**	**2,029**
Durable goods industries [2]		**34,846**	**35,217**	**35,609**	**36,046**	**33,990**	**35,070**	**-3.1**	**35,014**	**-18.7**	**35,629**
Manufacturing		**37,014**	**37,449**	**37,820**	**38,248**	**36,005**	**37,228**	**-3.0**	**37,079**	**-17.7**	**37,658**

1. Non-durable goods industries include the following NAICS: 311, 312, 313, 314, 315, 316, 322, 323, 324, 325, 326
2. Durable goods industries include the following NAICS: 321, 327, 331, 332, 333, 334, 335, 336, 337, 339

Table 6-2

Unfilled orders by selected major group and industries - Seasonally adjusted

	NAICS Code	Change from September	Current periods				Change from previous month			Trend change from previous month			
			Oct. 2004	Sept. 2004	Aug. 2004	July 2004	Oct. 2004	Sept. 2004	Aug. 2004	Oct. 2004	Sept. 2004	Aug. 2004	July 2004
		$ millions					percentage						
Textile mills	313	17	254	238	227	224	7.0	4.9	1.4	1.5	1.6	1.7	1.7
Textile product mills	314	3	112	109	104	91	2.9	4.9	14.3	2.8	3.6	4.2	4.4
Clothing manufacturing	315	-3	196	199	198	197	-1.6	0.6	0.4	0.4	0.7	1.0	1.2
Leather and allied product manufacturing	316	-3	15	19	19	19	-18.3	-2.6	0.1	-3.6	-3.8	-4.0	-4.8
Plastics and rubber products manufacturing	326	-13	452	465	442	440	-2.9	5.3	0.5	0.5	0.8	1.2	1.6
Primary metal manufacturing	331	-103	1,903	2,006	1,910	1,931	-5.1	5.1	-1.1	-0.2	0.1	0.5	0.9
Fabricated metal product manufacturing	332	-11	4,500	4,511	4,395	4,262	-0.3	2.6	3.1	0.5	1.1	1.8	2.5
Machinery manufacturing	333	-23	5,105	5,127	5,190	5,175	-0.4	-1.2	0.3	0.9	1.2	1.4	1.6
Computer and electronic product manufacturing	334	9	3,132	3,123	3,203	3,123	0.3	-2.5	2.6	0.0	0.1	0.3	0.3
Electrical equipment, appliance and component manufacturing	335	-2	901	902	913	886	-0.2	-1.2	3.0	0.1	0.4	0.7	0.9
Transportation equipment manufacturing	336	28	17,509	17,481	17,956	18,595	0.2	-2.6	-3.4	-0.9	-1.0	-1.0	-0.8
Motor vehicle manufacturing	3361	-67	715	782	833	899	-8.5	-6.1	-7.4	-3.2	-2.9	-1.9	-0.4
Motor vehicle body and trailer manufacturing	3362	11	494	483	483	482	2.2	0.1	0.1	0.7	0.9	1.0	1.3
Motor vehicle parts manufacturing	3363	-45	1,093	1,137	1,192	1,220	-3.9	-4.6	-2.3	-2.1	-2.1	-1.9	-1.4
Aerospace product and parts manufacturing	3364	277	11,279	11,002	11,075	11,465	2.5	-0.7	-3.4	-0.3	-0.5	-0.8	-0.9
Ship and boat building	3366	4	49	46	39	33	8.1	18.2	17.0	2.2	0.8	-0.4	-2.5
Miscellaneous manufacturing	339	14	197	183	189	193	7.5	-3.4	-1.8	0.9	0.9	0.8	0.9
Non-durable goods industries [1]		**-50**	**2,175**	**2,226**	**2,188**	**2,193**	**-2.3**	**1.7**	**-0.2**	**-0.3**	**0.8**	**2.0**	**2.7**
Durable goods industries [2]		**-79**	**34,906**	**34,985**	**35,420**	**35,713**	**-0.2**	**-1.2**	**-0.8**	**-0.2**	**-0.1**	**0.1**	**0.3**
Manufacturing		**-129**	**37,081**	**37,211**	**37,608**	**37,906**	**-0.3**	**-1.1**	**-0.8**	**-0.2**	**-0.1**	**0.2**	**0.4**

1. Non-durable goods industries include the following NAICS: 311, 312, 313, 314, 315, 316, 322, 323, 324, 325, 326
2. Durable goods industries include the following NAICS: 321, 327, 331, 332, 333, 334, 335, 336, 337, 339

Table 7-1

New orders by selected major group and industries - Unadjusted

	NAICS Code	Current periods				Previous year		Year to date		Annual	
		Oct. 2004	Sept. 2004	Aug. 2004	July 2004	Oct. 2003	Sept. 2003	% Change from 2003	2004	% Change from 2002	2003
		$millions									
Textile mills	313	292	313	274	233	288	289	-0.3	2,821	-13.6	3,356
Textile product mills	314	228	203	215	181	211	199	0.3	1,963	-11.2	2,290
Clothing manufacturing	315	594	595	572	481	675	629	-7.5	5,546	-6.4	7,066
Leather and allied product manufacturing	316	63	73	65	44	82	91	-19.1	509	-12.6	747
Plastics and rubber products manufacturing	326	2,302	2,328	2,322	2,027	2,269	2,203	5.1	21,974	0.1	24,666
Primary metal manufacturing	331	3,722	3,964	3,710	3,355	3,428	3,344	18.3	37,037	0.8	37,522
Fabricated metal product manufacturing	332	3,260	3,469	3,244	2,832	2,906	2,961	13.8	29,822	0.7	31,096
Machinery manufacturing	333	2,349	2,438	2,281	2,300	2,201	2,367	11.6	23,420	-0.7	25,351
Computer and electronic product manufacturing	334	1,493	1,757	1,699	1,424	1,369	2,201	11.3	16,414	-17.1	18,169
Electrical equipment, appliance and component manufacturing	335	891	919	881	818	868	881	7.0	8,818	-6.8	9,835
Transportation equipment manufacturing	336	10,542	10,750	10,476	7,775	9,957	10,430	11.1	106,784	-6.3	114,188
Motor vehicle manufacturing	3361	5,856	6,483	6,373	3,769	6,053	5,914	3.9	61,139	-6.5	69,172
Motor vehicle body and trailer manufacturing	3362	357	334	298	278	327	307	6.5	3,297	-2.2	3,637
Motor vehicle parts manufacturing	3363	2,815	2,944	2,992	1,964	3,029	2,814	5.4	27,968	-1.0	31,557
Aerospace product and parts manufacturing	3364	1,177	835	589	1,348	366	1,085	152.3	10,297	-17.0	5,676
Ship and boat building	3366	101	111	94	101	71	75	7.0	1,038	-3.2	1,134
Miscellaneous manufacturing	339	636	667	680	597	686	678	3.9	6,463	4.1	7,498
Non-durable goods industries [1]		**22,294**	**22,414**	**22,370**	**21,642**	**20,423**	**20,171**	**7.0**	**212,835**	**1.4**	**236,934**
Durable goods industries [2]		**28,592**	**29,995**	**29,162**	**24,800**	**26,862**	**28,201**	**12.4**	**283,878**	**-3.8**	**301,074**
Manufacturing		**50,886**	**52,410**	**51,532**	**46,442**	**47,286**	**48,372**	**10.0**	**496,713**	**-1.6**	**538,008**

