Catalogue no. 31-001-XIE

Monthly Survey of Manufacturing

February 2004

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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

This publication was prepared under the direction of:

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

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 2003	January 21, 2004
December 2003	February 13, 2004
January 2004	March 16, 2004
February 2004	April 15, 2004
March 2004	May 14, 2004
April 2004	June 15, 2004
May 2004	July 15, 2004
June 2004	August 13, 2004
July 2004	September15, 2004
August 2004	October 15, 2004
September 2004	November 15, 2004
October 2004	December 15, 2004

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Table of contents

Highlights

Monthly Survey of Manufacturing

- Industrial prices spiralled upwards in February, contributing to a 0.8% rise in shipments to $45.8 billion, the highest level since September.

Analysis

February 2004

Industrial prices spiralled upwards in February, contributing to a 0.8% rise in shipments to $45.8 billion, the highest level since September.

Canadian manufacturers will likely face challenges ahead as prices continue to rise. Soaring demand for lumber and raw steel contributed to significant price gains in recent months. Meanwhile, the Organization of Petroleum Exporting Countries (OPEC) recently proposed to cutback crude oil production as of April 1. The possibility of a reduction to production quotas, in an industry currently facing strong demand, has sent petroleum prices to near record levels.

The Canadian dollar eased back somewhat in February following the decade-high levels of January. Although manufacturers seem to be holding their own, absorbing some of the higher costs attributed to the appreciating dollar, this factor remains a cause for concern. More than 50% of Canadian manufactured products are destined for markets abroad.

Shipment values of nondurable goods boosted by prices

In February, higher prices pulled up shipments of nondurable goods by 1.1% to $19.5 billion, the fourth increase in a row. Manufacturers of durable goods reported a 0.6% rise in shipments, making up some of the ground lost in January (-1.3%). In total, 12 of 21 industries accounting for 54.0% of total shipments, reported increases.

Alberta manufacturers post big gains

Six provinces, led by Alberta, reported higher shipments in February. Computer and electronic products manufacturing and wood products were among several industries contributing to Alberta's 3.4% (+$131 million) rise in shipments to $4.0 billion, the seventh consecutive gain.

Ontario (+$113 million) and New Brunswick (+$87 million) followed Alberta's lead. Value of shipments in Ontario rose by 0.5% to $23.9 billion, partly compensating for the 0.7% drop in January. Fabricated metal products and a boost in computer and electronic product output were among the contributors. Following a weak January, New Brunswick posted widespread gains as shipments recovered by 8.7% to $1.1 billion.

Text Table 1

Shipments by province and territory

	January 2004	February 2004	January 2004 to February 2004
	seasonally adjusted		
	$ millions		% change
Canada	**45,407**	**45,786**	**0.8**
Newfoundland and Labrador	237	237	-0.1
Prince Edward Island	114	124	8.8
Nova Scotia	715	691	-3.3
New Brunswick	999	1,086	8.7
Quebec	10,862	10,846	-0.1
Ontario	23,793	23,906	0.5
Manitoba	972	971	-0.1
Saskatchewan	693	714	3.1
Alberta	3,909	4,040	3.4
British Columbia	3,105	3,164	1.9
Yukon Territory	1	1	-8.3
Northwest Territories including Nunavut	7	..	..

Sizable increases by a few industries in February

Manufacturers of computers (+10.5%) and fabricated metal products (+5.3%) reported strong activity in February, while higher prices contributed to gains in the petroleum (+3.9%) and wood products (+4.1%) industries.

Volatility continued in the manufacturing of computer and electronic products. In February, shipments rebounded to $1.7 billion, following successive losses in December (-0.8%) and January (-7.8%). Canada's telecommunications sector remains tepid, despite a rebound in manufacturing by their US counterparts, where shipments have soared 17.5% in the first two months of 2004.

Meanwhile, various subindustries of fabricated metal products manufacturing contributed to the 5.3% boost in shipments to $2.6 billion. This represented a partial recovery from January's steep drop (-6.5%).

Petroleum and wood prices on the rise again

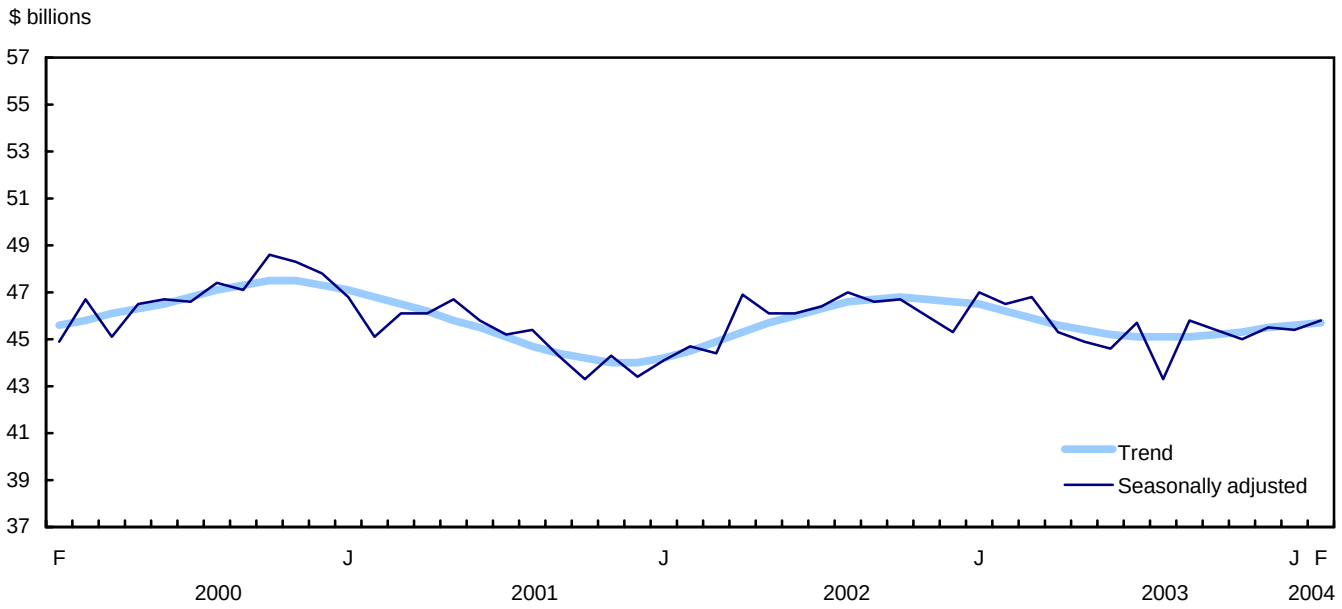
Shipments of petroleum and coal products jumped 3.9% to $3.3 billion in February, the highest level since March 2003. Rising prices for crude oil, partly caused by strong global demand and a possible cut in production quotas, contributed to the boost in the value of petroleum shipments.

Wood products manufacturing jumped 4.1% to $2.7 billion, the highest level in three months. The ongoing construction boom in Canada and the United States continued to generate heavy demand for wood products, and contributed to recent price gains. Wood product prices have soared almost 10% since December.

Offsetting some of February's increase, manufacturers of transportation equipment reported fewer shipments. Motor vehicles shipments fell 3.1% to $5.4 billion, while production of aerospace products and parts decreased a substantial 14.1% to $863 million. Both industries reported successive increases in December and January.