1. Non-durable goods industries include the following NAICS: 311, 312, 313, 314, 315, 316, 322, 323, 324, 325, 326
2. Durable goods industries include the following NAICS: 321, 327, 331, 332, 333, 334, 335, 336, 337, 339

Table 7-2

New orders by selected major group and industries - Seasonally adjusted

	NAICS Code	Change from September	Current periods				Change from previous month			Trend change from previous month			
			Oct. 2004	Sept. 2004	Aug. 2004	July 2004	Oct. 2004	Sept. 2004	Aug. 2004	Oct. 2004	Sept. 2004	Aug. 2004	July 2004
		$ millions					percentage						
Textile mills	313	2	287	286	266	289	0.5	7.2	-7.7	-0.3	-0.3	-0.2	-0.1
Textile product mills	314	5	208	202	207	186	2.7	-2.4	11.3	0.8	1.2	1.5	1.6
Clothing manufacturing	315	-29	518	548	526	530	-5.4	4.1	-0.8	-0.5	-0.7	-0.9	-0.9
Leather and allied product manufacturing	316	-3	47	50	50	55	-6.4	-0.2	-9.4	0.1	0.0	-0.1	-0.4
Plastics and rubber products manufacturing	326	-48	2,172	2,220	2,186	2,208	-2.1	1.6	-1.0	0.1	0.3	0.5	0.6
Primary metal manufacturing	331	-159	3,739	3,898	3,847	3,758	-4.1	1.3	2.4	0.2	0.3	0.5	0.8
Fabricated metal product manufacturing	332	-122	3,039	3,162	3,108	3,006	-3.9	1.7	3.4	0.2	0.2	0.5	0.9
Machinery manufacturing	333	-7	2,305	2,312	2,409	2,472	-0.3	-4.0	-2.5	-0.6	-0.1	0.5	1.0
Computer and electronic product manufacturing	334	-22	1,546	1,568	1,770	1,598	-1.4	-11.4	10.8	-2.1	-1.9	-1.4	-1.0
Electrical equipment, appliance and component manufacturing	335	13	877	864	906	881	1.5	-4.7	2.9	-0.2	-0.2	-0.2	0.0
Transportation equipment manufacturing	336	159	10,476	10,317	10,371	11,071	1.5	-0.5	-6.3	-0.6	-0.5	-0.4	-0.1
Motor vehicle manufacturing	3361	-461	5,774	6,235	6,211	6,312	-7.4	0.4	-1.6	-1.2	-0.9	-0.3	0.5
Motor vehicle body and trailer manufacturing	3362	14	343	330	331	340	4.2	-0.4	-2.6	0.1	0.5	0.8	1.1
Motor vehicle parts manufacturing	3363	-73	2,711	2,783	2,811	2,711	-2.6	-1.0	3.7	-0.1	-0.2	-0.2	-0.1
Aerospace product and parts manufacturing	3364	466	1,277	810	747	1,202	57.5	8.5	-37.9	0.8	0.5	-0.6	-2.2
Ship and boat building	3366	-20	115	135	116	107	-14.6	16.6	8.5	0.8	1.6	3.0	4.4
Miscellaneous manufacturing	339	-45	586	631	657	633	-7.1	-4.1	3.8	-0.6	-0.9	-1.0	-0.8
Non-durable goods industries [1]		**-170**	**21,604**	**21,774**	**21,704**	**21,834**	**-0.8**	**0.3**	**-0.6**	**0.0**	**0.2**	**0.5**	**0.9**
Durable goods industries [2]		**-218**	**28,035**	**28,253**	**28,757**	**29,022**	**-0.8**	**-1.8**	**-0.9**	**-0.5**	**-0.3**	**-0.1**	**0.3**
Manufacturing		**-388**	**49,639**	**50,027**	**50,461**	**50,856**	**-0.8**	**-0.9**	**-0.8**	**-0.3**	**-0.1**	**0.2**	**0.5**

1. Non-durable goods industries include the following NAICS: 311, 312, 313, 314, 315, 316, 322, 323, 324, 325, 326
2. Durable goods industries include the following NAICS: 321, 327, 331, 332, 333, 334, 335, 336, 337, 339