Chart 1

Shipments bounce back



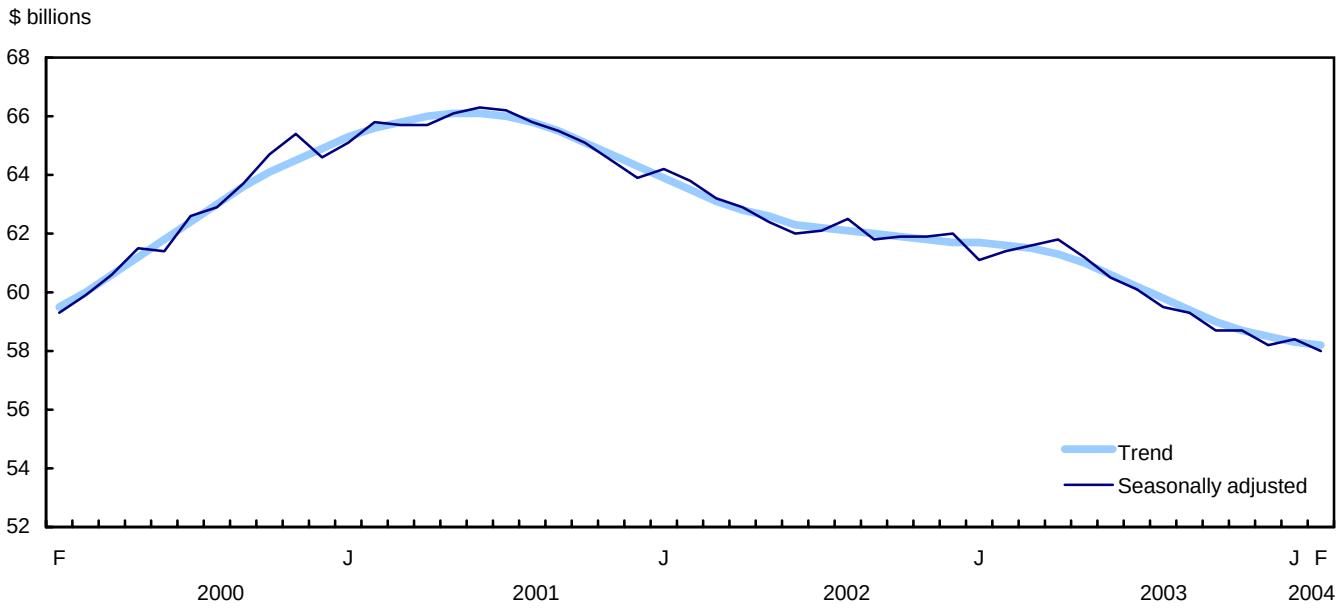
Inventories tumble to a four-year low

In February, inventories fell another 0.8% to $58.0 billion, the ninth decrease in the past 10 months. A significant drop in goods-in-process inventories (-3.2%), coupled with lower raw materials (-0.6%) were the factors behind the overall decline. Finished-product inventories were up 0.6% to $20.2 billion, the first increase since April 2003.

The decrease in inventories was concentrated in the durable goods industries, with aerospace (-11.8%), computers (-2.4%) and railroad rolling stock (-9.9%) contributing.

Chart 2

Manufacturers hold fewer inventories in February



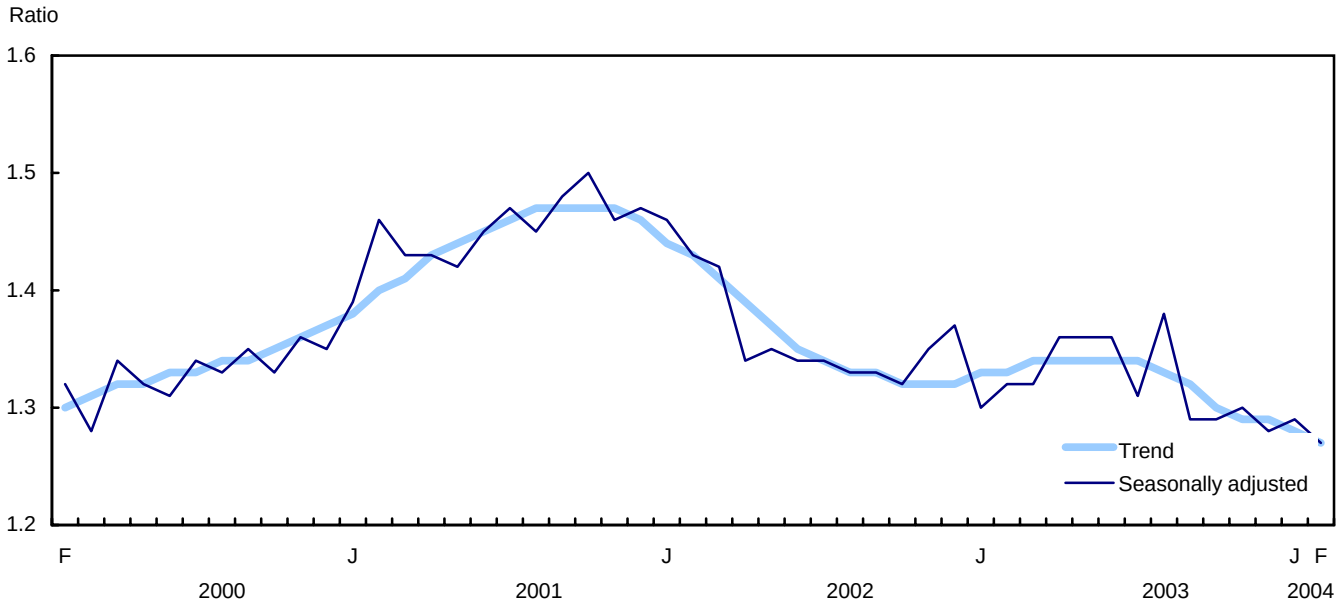
The inventory-to-shipments ratio drops to a four-year low

The inventory-to-shipments ratio stood at 1.27 in February, the lowest level in just over four years. The ratio, which eased back from 1.29 in January, has been trending down since early last year as manufacturers kept inventories in check, along with a gradual improvement in shipments.

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

Chart 3

The inventory-to-shipments ratio declines



Aerospace manufacturing lifts unfilled orders

Bolstered by the signing of several new contacts in the aerospace products and parts industry, total unfilled orders increased 0.6% to $36.1 billion in February, which followed January's 2.8% advance. Excluding aerospace manufacturing, unfilled orders actually decreased 0.3%.

The trend for unfilled orders turned positive for the first time since mid-2001.

Aerospace products and parts manufacturers reported unfilled orders of $12.3 billion in February, up 2.4%. This marked the third consecutive increase for the otherwise beleaguered industry. The machinery (+4.8%) and fabricated metal products (+4.5%) industries also reported increases. A sharp decline in the computer and electronic products industry (-10.6%), partly offset the overall increase in unfilled orders.

Following solid gains in December (+2.4%) and January (+2.5%), new orders fell back 0.8% to $46.0 billion in February. Weaknesses in computers, motor vehicles and aerospace products and parts manufacturing contributed to the drop.