Table 8-1

Shipments for selected industries - Unadjusted

	NAICS Code	Current periods				Previous year		Year to date		Annual	
		Oct. 2004	Sept. 2004	Aug. 2004	July 2004	Oct. 2003	Sept. 2003	% Change from 2003	2004	% Change from 2002	2003
		$ millions									
311 Food manufacturing											
Animal food manufacturing	3111	420	428	429	454	468	432	2.2	4,322	-1.9	5,099
Starch and vegetable fat and oil manufacturing	31122	270	266	298	313	294	271	16.4	2,985	11.4	3,117
Sugar and confectionery product manufacturing	3113	401	381	360	310	390	362	4.1	3,233	10.0	3,764
Fruit and vegetable preserving and specialty food manufacturing	3114	563	590	570	542	547	521	7.9	5,321	-0.9	5,974
Dairy product manufacturing	3115	999	957	965	1,007	965	923	5.1	9,548	9.8	10,958
Meat product manufacturing	3116	1,711	1,774	1,787	1,784	1,523	1,372	19.3	16,763	-3.9	17,027
Cookie, cracker and pasta manufacturing	31182	147	151	141	134	154	135	3.5	1,353	-2.1	1,577
Other food manufacturing	3119	425	423	401	413	456	447	0.0	4,064	4.1	4,936
312 Beverage and tobacco product manufacturing											
Soft drink and ice manufacturing	31211	240	258	311	323	259	274	-3.6	2,706	12.7	3,336
Breweries	31212	329	360	425	449	330	317	14.0	3,610	1.0	3,858
Wineries	31213	57	79	68	62	67	70	9.2	626	-2.6	706
Distilleries	31214	63	50	52	47	80	74	-28.1	501	-18.0	831
Tobacco manufacturing	3122	256	238	253	260	276	292	-9.8	2,478	5.1	3,301
313 Textile mills											
Fibre, yarn and thread mills	3131	59	64	46	42	48	47	10.4	513	-12.6	547
Fabric mills	3132	167	179	168	151	186	198	-6.7	1,720	-10.6	2,180
Textile and fabric finishing and fabric coating	3133	53	56	53	48	62	60	-6.3	547	-10.8	694
314 Textile product mills											
Carpet and rug mills	31411	82	73	74	63	70	65	0.0	701	-8.6	824
Textile bag and canvas mills	31491	28	21	25	24	23	24	-5.0	221	-30.9	267
315 Clothing manufacturing											
Hosiery and sock mills	31511	41	38	37	33	50	44	-15.9	353	-5.1	511
Other clothing knitting mills	31519	57	51	50	44	65	59	-2.5	464	-0.4	587
Men's and boys' cut and sew clothing manufacturing	31522	165	174	154	118	206	185	-12.1	1,517	-4.6	2,078
Women's and girls' cut and sew clothing manufacturing	31523	206	220	219	180	231	234	-7.9	1,983	-3.5	2,471
Clothing accessories and other clothing manufacturing	3159	31	29	28	22	32	27	1.4	248	-4.1	289
316 Leather and allied product manufacturing											
Footwear manufacturing	3162	51	58	48	26	53	68	-7.9	313	-17.7	401
321 Wood product manufacturing											
Sawmills and wood preservation	3211	1,578	1,774	1,821	1,742	1,317	1,332	23.9	15,883	-16.1	14,961
Veneer, plywood and engineered wood product manufacturing	3212	799	888	898	801	873	809	30.2	8,481	19.5	7,928
Other wood product manufacturing	3219	825	842	857	780	752	751	8.2	7,651	6.2	8,359
322 Paper manufacturing											
Pulp, paper and paperboard mills	3221	1,870	1,911	1,977	1,980	1,842	1,878	1.0	19,147	-6.6	22,490
Paperboard container manufacturing	32221	446	449	439	435	476	490	-7.6	4,340	6.6	5,538
Paper bag and coated and treated paper manufacturing	32222	233	243	227	227	270	265	-9.4	2,347	0.8	3,033
Other converted paper product manufacturing	32229	144	148	145	135	140	143	0.7	1,376	-2.7	1,624
323 Printing and related support activities											
Printing	32311	974	978	931	831	957	947	2.2	9,071	-1.5	10,730
Support activities for printing	32312	79	72	68	65	71	68	-4.4	694	10.5	860
324 Petroleum and coal products manufacturing											
Petroleum refineries	32411	4,044	3,825	3,838	3,750	2,685	2,772	19.5	34,902	10.6	34,729
325 Chemical manufacturing											
Other basic inorganic chemical manufacturing	32518	263	284	276	271	256	249	9.1	2,744	12.8	3,023
Other basic organic chemical manufacturing	32519	317	317	344	335	277	242	13.8	3,241	-6.6	3,423
Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	3252	765	780	798	717	614	605	15.3	7,236	0.6	7,461
Pesticide and other agricultural chemical manufacturing	32532	7	8	10	13	6	8	20.3	516	21.2	444
Pharmaceutical and medicine manufacturing	3254	740	800	720	717	706	738	6.8	7,502	4.9	8,506
Paint and coating manufacturing	32551	171	186	193	202	176	186	4.9	1,825	3.5	2,028
Adhesive manufacturing	32552	73	74	75	80	70	71	6.3	706	8.4	772
Soap and cleaning compound manufacturing	32561	130	138	131	137	122	148	-7.9	1,335	-16.2	1,689
Toilet preparation manufacturing	32562	134	146	140	108	118	125	10.9	1,197	2.3	1,289
Printing ink manufacturing	32591	42	36	40	37	45	40	0.3	391	1.6	467
All other chemical product manufacturing	32599	393	397	394	362	366	356	9.0	3,643	2.8	3,989
326 Plastics and rubber products manufacturing											
Plastics pipe, pipe fitting, and unlaminated profile shape manufacturing	32612	180	192	200	182	173	175	9.1	1,738	2.5	1,836
Polystyrene foam product manufacturing	32614	62	64	61	50	54	58	12.9	531	7.3	561
Other plastic product manufacturing	32619	1,144	1,115	1,122	936	1,113	1,065	4.7	10,521	2.5	11,881