Chart 4

Manufacturers' unfilled orders accumulate two months in a row

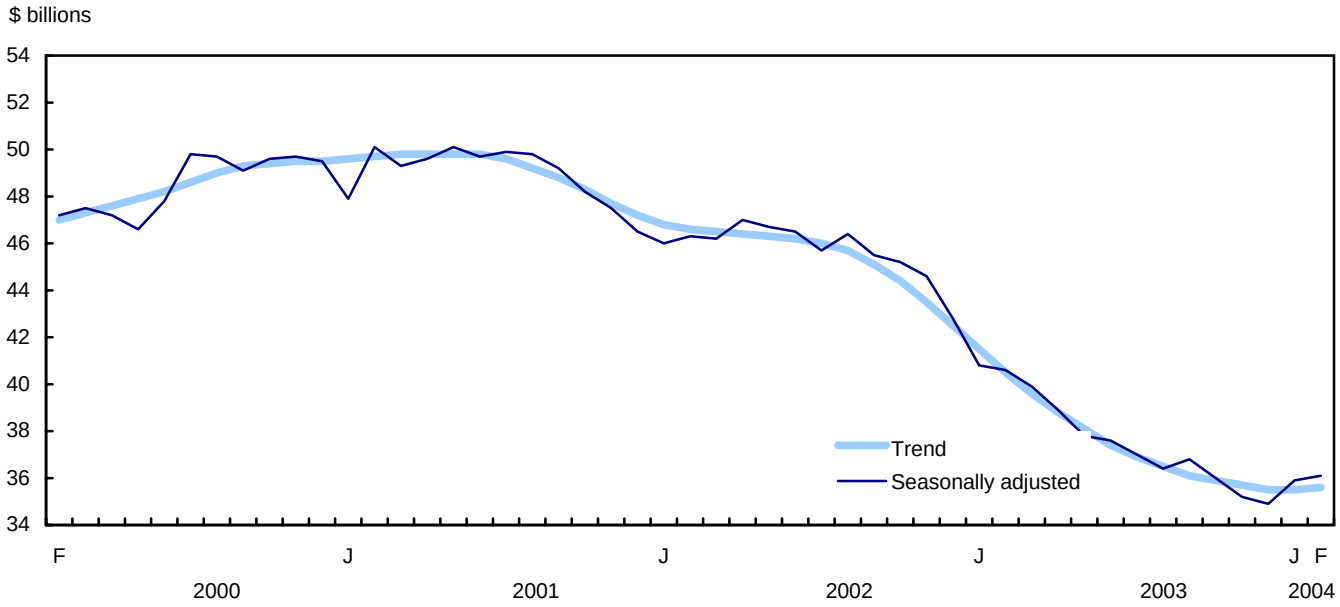


Chart 5

Inventories - Monthly change in trend

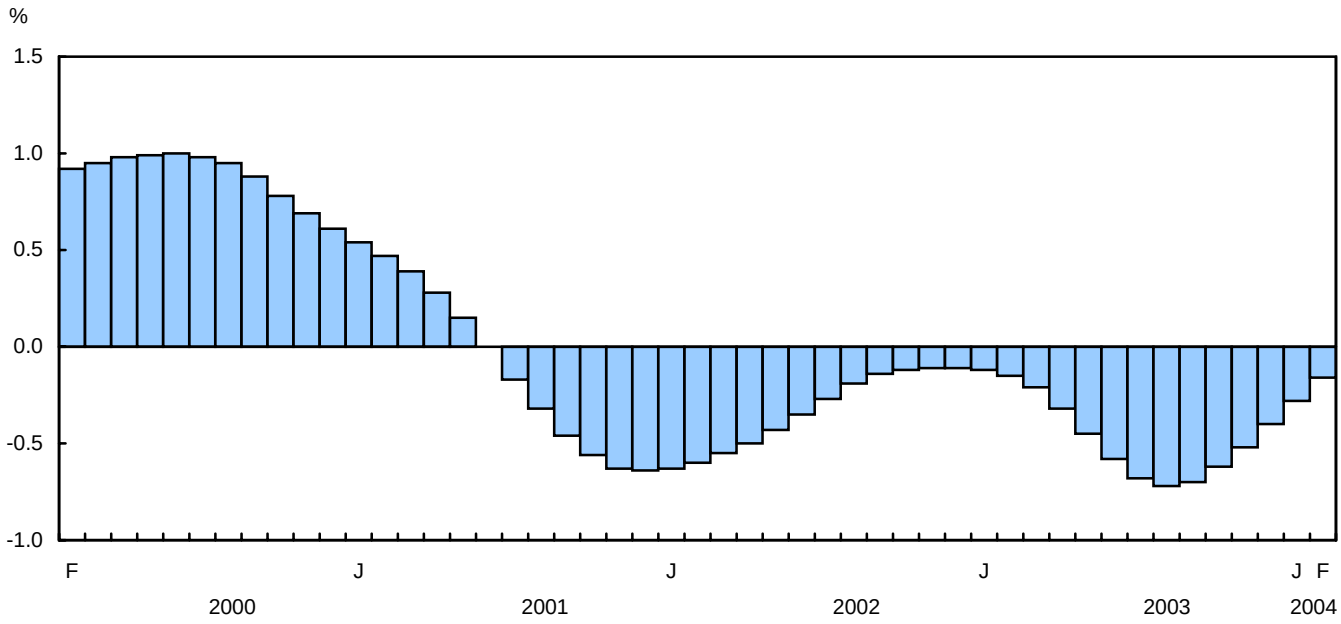


Chart 6

Shipments - Monthly change in trend

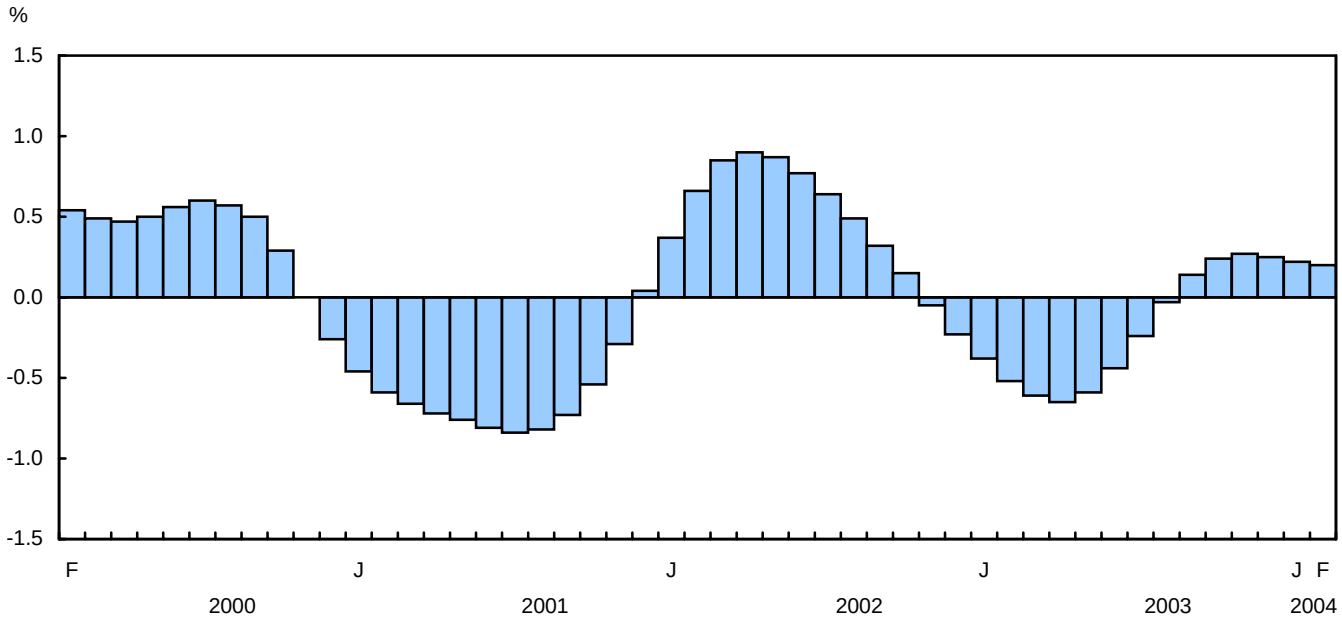
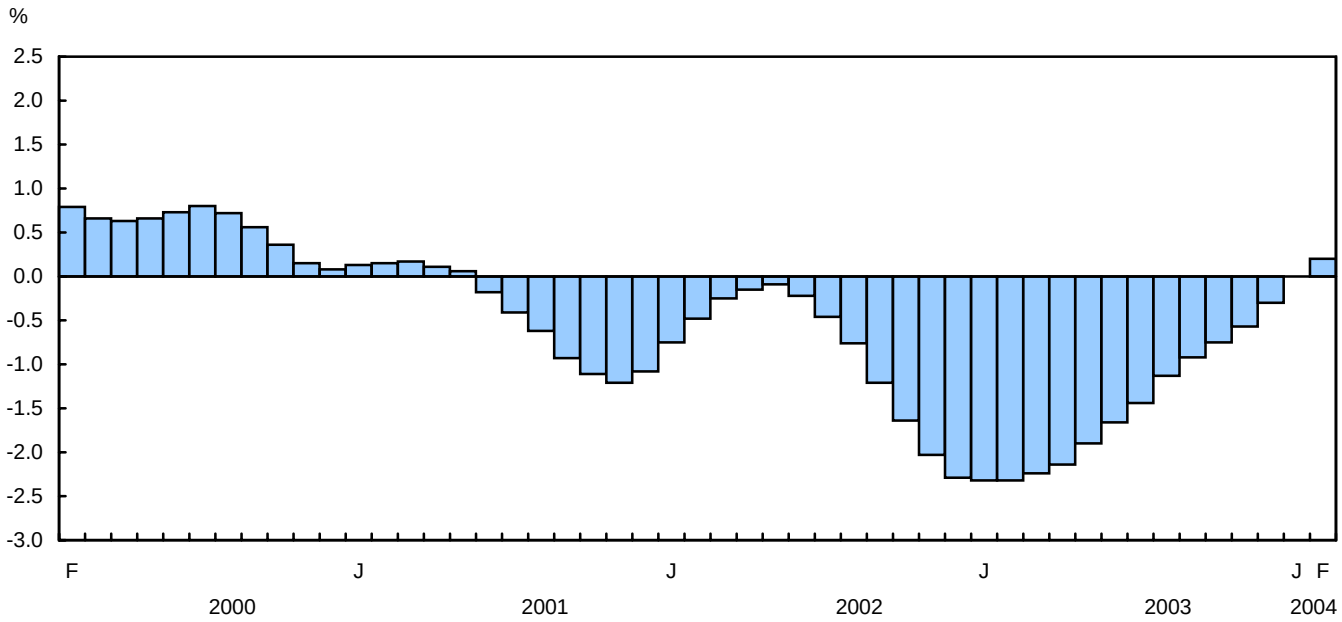


Chart 7

Unfilled orders - Monthly change in trend



Note to readers

With the January 2004 release, estimates of shipments, inventories and orders have been revised back to January 1999. Although the historical month-to-month movements were preserved, there were adjustments made to the levels of the Monthly Survey of Manufacturing (MSM).

These adjustments 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 Annual Survey of Manufactures levels.

The average level of adjustment for shipments from reference year 1999 to 2003 was approximately +5.5%.

For more detailed information on the revision process, please refer to the MSM's concepts, methods and data quality report.

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, appliance and components, transportation equipment, furniture and related products and miscellaneous manufacturing.

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

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

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

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							
February 2003	43,382	62,182	40,424	43,352	46,450	61,410	40,559	46,239
March 2003	48,277	62,922	39,742	47,595	46,832	61,625	39,853	46,126
April 2003	45,978	62,694	38,560	44,795	45,287	61,789	38,866	44,300
May 2003	47,564	61,680	38,025	47,029	44,879	61,243	37,811	43,824
June 2003	46,387	60,282	37,581	45,943	44,569	60,481	37,576	44,335
July 2003	41,706	59,485	37,357	41,482	45,735	60,129	37,020	45,179
August 2003	43,610	59,420	36,817	43,069	43,290	59,541	36,433	42,702
September 2003	47,961	58,801	37,228	48,372	45,818	59,307	36,838	46,223
October 2003	48,508	58,199	36,008	47,288	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	42,968	57,226	34,535	42,454	45,535	58,215	34,930	45,261
January 2004	42,302	58,250	35,517	43,284	45,407	58,442	35,903	46,380
February 2004	43,593	59,214	36,146	44,222	45,786	57,997	36,130	46,014

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
February 2003	-1.2	-0.5	0.4	-0.1	1.32	1.33	-0.5	-2.3	2.8	-0.5
March 2003	0.8	-0.6	0.4	-0.2	1.32	1.34	-1.7	-2.2	-0.2	-0.5
April 2003	-3.3	-0.6	0.3	-0.3	1.36	1.34	-2.5	-2.1	-4.0	-0.5
May 2003	-0.9	-0.6	-0.9	-0.5	1.36	1.34	-2.7	-1.9	-1.1	-0.3
June 2003	-0.7	-0.4	-1.2	-0.6	1.36	1.34	-0.6	-1.7	1.2	-0.2
July 2003	2.6	-0.2	-0.6	-0.7	1.31	1.34	-1.5	-1.4	1.9	0.0
August 2003	-5.3	0.0	-1.0	-0.7	1.38	1.33	-1.6	-1.1	-5.5	0.2
September 2003	5.8	0.1	-0.4	-0.7	1.29	1.32	1.1	-0.9	8.2	0.3
October 2003	-1.0	0.2	-0.9	-0.6	1.29	1.30	-2.3	-0.8	-3.7	0.4
November 2003	-0.8	0.3	-0.1	-0.5	1.30	1.29	-2.2	-0.6	-0.7	0.4
December 2003	1.2	0.3	-0.8	-0.4	1.28	1.29	-0.8	-0.3	2.4	0.5
January 2004	-0.3	0.2	0.4	-0.3	1.29	1.28	2.8	0.0	2.5	0.5
February 2004	0.8	0.2	-0.8	-0.2	1.27	1.27	0.6	0.2	-0.8	0.4

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							
February 2003	8,805	3,214	1,709	8,760	8,615	3,155	1,711	8,600
March 2003	9,594	3,210	1,665	9,551	8,914	3,165	1,679	8,883
April 2003	9,175	3,236	1,576	9,085	8,527	3,223	1,645	8,493
May 2003	9,387	3,223	1,554	9,365	8,498	3,189	1,587	8,440
June 2003	9,004	3,079	1,548	8,998	8,306	3,143	1,592	8,311
July 2003	5,724	3,055	1,561	5,737	8,911	3,144	1,575	8,894
August 2003	7,339	3,005	1,617	7,395	7,307	3,033	1,614	7,346
September 2003	8,696	3,167	1,649	8,728	8,337	3,164	1,624	8,347
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	3,002	1,799	7,166	8,190	3,067	1,768	8,228
January 2004	7,792	3,089	1,829	7,822	8,147	3,042	1,804	8,183
February 2004	8,333	3,284	1,885	8,390	8,017	3,211	1,867	8,081

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
February 2003	-1.8	-0.8	0.7	0.3	0.37	0.36	-0.9	-1.9	-2.0	-0.9
March 2003	3.5	-0.8	0.3	0.2	0.36	0.37	-1.8	-2.1	3.3	-0.9
April 2003	-4.3	-0.9	1.8	0.1	0.38	0.37	-2.1	-1.9	-4.4	-0.9
May 2003	-0.4	-1.0	-1.1	-0.1	0.38	0.37	-3.5	-1.4	-0.6	-0.9
June 2003	-2.2	-0.9	-1.5	-0.1	0.38	0.38	0.3	-0.6	-1.5	-0.8
July 2003	7.3	-0.8	0.1	-0.2	0.35	0.38	-1.1	0.2	7.0	-0.6
August 2003	-18.0	-0.7	-3.5	-0.3	0.42	0.38	2.5	1.0	-17.4	-0.5
September 2003	14.1	-0.5	4.3	-0.3	0.38	0.38	0.7	1.6	13.6	-0.4
October 2003	-0.6	-0.5	-1.7	-0.4	0.38	0.38	3.5	2.0	-0.1	-0.4
November 2003	-3.7	-0.5	-0.5	-0.5	0.39	0.38	3.0	2.2	-3.7	-0.5
December 2003	2.6	-0.6	-0.8	-0.5	0.37	0.38	2.2	2.1	2.5	-0.6
January 2004	-0.5	-0.6	-0.8	-0.5	0.37	0.38	2.1	1.8	-0.5	-0.6
February 2004	-1.6	-0.5	5.5	-0.4	0.40	0.38	3.5	1.4	-1.3	-0.5

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							
February 2003	34,577	58,967	38,716	34,592	37,835	58,255	38,848	37,639
March 2003	38,684	59,712	38,077	38,045	37,918	58,460	38,174	37,243
April 2003	36,803	59,458	36,984	35,710	36,760	58,565	37,221	35,808
May 2003	38,176	58,457	36,472	37,664	36,382	58,053	36,223	35,383
June 2003	37,383	57,203	36,034	36,945	36,263	57,338	35,984	36,024
July 2003	35,982	56,430	35,796	35,745	36,823	56,984	35,446	36,285
August 2003	36,271	56,416	35,199	35,674	35,982	56,508	34,819	35,356
September 2003	39,265	55,633	35,579	39,644	37,482	56,143	35,213	37,876
October 2003	39,487	55,117	34,298	38,206	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	35,829	54,224	32,736	35,288	37,345	55,148	33,162	37,033
January 2004	34,510	55,161	33,688	35,462	37,260	55,400	34,099	38,197
February 2004	35,260	55,930	34,261	35,832	37,768	54,786	34,263	37,933

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
February 2003	-1.1	-0.4	0.4	-0.2	1.54	1.56	-0.5	-2.3	4.0	-0.4
March 2003	0.2	-0.6	0.4	-0.2	1.54	1.56	-1.7	-2.3	-1.1	-0.4
April 2003	-3.1	-0.6	0.2	-0.3	1.59	1.57	-2.5	-2.2	-3.9	-0.4
May 2003	-1.0	-0.5	-0.9	-0.5	1.60	1.57	-2.7	-1.9	-1.2	-0.2
June 2003	-0.3	-0.3	-1.2	-0.6	1.58	1.56	-0.7	-1.7	1.8	-0.1
July 2003	1.5	-0.1	-0.6	-0.7	1.55	1.55	-1.5	-1.5	0.7	0.1
August 2003	-2.3	0.1	-0.8	-0.7	1.57	1.54	-1.8	-1.2	-2.6	0.4
September 2003	4.2	0.3	-0.6	-0.7	1.50	1.52	1.1	-1.0	7.1	0.5
October 2003	-1.1	0.4	-0.9	-0.6	1.50	1.51	-2.6	-0.9	-4.5	0.6
November 2003	-0.2	0.4	0.0	-0.5	1.50	1.49	-2.4	-0.7	0.0	0.6
December 2003	0.9	0.4	-0.8	-0.4	1.48	1.48	-0.9	-0.4	2.3	0.7
January 2004	-0.2	0.4	0.5	-0.3	1.49	1.47	2.8	-0.1	3.1	0.7
February 2004	1.4	0.3	-1.1	-0.1	1.45	1.47	0.5	0.1	-0.7	0.5