Table 8-1 – continued

Shipments for selected industries - Unadjusted

	NAICS Code	Current periods				Previous year		Year to date		Annual	
		Oct. 2004	Sept. 2004	Aug. 2004	July 2004	Oct. 2003	Sept. 2003	% Change from 2003	2004	% Change from 2002	2003
Other rubber product manufacturing	32629	151	146	150	114	170	156	-1.1	1,465	-11.6	1,750
327 Non-metallic mineral product manufacturing											
Clay product and refractory manufacturing	3271	62	60	55	63	60	62	-2.3	600	5.4	722
Glass and glass product manufacturing	3272	174	182	183	156	195	191	-2.3	1,742	0.0	2,084
Cement manufacturing	32731	172	178	169	165	169	162	7.0	1,359	1.2	1,479
Ready-mix concrete manufacturing	32732	344	351	332	300	316	324	9.8	2,591	5.1	2,761
Other concrete product manufacturing	32739	134	143	132	119	132	121	10.7	1,035	9.6	1,143
Abrasive product manufacturing	32791	27	24	28	26	21	21	3.2	263	-13.5	294
All other non-metallic mineral product manufacturing	32799	166	167	155	144	175	163	6.7	1,496	12.3	1,683
331 Primary metal manufacturing											
Iron and steel mills and ferro-alloy manufacturing	3311	1,197	1,168	1,162	1,018	878	831	25.4	10,416	-1.3	9,877
Iron and steel pipes and tubes manufacturing from purchased steel	33121	353	338	326	283	283	244	25.8	3,027	6.2	2,908
Foundries	3315	257	259	252	204	305	309	-5.7	2,595	1.4	3,223
332 Fabricated metal product manufacturing											
Cutlery and hand tool manufacturing	3322	64	59	56	48	52	48	17.3	566	4.4	583
Plate work and fabricated structural product manufacturing	33231	605	637	580	492	484	501	18.2	4,832	4.6	4,928
Power boiler and heat exchanger manufacturing	33241	97	100	88	83	109	131	-4.3	1,032	31.9	1,275
Spring and wire product manufacturing	3326	135	139	130	107	130	137	-5.0	1,286	-12.0	1,575
Coating, engraving, heat treating and allied activities	3328	333	324	313	244	282	268	12.9	2,901	-0.6	3,043
Other fabricated metal product manufacturing	3329	344	349	313	308	306	311	5.1	3,117	-6.5	3,486
333 Machinery manufacturing											
Agricultural implement manufacturing	33311	173	160	155	162	150	160	8.0	1,788	-12.0	1,956
Ventilation, heating, air-conditioning and commercial refrigeration equipment manufacturing	3334	255	261	224	186	252	237	4.7	2,142	-7.2	2,465
All other general-purpose machinery manufacturing	33399	212	239	239	216	257	214	6.7	2,092	-1.9	2,336
334 Computer and electronic product manufacturing											
Computer and peripheral equipment manufacturing	3341	157	226	197	184	210	367	-16.1	2,090	-22.7	3,046
Communications equipment manufacturing	3342	544	733	546	541	471	622	21.3	5,939	-20.2	6,180
Audio and video equipment manufacturing	3343	13	15	13	12	19	18	-13.2	149	-12.2	211
335 Electrical equipment, appliance and component manufacturing											
Lighting fixture manufacturing	33512	81	83	83	80	90	92	0.0	814	-9.3	968
Small electrical appliance manufacturing	33521	23	27	23	17	26	26	4.6	226	-1.7	263
Major appliance manufacturing	33522	140	138	129	121	154	140	2.0	1,515	-3.4	1,754
Battery manufacturing	33591	25	22	24	24	19	20	21.0	217	19.0	217
Communication and energy wire and cable manufacturing	33592	198	209	196	188	195	200	8.5	1,959	-14.5	2,170
All other electrical equipment and component manufacturing	33599	42	40	40	42	35	39	12.9	398	-0.1	429
336 Transportation equipment manufacturing											
Motor vehicle manufacturing	3361	5,922	6,534	6,440	3,708	6,028	5,930	3.5	61,017	-6.4	69,258
Motor vehicle parts manufacturing	3363	2,867	3,002	3,020	1,920	2,994	2,766	6.1	28,083	-0.1	31,433
Aerospace product and parts manufacturing	3364	1,071	822	1,127	955	1,098	899	9.1	10,533	1.5	11,586
Railroad rolling stock manufacturing	3365	244	218	169	177	178	198	-1.1	1,936	-7.7	2,370
Ship and boat building	3366	97	101	94	101	82	73	14.2	1,055	-5.4	1,100
337 Furniture and related product manufacturing											
Household and institutional furniture and kitchen cabinet manufacturing	3371	751	725	700	620	704	704	4.6	6,777	-1.3	7,751
Office furniture (including fixtures) manufacturing	3372	446	445	436	403	438	453	-0.2	4,288	5.3	5,107
339 Miscellaneous manufacturing											
Medical equipment and supplies manufacturing	3391	206	226	196	192	202	203	16.0	2,147	10.7	2,287
Other miscellaneous manufacturing	3399	400	449	472	399	495	458	-2.0	4,254	0.6	5,208

Table 8-2

Inventory owned for selected industries - Unadjusted

	NAICS Code	Current periods				Previous year		Year to date		Average per month	
		Oct. 2004	Sept. 2004	Aug. 2004	July 2004	Oct. 2003	Sept. 2003	% Change from 2003	Average 2004	% Change from 2002	2003
		$ millions									
311 Food manufacturing											
Animal food manufacturing	3111	290	307	313	326	282	284	7.3	302	4.2	281
Starch and vegetable fat and oil manufacturing	31122	142	121	138	157	191	157	8.5	192	4.6	180
Sugar and confectionery product manufacturing	3113	359	344	319	342	300	321	3.1	318	5.0	310
Fruit and vegetable preserving and specialty food manufacturing	3114	1,075	1,010	876	841	946	913	7.2	898	5.3	853
Dairy product manufacturing	3115	868	844	844	843	806	800	6.2	865	-3.6	813
Meat product manufacturing	3116	889	876	838	852	804	835	2.7	828	-5.5	797
Cookie, cracker and pasta manufacturing	31182	123	121	123	118	123	124	-5.4	122	7.1	128
Other food manufacturing	3119	506	522	513	499	490	485	9.4	492	2.9	455
312 Beverage and tobacco product manufacturing											
Soft drink and ice manufacturing	31211	243	245	266	270	246	253	-1.3	252	7.8	250
Breweries	31212	194	196	200	204	184	176	6.5	197	0.8	185
Wineries	31213	276	263	263	266	260	257	3.3	260	4.8	251
Distilleries	31214	508	485	498	494	489	507	-8.8	491	3.3	528
Tobacco manufacturing	3122	409	404	398	405	439	403	3.9	448	-1.1	434
313 Textile mills											
Fibre, yarn and thread mills	3131	63	64	67	68	68	68	-6.5	64	0.3	69
Fabric mills	3132	333	340	341	335	363	370	-12.7	336	-12.3	378
Textile and fabric finishing and fabric coating	3133	80	79	85	83	68	74	5.8	78	11.7	73
314 Textile product mills											
Carpet and rug mills	31411	100	96	98	95	99	103	-11.1	92	2.2	101
Textile bag and canvas mills	31491	40	43	43	42	39	40	-6.9	40	-32.1	42
315 Clothing manufacturing											
Hosiery and sock mills	31511	109	111	114	113	146	152	-15.8	121	6.8	142
Other clothing knitting mills	31519	158	166	175	178	157	167	-2.9	163	6.1	164
Men's and boys' cut and sew clothing manufacturing	31522	395	407	412	405	498	522	-19.1	418	6.1	507
Women's and girls' cut and sew clothing manufacturing	31523	364	359	370	380	410	422	-9.8	379	1.0	416
Clothing accessories and other clothing manufacturing	3159	58	61	59	61	61	67	-2.5	60	8.0	62
316 Leather and allied product manufacturing											
Footwear manufacturing	3162	84	96	107	111	80	91	-6.9	89	-7.3	92
321 Wood product manufacturing											
Sawmills and wood preservation	3211	2,301	2,308	2,317	2,328	2,278	2,375	-8.3	2,608	-5.3	2,769
Veneer, plywood and engineered wood product manufacturing	3212	821	807	801	775	666	678	5.7	815	5.4	761
Other wood product manufacturing	3219	1,031	1,043	1,003	1,008	986	982	0.6	1,017	8.0	1,003
322 Paper manufacturing											
Pulp, paper and paperboard mills	3221	2,571	2,568	2,566	2,544	2,473	2,435	0.0	2,516	-3.1	2,508
Paperboard container manufacturing	32221	491	512	507	497	464	475	1.3	488	2.8	479
Paper bag and coated and treated paper manufacturing	32222	373	375	378	363	377	384	-5.4	372	4.9	391
Other converted paper product manufacturing	32229	145	145	151	150	141	140	-2.0	144	0.9	146
323 Printing and related support activities											
Printing	32311	877	883	872	859	831	832	0.9	842	-0.5	832
Support activities for printing	32312	37	35	32	34	35	33	-11.3	33	-32.0	37
324 Petroleum and coal products manufacturing											
Petroleum refineries	32411	2,056	2,049	2,050	1,992	1,598	1,649	11.8	1,934	1.4	1,703
325 Chemical manufacturing											
Other basic inorganic chemical manufacturing	32518	252	244	249	235	248	247	4.3	252	8.7	243
Other basic organic chemical manufacturing	32519	288	315	332	316	347	367	-7.6	325	8.8	346
Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	3252	588	604	606	620	560	545	6.5	605	3.2	566
Pesticide and other agricultural chemical manufacturing	32532	85	81	77	74	84	85	4.5	87	29.1	84
Pharmaceutical and medicine manufacturing	3254	2,870	2,846	2,831	2,805	2,591	2,536	12.6	2,824	14.4	2,543
Paint and coating manufacturing	32551	255	258	255	259	263	261	-2.0	266	2.8	268
Adhesive manufacturing	32552	111	111	109	110	95	97	13.7	107	12.8	95
Soap and cleaning compound manufacturing	32561	91	96	98	93	98	100	-11.3	95	-29.0	106
Toilet preparation manufacturing	32562	194	191	189	183	183	190	-2.2	191	8.6	194
Printing ink manufacturing	32591	87	89	91	89	72	73	18.0	86	12.0	74
All other chemical product manufacturing	32599	414	411	414	423	378	388	-1.0	400	1.3	399
326 Plastics and rubber products manufacturing											
Plastics pipe, pipe fitting, and unlaminated profile shape manufacturing	32612	308	317	330	344	299	313	-2.1	341	-8.5	340
Polystyrene foam product manufacturing	32614	54	64	63	65	53	52	12.1	61	16.6	54
Other plastic product manufacturing	32619	961	961	958	965	939	910	2.1	959	7.4	938