Table 4-1

Shipments by major group and selected industries - Unadjusted

	NAICS Code	Current periods				Previous year		Year to date		Annual	
		Feb. 2004	Jan. 2004	Dec. 2003	Nov. 2003	Feb. 2003	Jan. 2003	% change from 2003	2004	% change from 2002	2003
		$millions									
Food manufacturing	311	5,019	5,001	5,408	5,452	4,686	4,781	5.8	10,020	1.7	63,437
Beverage and tobacco product manufacturing	312	782	733	1,064	976	787	734	-0.4	1,514	3.2	12,032
Textile mills	313	264	253	249	281	274	277	-6.3	517	-11.0	3,421
Textile product mills	314	163	167	162	183	188	181	-10.6	330	-10.3	2,297
Clothing manufacturing	315	546	497	475	606	596	556	-9.4	1,044	-6.3	7,073
Leather and allied product manufacturing	316	48	45	54	63	52	52	-10.3	93	-13.7	743
Wood product manufacturing	321	2,556	2,263	2,201	2,641	2,366	2,355	2.1	4,819	-3.4	31,249
Paper manufacturing	322	2,563	2,545	2,529	2,625	2,664	2,830	-7.0	5,108	-3.6	33,202
Printing and related support activities	323	885	851	951	1,038	888	914	-3.7	1,736	-0.7	11,590
Petroleum and coal products manufacturing	324	3,212	3,171	3,006	2,932	3,366	3,323	-4.6	6,383	9.0	37,355
Chemical manufacturing	325	3,332	3,265	3,282	3,215	3,283	3,477	-2.4	6,597	3.5	41,178
Plastics and rubber products manufacturing	326	1,932	1,809	1,759	2,048	1,898	1,990	-3.8	3,741	1.0	24,722
Non-metallic mineral product manufacturing	327	734	655	776	1,015	687	700	0.1	1,388	5.3	11,992
Primary metal manufacturing	331	3,321	3,276	3,189	3,074	3,119	3,331	2.3	6,597	2.3	37,611
Fabricated metal product manufacturing	332	2,426	2,257	2,340	2,649	2,333	2,400	-1.1	4,683	0.4	31,023
Machinery manufacturing	333	2,021	1,987	2,168	2,118	2,001	2,015	-0.2	4,008	-2.9	25,577
Computer and electronic product manufacturing	334	1,512	1,329	1,892	1,691	1,417	1,411	0.5	2,842	-13.2	18,772
Electrical equipment, appliance and component manufacturing	335	829	762	793	862	771	788	2.0	1,590	-5.7	9,986
Transportation equipment manufacturing	336	9,795	9,787	8,926	9,697	10,318	10,621	-6.5	19,582	-3.9	120,948
Motor vehicle manufacturing	3361	5,609	5,259	4,818	5,477	6,126	5,989	-10.3	10,868	-6.4	69,258
Motor vehicle body and trailer manufacturing	3362	283	287	286	284	285	306	-3.4	571	0.1	3,695
Motor vehicle parts manufacturing	3363	2,724	2,533	2,321	2,639	2,679	2,700	-2.3	5,257	-0.1	31,433
Aerospace product and parts manufacturing	3364	741	1,244	1,084	848	861	1,091	1.7	1,985	1.5	11,585
Railroad rolling stock manufacturing	3365	191	164	201	212	186	286	-24.7	355	-7.7	2,370
Ship and boat building	3366	101	89	95	82	86	78	15.9	190	-5.4	1,100
Furniture and related product manufacturing	337	1,097	1,147	1,092	1,161	1,106	1,133	0.2	2,244	1.2	14,035
Miscellaneous manufacturing	339	559	502	652	654	584	547	-6.2	1,061	3.5	7,497
Non-durable goods industries [1]		**18,745**	**18,336**	**18,939**	**19,420**	**18,681**	**19,116**	**-1.9**	**37,081**	**1.5**	**237,051**
Durable goods industries [2]		**24,848**	**23,966**	**24,029**	**25,563**	**24,701**	**25,301**	**-2.4**	**48,814**	**-2.6**	**308,691**
Manufacturing		**43,593**	**42,302**	**42,968**	**44,983**	**43,382**	**44,417**	**-2.2**	**85,895**	**-0.8**	**545,742**

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 January	Current periods				Change from previous month			Trend change from previous month			
			Feb. 2004	Jan. 2004	Dec. 2003	Nov. 2003	Feb. 2004	Jan. 2004	Dec. 2003	Feb. 2004	Jan. 2004	Dec. 2003	Nov. 2003
		$ millions					percentage						
Food manufacturing	311	-40	5,491	5,531	5,356	5,407	-0.7	3.3	-0.9	0.4	0.6	0.7	0.8
Beverage and tobacco product manufacturing	312	-16	981	997	1,000	1,018	-1.6	-0.4	-1.7	-0.5	-0.5	-0.5	-0.3
Textile mills	313	-2	274	275	282	278	-0.6	-2.3	1.2	-0.4	-0.4	-0.3	-0.2
Textile product mills	314	-10	176	186	180	184	-5.4	3.4	-2.1	-0.4	-0.7	-0.9	-1.2
Clothing manufacturing	315	-25	546	571	591	569	-4.4	-3.5	4.0	-0.6	-0.6	-0.5	-0.4
Leather and allied product manufacturing	316	2	61	58	67	56	3.8	-12.8	18.8	-0.2	0.0	0.3	0.4
Wood product manufacturing	321	108	2,722	2,613	2,593	2,772	4.1	0.8	-6.5	0.5	0.4	0.4	0.4
Paper manufacturing	322	56	2,662	2,606	2,630	2,615	2.1	-0.9	0.6	0.2	-0.1	-0.5	-0.9
Printing and related support activities	323	19	960	940	966	989	2.0	-2.6	-2.4	0.2	0.3	0.3	0.2
Petroleum and coal products manufacturing	324	124	3,309	3,185	3,015	2,951	3.9	5.6	2.2	1.8	1.7	1.5	0.9
Chemical manufacturing	325	68	3,497	3,429	3,457	3,378	2.0	-0.8	2.4	0.5	0.6	0.6	0.5
Plastics and rubber products manufacturing	326	15	2,056	2,041	2,084	2,072	0.7	-2.1	0.6	-0.2	-0.1	-0.1	0.1
Non-metallic mineral product manufacturing	327	54	1,031	978	1,010	986	5.5	-3.2	2.4	0.4	0.4	0.3	0.1
Primary metal manufacturing	331	84	3,361	3,277	3,256	3,159	2.6	0.6	3.1	1.0	1.3	1.4	1.5
Fabricated metal product manufacturing	332	133	2,616	2,484	2,656	2,595	5.3	-6.5	2.4	-0.1	0.0	0.1	0.2
Machinery manufacturing	333	-2	2,135	2,137	2,104	2,153	-0.1	1.6	-2.3	-0.2	-0.2	-0.1	0.0
Computer and electronic product manufacturing	334	158	1,666	1,508	1,635	1,648	10.5	-7.8	-0.8	0.7	1.1	1.5	1.9
Electrical equipment, appliance and component manufacturing	335	26	864	838	850	851	3.1	-1.5	-0.1	0.4	0.5	0.5	0.6
Transportation equipment manufacturing	336	-306	9,628	9,934	9,914	9,533	-3.1	0.2	4.0	-0.6	-0.6	-0.5	-0.4
Motor vehicle manufacturing	3361	-173	5,358	5,531	5,495	5,333	-3.1	0.7	3.0	-0.7	-0.9	-0.9	-0.9
Motor vehicle body and trailer manufacturing	3362	0	304	303	310	294	0.1	-2.2	5.6	0.0	-0.1	-0.1	-0.2
Motor vehicle parts manufacturing	3363	44	2,660	2,616	2,696	2,647	1.7	-3.0	1.8	0.0	0.1	0.2	0.4
Aerospace product and parts manufacturing	3364	-142	863	1,005	976	809	-14.1	3.0	20.6	-1.8	-1.6	-1.2	-0.8
Railroad rolling stock manufacturing	3365	29	197	168	209	200	17.0	-19.3	4.3	0.7	1.3	1.9	2.0
Ship and boat building	3366	1	101	100	108	95	1.2	-7.4	13.6	1.3	1.9	2.3	2.6
Furniture and related product manufacturing	337	-66	1,160	1,226	1,202	1,157	-5.4	2.0	3.9	-0.1	0.1	0.2	0.3
Miscellaneous manufacturing	339	-1	592	593	687	619	-0.2	-13.7	11.0	-1.1	-1.0	-0.8	-0.4
Non-durable goods industries [1]		**216**	**19,466**	**19,250**	**19,037**	**18,949**	**1.1**	**1.1**	**0.5**	**0.5**	**0.5**	**0.4**	**0.3**
Durable goods industries [2]		**163**	**26,320**	**26,157**	**26,499**	**26,043**	**0.6**	**-1.3**	**1.7**	**0.0**	**0.0**	**0.1**	**0.2**
Manufacturing		**379**	**45,786**	**45,407**	**45,535**	**44,993**	**0.8**	**-0.3**	**1.2**	**0.2**	**0.2**	**0.3**	**0.3**