Table 8-2 – continued

Inventory owned for selected industries - Unadjusted

	NAICS Code	Current periods				Previous year		Year to date		Average per month	
		Oct. 2004	Sept. 2004	Aug. 2004	July 2004	Oct. 2003	Sept. 2003	% Change from 2003	Average 2004	% Change from 2002	2003
Other rubber product manufacturing	32629	129	127	128	137	130	129	-4.3	133	-12.9	138
327 Non-metallic mineral product manufacturing											
Clay product and refractory manufacturing	3271	72	71	72	72	71	70	-6.4	72	-8.1	76
Glass and glass product manufacturing	3272	241	241	242	242	249	250	-2.5	247	-2.1	252
Cement manufacturing	32731	151	160	168	181	145	154	-0.2	186	-6.8	182
Ready-mix concrete manufacturing	32732	84	86	88	91	81	94	-3.9	84	-7.7	87
Other concrete product manufacturing	32739	117	119	128	136	119	116	14.2	132	11.8	117
Abrasive product manufacturing	32791	51	53	52	50	51	54	-20.4	50	-19.4	61
All other non-metallic mineral product manufacturing	32799	116	119	119	121	126	130	-5.7	124	8.2	131
331 Primary metal manufacturing											
Iron and steel mills and ferro-alloy manufacturing	3311	2,145	2,020	1,953	1,873	1,862	1,878	-7.4	1,822	-1.8	1,950
Iron and steel pipes and tubes manufacturing from purchased steel	33121	608	598	572	520	470	472	4.8	521	2.3	495
Foundries	3315	294	305	276	293	277	265	-0.8	291	1.6	291
332 Fabricated metal product manufacturing											
Cutlery and hand tool manufacturing	3322	84	85	85	80	82	81	0.4	83	2.2	83
Plate work and fabricated structural product manufacturing	33231	907	914	899	874	638	682	15.6	796	-1.7	677
Power boiler and heat exchanger manufacturing	33241	103	94	94	87	89	89	-6.8	91	4.1	96
Spring and wire product manufacturing	3326	166	173	183	178	146	145	-8.7	163	-11.6	172
Coating, engraving, heat treating and allied activities	3328	174	176	170	174	153	159	1.2	172	-1.9	169
Other fabricated metal product manufacturing	3329	709	693	678	629	576	586	9.3	635	6.5	579
333 Machinery manufacturing											
Agricultural implement manufacturing	33311	480	450	422	389	461	446	-9.9	432	1.2	474
Ventilation, heating, air-conditioning and commercial refrigeration equipment manufacturing	3334	353	363	369	348	317	323	1.5	333	-7.2	324
All other general-purpose machinery manufacturing	33399	627	602	580	534	594	577	8.6	566	15.1	530
334 Computer and electronic product manufacturing											
Computer and peripheral equipment manufacturing	3341	559	565	574	545	688	690	-18.0	561	1.2	669
Communications equipment manufacturing	3342	2,153	2,084	2,135	2,063	2,309	2,280	-11.3	2,139	-12.2	2,387
Audio and video equipment manufacturing	3343	49	46	45	43	56	57	-15.1	51	5.0	59
335 Electrical equipment, appliance and component manufacturing											
Lighting fixture manufacturing	33512	116	118	122	131	133	141	-8.4	130	-9.1	141
Small electrical appliance manufacturing	33521	44	45	45	46	43	40	6.9	42	9.3	40
Major appliance manufacturing	33522	214	210	201	187	180	174	5.6	198	11.9	186
Battery manufacturing	33591	60	58	55	57	41	39	38.7	50	-10.8	37
Communication and energy wire and cable manufacturing	33592	787	780	826	838	766	780	-2.0	802	-0.1	808
All other electrical equipment and component manufacturing	33599	95	99	101	101	103	103	-3.2	101	-2.0	103
336 Transportation equipment manufacturing											
Motor vehicle manufacturing	3361	1,459	1,560	1,587	1,443	1,254	1,348	14.6	1,491	-8.6	1,288
Motor vehicle parts manufacturing	3363	1,914	1,898	1,922	1,908	1,828	1,820	3.0	1,899	13.1	1,847
Aerospace product and parts manufacturing	3364	4,412	4,789	4,752	4,282	4,585	4,801	-10.2	4,439	-30.5	4,875
Railroad rolling stock manufacturing	3365	813	819	864	831	795	835	-13.3	780	-7.5	876
Ship and boat building	3366	108	104	100	100	131	129	-13.8	110	-1.8	129
337 Furniture and related product manufacturing											
Household and institutional furniture and kitchen cabinet manufacturing	3371	814	805	802	752	746	771	-2.7	777	1.3	790
Office furniture (including fixtures) manufacturing	3372	353	357	350	334	343	345	0.4	336	8.9	335
339 Miscellaneous manufacturing											
Medical equipment and supplies manufacturing	3391	250	247	245	241	246	252	5.8	260	13.0	255
Other miscellaneous manufacturing	3399	961	978	964	961	929	945	0.5	975	2.0	962

Table 9

Inventories owned by stage of fabrication

Period covered	Unadjusted				Seasonally adjusted			
	Raw materials	Goods in process	Finished products	Total Inventories	Raw materials	Goods in process	Finished products	Total Inventories
	$ millions							
October 2003	25,050	13,298	19,852	58,200	25,208	13,313	20,227	58,748
November 2003	24,917	13,593	20,136	58,646	25,053	13,459	20,196	58,708
December 2003	24,883	12,896	19,415	57,195	24,981	13,184	20,137	58,301
January 2004	25,505	12,991	19,737	58,233	25,272	13,253	20,046	58,572
February 2004	25,911	13,416	20,424	59,751	25,197	13,238	20,237	58,671
March 2004	26,051	13,320	20,710	60,081	25,483	13,224	20,130	58,838
April 2004	25,943	13,449	20,795	60,186	25,724	13,317	20,263	59,304
May 2004	25,970	13,777	20,949	60,696	26,128	13,505	20,521	60,154
June 2004	25,932	13,543	20,727	60,203	26,370	13,512	20,610	60,492
July 2004	26,552	13,375	20,387	60,314	26,818	13,528	20,592	60,938
August 2004	26,898	14,127	20,752	61,777	27,001	14,030	20,806	61,837
September 2004	26,913	14,088	20,938	61,939	27,155	14,030	21,084	62,269
October 2004	27,008	13,844	21,004	61,857	27,098	13,873	21,376	62,347

Table 10

Shipments by major group and province - Unadjusted

Province	Current year				Previous year		Year to date		Annual	
	Oct. 2004	Sept. 2004	Aug. 2004	July 2004	Oct. 2003	Sept. 2003	% Change from 2003	2004	% Change from 2002	2003
	$ millions									
Total										
Newfoundland and Labrador	293	276	314	342	258	288	8.0	2,607	12.5	2,827
Prince Edward Island	113	122	127	122	124	131	4.8	1,187	2.2	1,356
Nova Scotia	830	833	783	790	751	736	7.4	7,641	2.7	8,524
New Brunswick	1,210	1,271	1,297	1,293	1,054	1,138	10.2	11,845	2.7	12,864
Quebec	11,993	11,979	11,838	10,920	11,495	11,462	6.5	114,268	-1.3	128,514
Ontario	26,738	27,917	27,205	22,105	25,822	25,317	6.6	259,296	-1.7	289,216
Manitoba	1,110	1,120	1,071	975	1,038	1,025	10.0	10,477	1.3	11,413
Saskatchewan	835	869	861	795	715	677	22.1	8,122	3.7	7,913
Alberta	4,634	4,576	4,657	4,460	4,052	3,870	13.8	43,443	5.0	45,838
British Columbia	3,553	3,812	3,799	3,743	3,193	3,311	12.9	35,391	-3.3	37,223
311 Food manufacturing										
Newfoundland and Labrador	105	113	126	170	73	102	11.4	1,016	-9.3	1,056
Prince Edward Island	69	70	76	77	84	88	-2.5	734	-1.0	902
Nova Scotia	190	182	187	183	189	185	2.1	1,691	-0.7	1,999
New Brunswick	214	257	208	218	220	231	12.2	1,915	0.6	2,035
Quebec	1,403	1,369	1,362	1,380	1,389	1,317	7.2	13,488	5.2	15,170
Ontario	2,333	2,387	2,278	2,291	2,305	2,144	7.7	22,223	1.9	25,005
Manitoba	250	261	260	258	229	207	18.6	2,396	1.0	2,457
Saskatchewan	175	179	172	182	173	162	10.7	1,776	4.0	1,947
Alberta	764	731	795	805	706	628	15.5	7,622	-3.5	7,976
British Columbia	430	446	470	436	415	424	1.6	4,169	3.5	4,890
312 Beverage and tobacco product manufacturing										
Nova Scotia	x	x	x	x	x	x	x	x	0.0	x
Quebec	284	297	319	333	326	343	-7.9	3,015	9.4	3,965
Ontario	443	454	512	514	460	458	2.6	4,541	0.6	5,316
Saskatchewan	3	3	3	4	3	3	4.6	29	-48.8	33
British Columbia	87	94	110	113	90	88	3.2	940	0.4	1,091
313 Textile mills										
Quebec	156	167	156	139	172	181	-7.6	1,599	-13.6	2,046
Ontario	93	100	81	77	94	91	2.5	887	-10.0	1,028
314 Textile product mills										
Quebec	86	77	77	66	82	78	-6.0	726	-11.0	912
Ontario	104	94	94	82	90	83	0.3	894	-9.7	1,038
Alberta	x	x	x	x	x	x	x	x	0.0	x
British Columbia	x	x	x	x	x	x	x	x	0.0	x
315 Clothing manufacturing										
Quebec	373	384	365	286	404	390	-7.3	3,378	-7.0	4,247
Ontario	158	154	148	132	189	170	-8.3	1,464	-6.1	1,923
Manitoba	25	25	23	24	30	29	2.5	224	-5.0	264
Saskatchewan	3	3	2	2	4	2	0.0	22	7.6	28
Alberta	7	6	6	6	15	10	-22.9	88	-1.2	139
British Columbia	x	x	x	x	x	x	x	x	0.0	x
316 Leather and allied product manufacturing										
Quebec	43	51	41	26	47	62	-10.6	300	-9.4	390
Ontario	15	18	16	9	25	25	-31.9	132	-15.5	239
321 Wood product manufacturing										
Nova Scotia	60	65	62	60	49	52	18.3	550	-1.8	544
Quebec	869	936	907	811	853	818	13.8	8,548	-0.9	8,848
Ontario	575	599	631	570	560	551	8.7	5,587	-2.0	6,058
Manitoba	69	77	85	77	74	74	20.9	711	4.5	697
Saskatchewan	57	82	73	50	58	48	53.4	584	14.6	468
Alberta	304	333	355	332	299	293	34.4	3,222	11.3	2,932
British Columbia	1,089	1,220	1,252	1,230	866	883	31.1	11,037	-12.0	9,913
322 Paper manufacturing										
Nova Scotia	77	91	71	88	71	68	6.9	780	1.3	875
Quebec	851	881	888	877	885	897	-4.3	8,618	-8.4	10,620
Ontario	891	884	879	896	926	921	-4.4	8,768	-1.9	10,825
Alberta	141	144	167	153	149	137	-1.1	1,487	1.4	1,788
British Columbia	467	500	497	493	443	498	3.8	4,925	2.8	5,652