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	
		Feb. 2004	Jan. 2004	Dec. 2003	Nov. 2003	Feb. 2003	Jan. 2003	% change from 2003	Average 2004	% change from 2002	2003
		$millions									
Food manufacturing	311	4,633	4,586	4,536	4,735	4,569	4,564	0.9	4,609	0.3	4,565
Beverage and tobacco product manufacturing	312	1,656	1,595	1,544	1,639	1,687	1,636	-2.2	1,625	2.7	1,650
Textile mills	313	468	471	473	486	529	529	-11.3	470	-8.0	519
Textile product mills	314	350	353	349	355	370	360	-3.6	351	-4.2	365
Clothing manufacturing	315	1,348	1,345	1,330	1,340	1,440	1,429	-6.1	1,346	0.9	1,451
Leather and allied product manufacturing	316	113	116	117	118	136	132	-14.6	115	-9.8	140
Wood product manufacturing	321	4,920	4,457	4,175	3,956	5,314	4,849	-7.7	4,688	-0.9	4,534
Paper manufacturing	322	3,540	3,491	3,486	3,549	3,623	3,549	-2.0	3,515	-1.1	3,588
Printing and related support activities	323	867	851	848	864	850	822	2.8	859	-2.4	870
Petroleum and coal products manufacturing	324	2,083	1,997	1,841	1,901	2,042	2,013	0.6	2,040	0.8	2,009
Chemical manufacturing	325	6,128	6,001	5,757	5,728	5,565	5,325	11.4	6,064	9.3	5,652
Plastics and rubber products manufacturing	326	2,317	2,276	2,217	2,233	2,275	2,263	1.2	2,297	4.4	2,278
Non-metallic mineral product manufacturing	327	1,174	1,152	1,094	1,090	1,139	1,134	2.3	1,163	-0.2	1,125
Primary metal manufacturing	331	4,629	4,688	4,666	4,764	5,089	5,100	-8.6	4,658	-1.5	4,902
Fabricated metal product manufacturing	332	3,628	3,552	3,387	3,466	3,759	3,684	-3.5	3,590	1.3	3,675
Machinery manufacturing	333	4,567	4,463	4,395	4,533	4,591	4,579	-1.5	4,515	-3.2	4,523
Computer and electronic product manufacturing	334	4,204	4,170	4,035	4,279	4,671	4,667	-10.3	4,187	-11.3	4,398
Electrical equipment, appliance and component manufacturing	335	1,823	1,788	1,724	1,806	1,882	1,895	-4.4	1,805	-2.8	1,871
Transportation equipment manufacturing	336	8,344	8,519	8,863	9,369	10,172	9,951	-16.2	8,431	-17.9	9,637
Motor vehicle manufacturing	3361	1,401	1,277	1,183	1,258	1,345	1,318	0.5	1,339	-8.6	1,288
Motor vehicle body and trailer manufacturing	3362	428	404	412	456	520	463	-15.4	416	12.3	466
Motor vehicle parts manufacturing	3363	1,883	1,812	1,819	1,908	1,869	1,862	-1.0	1,847	13.1	1,847
Aerospace product and parts manufacturing	3364	3,681	4,010	4,397	4,668	5,237	5,089	-25.5	3,846	-30.5	4,874
Railroad rolling stock manufacturing	3365	672	746	740	774	900	930	-22.5	709	-7.5	876
Ship and boat building	3366	126	130	127	137	143	147	-11.8	128	-1.8	129
Furniture and related product manufacturing	337	1,196	1,184	1,180	1,195	1,266	1,244	-5.1	1,190	2.7	1,238
Miscellaneous manufacturing	339	1,227	1,195	1,208	1,241	1,214	1,231	-0.9	1,211	4.1	1,217
Non-durable goods industries [1]		**23,502**	**23,082**	**22,499**	**22,948**	**23,085**	**22,622**	**1.9**	**23,292**	**2.3**	**23,088**
Durable goods industries [2]		**35,712**	**35,168**	**34,726**	**35,698**	**39,097**	**38,333**	**-8.5**	**35,440**	**-7.1**	**37,119**
Manufacturing		**59,214**	**58,250**	**57,226**	**58,646**	**62,182**	**60,955**	**-4.6**	**58,732**	**-3.7**	**60,208**

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 January	Current periods				Change from previous month			Trend change from previous month			
			Feb. 2004	Jan. 2004	Dec. 2003	Nov. 2003	Feb. 2004	Jan. 2004	Dec. 2003	Feb. 2004	Jan. 2004	Dec. 2003	Nov. 2003
		$ millions					percentage						
Food manufacturing	311	57	4,664	4,606	4,585	4,577	1.2	0.5	0.2	0.4	0.5	0.4	0.4
Beverage and tobacco product manufacturing	312	26	1,646	1,620	1,627	1,633	1.6	-0.4	-0.3	0.1	0.0	-0.1	-0.1
Textile mills	313	-13	456	469	478	483	-2.8	-1.8	-1.0	-1.7	-2.0	-2.2	-2.2
Textile product mills	314	-6	347	354	351	360	-1.8	0.9	-2.7	-0.4	-0.5	-0.7	-0.8
Clothing manufacturing	315	-8	1,373	1,381	1,397	1,423	-0.6	-1.1	-1.9	-0.7	-0.9	-1.0	-1.0
Leather and allied product manufacturing	316	-4	125	129	132	131	-3.1	-2.1	0.4	-1.2	-1.4	-1.5	-1.6
Wood product manufacturing	321	54	4,338	4,284	4,287	4,230	1.3	-0.1	1.4	0.2	-0.1	-0.4	-0.8
Paper manufacturing	322	-10	3,500	3,510	3,561	3,576	-0.3	-1.4	-0.4	-0.4	-0.4	-0.4	-0.4
Printing and related support activities	323	-2	866	868	876	847	-0.3	-1.0	3.5	-0.2	-0.2	-0.2	-0.3
Petroleum and coal products manufacturing	324	7	2,045	2,038	1,989	2,008	0.3	2.5	-0.9	0.4	0.3	0.1	-0.2
Chemical manufacturing	325	-68	5,916	5,984	5,902	5,856	-1.1	1.4	0.8	0.6	0.8	0.9	0.9
Plastics and rubber products manufacturing	326	-12	2,271	2,283	2,267	2,244	-0.5	0.7	1.0	0.0	0.0	0.0	-0.1
Non-metallic mineral product manufacturing	327	-32	1,113	1,146	1,124	1,144	-2.8	2.0	-1.8	-0.4	-0.3	-0.1	0.0
Primary metal manufacturing	331	-7	4,672	4,680	4,570	4,685	-0.2	2.4	-2.4	0.1	-0.1	-0.5	-0.8
Fabricated metal product manufacturing	332	23	3,596	3,572	3,452	3,508	0.7	3.5	-1.6	0.1	-0.2	-0.5	-0.8
Machinery manufacturing	333	60	4,552	4,491	4,504	4,513	1.3	-0.3	-0.2	0.4	0.4	0.3	0.2
Computer and electronic product manufacturing	334	-99	4,023	4,122	4,093	4,186	-2.4	0.7	-2.2	-0.9	-1.1	-1.2	-1.2
Electrical equipment, appliance and component manufacturing	335	-4	1,803	1,807	1,778	1,808	-0.2	1.6	-1.7	0.3	0.1	-0.2	-0.5
Transportation equipment manufacturing	336	-407	8,296	8,702	8,811	9,060	-4.7	-1.2	-2.7	-1.4	-1.7	-1.8	-1.8
Motor vehicle manufacturing	3361	95	1,356	1,261	1,254	1,221	7.5	0.5	2.7	0.0	-0.3	-0.5	-0.6
Motor vehicle body and trailer manufacturing	3362	-4	414	418	426	459	-1.0	-1.7	-7.3	-0.9	-1.3	-1.5	-1.7
Motor vehicle parts manufacturing	3363	74	1,856	1,782	1,814	1,872	4.1	-1.7	-3.1	-0.6	-0.6	-0.5	-0.4
Aerospace product and parts manufacturing	3364	-496	3,707	4,203	4,271	4,437	-11.8	-1.6	-3.7	-2.0	-2.4	-2.6	-2.5
Railroad rolling stock manufacturing	3365	-74	672	746	740	774	-9.9	0.9	-4.4	-3.4	-4.0	-4.1	-3.9
Ship and boat building	3366	-1	120	122	121	127	-1.1	0.8	-4.8	0.3	0.5	0.5	0.3
Furniture and related product manufacturing	337	-7	1,188	1,195	1,200	1,204	-0.6	-0.4	-0.3	-0.3	-0.4	-0.5	-0.6
Miscellaneous manufacturing	339	7	1,208	1,201	1,231	1,233	0.6	-2.4	-0.2	0.1	0.2	0.2	0.1
Non-durable goods industries [1]		**-26**	**21,835**	**21,860**	**21,768**	**21,714**	**-0.1**	**0.4**	**0.2**	**0.2**	**0.2**	**0.2**	**0.1**
Durable goods industries [2]		**-419**	**36,163**	**36,582**	**36,447**	**36,994**	**-1.1**	**0.4**	**-1.5**	**-0.4**	**-0.6**	**-0.8**	**-0.9**
Manufacturing		**-445**	**57,997**	**58,442**	**58,215**	**58,708**	**-0.8**	**0.4**	**-0.8**	**-0.2**	**-0.3**	**-0.4**	**-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 6-1