Table 10 – continued

Shipments by major group and province - Unadjusted

Province	Current year				Previous year		Year to date		Annual	
	Oct. 2004	Sept. 2004	Aug. 2004	July 2004	Oct. 2003	Sept. 2003	% Change from 2003	2004	% Change from 2002	2003
323 Printing and related support activities										
Quebec	251	248	233	218	252	234	1.6	2,337	-3.7	2,758
Ontario	582	585	566	495	558	567	2.7	5,446	0.4	6,423
Manitoba	44	49	40	37	46	46	1.1	424	-1.2	510
Saskatchewan	15	15	14	12	14	15	2.3	126	5.4	147
Alberta	61	56	51	48	60	58	-1.4	541	-5.6	662
British Columbia	71	70	70	60	66	69	0.7	633	-8.5	758
324 Petroleum and coal products manufacturing										
Quebec	1,020	910	882	871	654	639	20.7	8,081	12.2	8,007
Ontario	1,391	1,350	1,335	1,297	1,022	987	23.4	12,141	6.8	11,670
Alberta	1,013	921	923	870	628	690	16.5	8,105	10.2	8,200
British Columbia	x	x	x	x	x	x	x	x	0.0	x
325 Chemical manufacturing										
Quebec	722	772	752	748	700	705	5.0	7,562	0.0	8,556
Ontario	2,044	2,141	2,077	1,945	1,812	1,830	10.2	19,803	3.1	21,357
Manitoba	62	60	68	57	69	82	0.7	681	28.2	814
Saskatchewan	55	49	61	50	58	60	21.8	881	16.5	799
Alberta	842	785	849	802	724	608	13.9	7,903	5.5	8,285
British Columbia	110	105	113	117	85	86	14.6	1,052	6.6	1,084
326 Plastics and rubber products manufacturing										
Nova Scotia	x	x	x	x	x	x	x	x	0.0	x
Quebec	587	580	566	503	576	542	6.7	5,437	5.8	6,038
Ontario	1,363	1,351	1,362	1,149	1,347	1,297	3.5	12,954	-0.9	14,790
Manitoba	56	56	54	53	54	50	7.4	516	5.7	568
Saskatchewan	15	14	14	13	9	9	24.8	115	3.5	107
Alberta	79	81	80	77	78	80	4.9	741	0.9	836
British Columbia	98	102	102	103	102	98	-2.6	958	9.6	1,156
327 Non-metallic mineral product manufacturing										
Nova Scotia	x	x	x	x	x	x	x	x	0.0	x
Quebec	286	296	302	262	274	285	7.7	2,471	4.3	2,679
Ontario	557	562	549	526	577	554	3.3	4,842	5.6	5,560
Saskatchewan	10	11	11	9	9	9	7.5	70	-7.7	71
Alberta	180	188	168	159	165	163	4.8	1,410	-0.7	1,556
British Columbia	147	152	138	138	131	137	9.7	1,318	11.6	1,416
331 Primary metal manufacturing										
Quebec	1,457	1,432	1,449	1,355	1,318	1,376	18.6	14,559	3.1	14,769
Ontario	1,775	1,828	1,703	1,478	1,519	1,426	16.6	16,518	-2.9	16,907
Alberta	196	189	180	177	171	137	13.8	1,697	41.3	1,812
332 Fabricated metal product manufacturing										
Newfoundland and Labrador	37	30	33	22	15	16	73.6	221	49.4	153
Prince Edward Island	2	3	3	1	2	2	10.4	21	19.2	27
Nova Scotia	x	x	x	x	x	x	x	x	0.0	x
New Brunswick	x	x	x	x	x	x	x	x	0.0	x
Quebec	690	695	650	521	648	616	7.5	5,897	0.5	6,597
Ontario	1,833	1,890	1,717	1,484	1,623	1,611	9.9	16,205	-3.9	17,460
Manitoba	70	74	67	64	58	57	17.8	617	6.0	620
Saskatchewan	46	45	43	41	37	35	17.5	388	4.9	389
Alberta	357	356	357	326	309	309	15.0	3,216	22.7	3,410
British Columbia	184	203	184	180	149	180	16.5	1,703	0.4	1,721
333 Machinery manufacturing										
Quebec	455	482	439	378	408	484	4.9	4,200	-3.7	4,920
Ontario	1,220	1,272	1,156	1,147	1,209	1,202	2.1	11,765	-6.8	13,688
Manitoba	80	76	69	73	60	62	15.7	770	-9.0	802
Saskatchewan	59	58	56	52	54	51	9.4	571	-10.7	611
Alberta	331	365	333	301	336	288	20.5	3,265	13.0	3,308
British Columbia	191	203	183	186	173	155	14.9	1,749	9.1	1,837
334 Computer and electronic product manufacturing										
Quebec	450	608	460	406	444	616	4.9	4,991	-17.3	5,856
Ontario	840	978	944	852	819	1,004	12.4	8,865	-7.6	9,773
Saskatchewan	x	x	x	x	x	x	x	x	0.0	x
Alberta	66	117	84	96	116	172	-1.6	1,178	-31.8	1,520
British Columbia	81	89	87	93	104	123	2.0	924	-10.0	1,101