Unfilled orders by selected major group and industries - Unadjusted

	NAICS Code	Current periods				Previous year		Year to date		Average per month	
		Feb. 2004	Jan. 2004	Dec. 2003	Nov. 2003	Feb. 2003	Jan. 2003	% Change from 2003	Average 2004	% Change from 2002	2003
		$millions									
Textile mills	313	216	219	208	206	275	276	-21.1	217	-20.6	233
Textile product mills	314	85	84	74	83	102	100	-16.2	85	6.6	86
Clothing manufacturing	315	175	165	158	165	179	175	-4.0	170	3.6	199
Leather and allied product manufacturing	316	19	23	25	25	23	20	-2.1	21	-2.2	28
Plastics and rubber products manufacturing	326	367	352	335	373	366	388	-4.6	360	1.9	366
Primary metal manufacturing	331	1,878	1,736	1,706	1,758	1,826	1,806	-0.5	1,807	-2.8	1,757
Fabricated metal product manufacturing	332	3,635	3,477	3,469	3,490	3,628	3,485	0.0	3,556	-1.7	3,522
Machinery manufacturing	333	4,496	4,290	4,216	4,155	4,602	4,537	-3.9	4,393	-14.7	4,367
Computer and electronic product manufacturing	334	3,066	3,429	3,179	3,267	3,713	3,862	-14.3	3,248	-5.5	3,483
Electrical equipment, appliance and component manufacturing	335	932	858	829	879	964	973	-7.6	895	-3.3	903
Transportation equipment manufacturing	336	18,743	18,351	17,924	18,118	22,294	22,447	-17.1	18,547	-26.7	20,074
Motor vehicle manufacturing	3361	637	644	593	562	627	633	1.6	640	-25.1	566
Motor vehicle body and trailer manufacturing	3362	465	432	376	398	490	492	-8.6	449	-1.5	430
Motor vehicle parts manufacturing	3363	1,248	1,185	1,206	1,209	1,082	1,121	10.5	1,217	25.4	1,093
Aerospace product and parts manufacturing	3364	12,184	11,688	11,525	11,466	15,044	15,360	-21.5	11,936	-34.2	13,167
Ship and boat building	3366	68	61	65	78	63	35	31.0	64	230.1	83
Miscellaneous manufacturing	339	167	157	158	160	149	162	4.2	162	-13.4	162
Non-durable goods industries [1]		**1,849**	**1,835**	**1,742**	**1,872**	**2,032**	**1,984**	**-8.3**	**1,842**	**7.2**	**2,029**
Durable goods industries [2]		**34,297**	**33,682**	**32,793**	**33,177**	**38,392**	**38,470**	**-11.6**	**33,990**	**-18.7**	**35,619**
Manufacturing		**36,146**	**35,517**	**34,535**	**35,049**	**40,424**	**40,455**	**-11.4**	**35,831**	**-17.7**	**37,648**

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 January	Current periods				Change from previous month			Trend change from previous month			
			Feb. 2004	Jan. 2004	Dec. 2003	Nov. 2003	Feb. 2004	Jan. 2004	Dec. 2003	Feb. 2004	Jan. 2004	Dec. 2003	Nov. 2003
		$ millions					percentage						
Textile mills	313	-12	203	215	217	218	-5.6	-0.6	-0.6	-0.6	-0.8	-0.8	-0.8
Textile product mills	314	-1	82	83	83	86	-0.8	-0.6	-2.8	0.7	0.6	0.7	0.6
Clothing manufacturing	315	2	182	180	184	190	0.9	-2.1	-2.7	-1.0	-1.3	-1.6	-1.7
Leather and allied product manufacturing	316	-6	25	31	32	31	-18.7	-2.4	3.9	-4.2	-2.8	-0.8	1.2
Plastics and rubber products manufacturing	326	13	371	358	362	367	3.7	-1.0	-1.3	0.3	0.3	0.4	0.5
Primary metal manufacturing	331	41	1,807	1,766	1,778	1,814	2.3	-0.7	-2.0	0.2	0.3	0.6	0.9
Fabricated metal product manufacturing	332	158	3,635	3,477	3,469	3,490	4.5	0.2	-0.6	0.8	0.7	0.4	0.1
Machinery manufacturing	333	206	4,496	4,290	4,216	4,155	4.8	1.8	1.5	0.4	0.3	0.2	0.1
Computer and electronic product manufacturing	334	-363	3,066	3,429	3,179	3,267	-10.6	7.9	-2.7	-1.4	-1.4	-1.3	-1.1
Electrical equipment, appliance and component manufacturing	335	73	932	858	829	879	8.5	3.5	-5.6	1.7	1.2	0.6	0.0
Transportation equipment manufacturing	336	162	18,793	18,631	18,076	18,134	0.9	3.1	-0.3	0.4	0.2	-0.2	-0.7
Motor vehicle manufacturing	3361	-7	637	644	593	562	-1.1	8.6	5.5	1.0	1.8	2.4	2.6
Motor vehicle body and trailer manufacturing	3362	9	433	424	384	412	2.2	10.6	-6.8	0.8	0.6	0.5	0.2
Motor vehicle parts manufacturing	3363	70	1,231	1,160	1,175	1,169	6.1	-1.2	0.5	1.6	1.9	2.0	1.9
Aerospace product and parts manufacturing	3364	290	12,281	11,991	11,690	11,508	2.4	2.6	1.6	1.0	0.7	0.1	-0.6
Ship and boat building	3366	-1	70	71	75	81	-1.7	-5.3	-6.8	-3.5	-4.5	-5.0	-5.5
Miscellaneous manufacturing	339	7	170	163	169	163	4.0	-3.4	4.0	0.2	0.1	0.1	0.3
Non-durable goods industries [1]		**-10**	**1,669**	**1,679**	**1,636**	**1,721**	**-0.6**	**2.6**	**-4.9**	**-1.2**	**-1.9**	**-2.8**	**-3.0**
Durable goods industries [2]		**238**	**34,462**	**34,224**	**33,293**	**33,483**	**0.7**	**2.8**	**-0.6**	**0.3**	**0.1**	**-0.2**	**-0.4**
Manufacturing		**228**	**36,130**	**35,903**	**34,930**	**35,204**	**0.6**	**2.8**	**-0.8**	**0.2**	**0.0**	**-0.3**	**-0.6**