Table 10 – continued

Shipments by major group and province - Unadjusted

Province	Current year				Previous year		Year to date		Annual	
	Oct. 2004	Sept. 2004	Aug. 2004	July 2004	Oct. 2003	Sept. 2003	% Change from 2003	2004	% Change from 2002	2003
335 Electrical equipment, appliance and component manufacturing										
Quebec	323	322	308	270	307	314	6.4	3,021	-1.3	3,405
Ontario	469	503	446	417	456	501	3.7	4,727	-7.9	5,458
Manitoba	12	14	13	10	15	15	-12.1	122	-22.0	166
Saskatchewan	15	15	16	16	15	13	18.5	143	-31.9	145
Alberta	33	32	32	35	33	36	15.2	333	9.7	356
British Columbia	x	x	x	x	x	x	x	x	0.0	x
336 Transportation equipment manufacturing										
Nova Scotia	73	64	56	69	65	60	11.2	646	-10.6	707
Quebec	1,161	933	1,156	1,023	1,180	995	5.4	10,994	-7.1	12,570
Ontario	9,071	9,763	9,713	5,818	9,254	8,912	4.6	91,808	-3.3	103,510
Manitoba	160	160	133	126	135	143	3.5	1,495	3.6	1,697
Saskatchewan	24	25	21	18	19	19	8.9	223	-11.5	240
Alberta	61	58	56	57	67	64	-7.0	615	9.0	780
British Columbia	87	84	86	83	76	83	7.6	906	-36.7	991
337 Furniture and related product manufacturing										
Quebec	337	335	330	284	356	346	-1.9	3,248	-5.6	3,940
Ontario	730	714	689	643	668	703	4.6	6,694	6.2	7,627
Manitoba	48	45	47	44	49	48	-1.6	450	-1.0	544
Saskatchewan	6	6	6	6	6	6	-1.3	58	8.7	68
Alberta	76	73	75	65	75	72	-0.7	709	-10.5	851
British Columbia	83	80	75	73	69	74	7.6	725	5.6	799
339 Miscellaneous manufacturing										
Newfoundland and Labrador	x	x	x	x	x	x	x	x	0.0	x
Quebec	188	205	196	163	219	223	2.7	1,800	-1.1	2,221
Ontario	252	290	311	283	309	282	0.4	3,033	2.6	3,560
Manitoba	26	19	18	12	20	15	21.9	175	-2.1	175
Saskatchewan	5	6	5	5	5	5	10.5	50	13.6	55
Alberta	48	60	55	50	47	51	11.6	501	44.3	534
British Columbia	53	64	55	52	68	60	6.7	567	1.7	651

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), Clothing (315), 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 Wood Products (NAICS 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 stratums 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

Only a subset of the sample establishments is sent out for data collection. For the remaining units, information from administrative data files is used as a source for deriving shipment data. For those establishments that are surveyed, 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.

Use of Administrative Data

Managing response burden is an ongoing challenge for Statistics Canada. In an attempt to alleviate response burden, especially for small businesses, STC has been investigating various alternatives to survey taking. Administrative data files are a rich source of information for business data and STC is working at mining this rich data source to its full potential. As such, effective the August 2004 reference month, the MSM has reduced the number of simple establishments in the sample that are surveyed directly and instead, derives shipments data for these establishments from Goods and Services Tax (GST) files using a statistical model. The model accounts for the difference between shipments and sales (reported for GST purposes) as well as the time lag between the reference period of the survey and the reference period of the GST file.

Inventories and unfilled orders estimates for establishments where shipments are GST-based are derived using the MSM's imputation system. The imputation system applies to the previous month values, the month-to-month and year-to-year changes in similar firms which are surveyed.

Detailed information on the methodology used for modelling shipment from administrative data sources can be found in the '*Monthly Survey of Manufacturing: Use of Administrative Data'* (Catalogue no. 31-533-XIE) document.

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 Annual Survey of Manufactures (ASM) released estimates for reference year 2002 and revisions for 2000 and 2001 on June 16, 2004. In the future, the Monthly Survey of Manufacturing (MSM) will re-benchmark to the ASM data for reference years 2000 and 2001 and benchmark to ASM 2002. Until these revisions take place, the MSM is currently benchmarked to the former ASM levels of 2000 and 2001.

As of January 2004, the Monthly Survey of Manufacturing (MSM) data were revised back to January 1999. Although the historical month-to-month movements were preserved, there were adjustments made to the levels.

The adjustments made to the MSM data were the result of several factors: the use of new and revised data; updates to the industrial classification (NAICS); the updating of the seasonal adjustment factors; and most significantly, the benchmarking of the MSM to the 2000 and 2001 ASM levels.

Starting with reference year 2000, the ASM incorporated some significant conceptual and methodological changes. The most important change was the expansion to include all manufacturing establishments in Canada. Previously only incorporated establishments that had employees and had sales greater than $30,000 were covered by the ASM. Consequently, by benchmarking to the 2000 and 2001 ASM, the previously released MSM shipments data (which had been benchmarked to the 1998 ASM levels) were revised upwards by about 5.5% at the Canada level.

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 nonsampling 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 text table 1 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* .

Text Table 1

National Level CVs by Characteristic

Month	Shipments	Raw material Inventories	Goods in process Inventories	Finished products Inventories	Unfilled orders
			%		
October 2003	0.57	1.01	1.00	1.39	2.08
November 2003	0.59	1.03	0.98	1.31	2.04
December 2003	0.58	1.06	1.06	1.35	2.00
January 2004	0.57	1.08	1.04	1.36	1.89
February 2004	0.55	1.10	1.00	1.37	1.91
March 2004	0.59	1.10	0.98	1.37	2.12
April 2004	0.61	1.16	0.97	1.31	2.28
May 2004	0.61	1.13	0.94	1.28	2.32
June 2004	0.58	1.13	0.96	1.29	2.39
July 2004	0.60	1.19	0.97	1.25	2.40
August 2004	0.60	1.14	0.94	1.28	2.61
September 2004	0.62	1.12	0.91	1.29	2.68
October 2004	0.62	1.11	0.95	1.32	2.75

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 nonresponse 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 text table 2 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.

Text Table 2

National weighted rates by source and characteristic

Characteristics	Survey source			Administrative data source		
	Response	Imputation	Editing	Modeled	Imputation	Editing
	%					
Shipments	89.02	5.77	3.42	7.18	0.63	0.55
Raw Materials	80.42	13.73	3.72	0.00	9.72	0.12
Goods in process	66.39	9.11	23.23	0.00	5.86	0.16
Finished products	80.93	11.62	5.61	0.00	8.18	0.27
Unfilled Orders	69.59	8.98	20.10	0.00	4.18	0.51

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 trendcycle. 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.