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	
		Feb. 2004	Jan. 2004	Dec. 2003	Nov. 2003	Feb. 2003	Jan. 2003	% Change from 2003	2004	% Change from 2002	2003
		$millions									
Textile mills	313	261	263	251	276	273	280	-5.3	524	-13.6	3,356
Textile product mills	314	164	177	153	180	189	200	-12.2	341	-11.2	2,290
Clothing manufacturing	315	556	505	468	602	600	565	-9.0	1,061	-6.4	7,065
Leather and allied product manufacturing	316	44	43	54	65	54	52	-18.0	87	-12.6	747
Plastics and rubber products manufacturing	326	1,947	1,826	1,721	2,043	1,877	1,986	-2.3	3,773	0.1	24,666
Primary metal manufacturing	331	3,463	3,306	3,137	3,074	3,140	3,347	4.3	6,769	0.8	37,528
Fabricated metal product manufacturing	332	2,584	2,265	2,318	2,572	2,476	2,485	-2.3	4,849	0.7	31,095
Machinery manufacturing	333	2,227	2,062	2,229	1,983	2,066	1,964	6.4	4,288	-1.3	25,205
Computer and electronic product manufacturing	334	1,150	1,579	1,804	1,595	1,268	1,475	-0.5	2,729	-17.2	18,153
Electrical equipment, appliance and component manufacturing	335	902	791	743	874	763	803	8.1	1,693	-6.5	9,858
Transportation equipment manufacturing	336	10,187	10,213	8,732	9,302	10,166	8,384	10.0	20,400	-6.3	114,189
Motor vehicle manufacturing	3361	5,602	5,310	4,849	5,475	6,120	5,944	-9.6	10,912	-6.5	69,172
Motor vehicle body and trailer manufacturing	3362	315	344	264	277	283	364	2.0	659	-2.2	3,637
Motor vehicle parts manufacturing	3363	2,788	2,512	2,318	2,702	2,640	2,741	-1.5	5,300	-1.0	31,558
Aerospace product and parts manufacturing	3364	1,237	1,407	1,143	451	546	-984	-702.6	2,644	-17.0	5,675
Ship and boat building	3366	107	86	82	82	114	82	-1.7	193	-3.2	1,134
Miscellaneous manufacturing	339	570	501	650	629	572	554	-4.9	1,070	4.2	7,500
Non-durable goods industries [1]		**18,759**	**18,428**	**18,809**	**19,277**	**18,729**	**19,237**	**-2.1**	**37,187**	**1.4**	**236,930**
Durable goods industries [2]		**25,463**	**24,855**	**23,645**	**24,750**	**24,623**	**23,225**	**5.2**	**50,318**	**-3.9**	**300,940**
Manufacturing		**44,222**	**43,284**	**42,454**	**44,027**	**43,352**	**42,462**	**2.0**	**87,506**	**-1.6**	**537,870**

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 January	Current periods				Change from previous month			Trend change from previous month			
			Feb. 2004	Jan. 2004	Dec. 2003	Nov. 2003	Feb. 2004	Jan. 2004	Dec. 2003	Feb. 2004	Jan. 2004	Dec. 2003	Nov. 2003
		$ millions					percentage						
Textile mills	313	-13	261	274	280	276	-4.6	-2.2	1.4	-0.3	-0.3	-0.3	-0.2
Textile product mills	314	-10	176	186	178	183	-5.5	4.6	-3.1	-0.4	-0.7	-0.9	-1.0
Clothing manufacturing	315	-20	547	567	586	566	-3.5	-3.3	3.6	-0.5	-0.5	-0.4	-0.4
Leather and allied product manufacturing	316	-3	55	58	68	58	-4.9	-15.5	18.5	-0.8	-0.9	-0.7	-0.3
Plastics and rubber products manufacturing	326	32	2,069	2,037	2,079	2,084	1.6	-2.0	-0.2	-0.2	-0.1	-0.1	0.1
Primary metal manufacturing	331	137	3,402	3,265	3,220	3,124	4.2	1.4	3.1	0.9	1.1	1.3	1.4
Fabricated metal product manufacturing	332	283	2,775	2,492	2,635	2,515	11.3	-5.4	4.8	0.1	0.4	0.6	0.6
Machinery manufacturing	333	130	2,341	2,211	2,165	2,018	5.9	2.1	7.3	0.0	0.0	0.1	0.1
Computer and electronic product manufacturing	334	-454	1,304	1,758	1,548	1,553	-25.8	13.6	-0.3	1.0	0.9	1.1	1.6
Electrical equipment, appliance and component manufacturing	335	70	937	867	801	864	8.1	8.3	-7.3	0.9	1.1	1.1	1.1
Transportation equipment manufacturing	336	-698	9,790	10,488	9,855	9,241	-6.7	6.4	6.6	-0.1	0.2	0.4	0.5
Motor vehicle manufacturing	3361	-231	5,351	5,582	5,526	5,330	-4.1	1.0	3.7	-0.8	-0.9	-0.9	-0.9
Motor vehicle body and trailer manufacturing	3362	-31	313	344	282	287	-9.0	21.8	-1.6	0.2	0.2	0.2	0.2
Motor vehicle parts manufacturing	3363	129	2,730	2,601	2,702	2,700	5.0	-3.7	0.1	-0.1	0.0	0.2	0.5
Aerospace product and parts manufacturing	3364	-154	1,153	1,306	1,158	522	-11.8	12.8	121.7	2.1	5.3	8.1	10.0
Ship and boat building	3366	4	100	96	102	99	4.2	-6.3	2.9	2.3	2.6	3.1	2.7
Miscellaneous manufacturing	339	11	598	587	694	614	1.9	-15.3	13.0	-1.1	-1.0	-0.8	-0.5
Non-durable goods industries [1]		**164**	**19,456**	**19,292**	**18,952**	**18,832**	**0.8**	**1.8**	**0.6**	**0.6**	**0.6**	**0.5**	**0.2**
Durable goods industries [2]		**-530**	**26,557**	**27,088**	**26,309**	**25,381**	**-2.0**	**3.0**	**3.7**	**0.2**	**0.3**	**0.5**	**0.6**
Manufacturing		**-367**	**46,014**	**46,380**	**45,261**	**44,213**	**-0.8**	**2.5**	**2.4**	**0.4**	**0.5**	**0.5**	**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 8-1

Shipments for selected industries - Unadjusted

	NAICS Code	Current periods				Previous year		Year to date		Annual	
		Feb. 2004	Jan. 2004	Dec. 2003	Nov. 2003	Feb. 2003	Jan. 2003	% Change from 2003	2004	% Change from 2002	2003
		$ millions									
311 Food manufacturing											
Animal food manufacturing	3111	390	435	442	430	398	439	-1.3	826	-1.8	5,102
Starch and vegetable fat and oil manufacturing	31122	262	268	278	276	230	230	15.4	531	11.4	3,117
Sugar and confectionery product manufacturing	3113	293	261	320	339	277	243	6.5	554	10.0	3,764
Fruit and vegetable preserving and specialty food manufacturing	3114	498	517	525	518	461	488	6.9	1,015	-0.9	5,974
Dairy product manufacturing	3115	864	869	937	932	795	808	8.1	1,733	9.8	10,957
Meat product manufacturing	3116	1,457	1,457	1,473	1,503	1,345	1,391	6.5	2,914	-3.9	17,027
Cookie, cracker and pasta manufacturing	31182	129	122	130	139	130	119	0.5	251	-2.1	1,577
Other food manufacturing	3119	383	359	438	433	340	344	8.5	742	4.1	4,936
312 Beverage and tobacco product manufacturing											
Soft drink and ice manufacturing	31211	220	195	295	234	211	193	2.8	415	12.7	3,336
Breweries	31212	253	237	391	300	219	210	14.3	490	1.0	3,858
Wineries	31213	52	43	62	70	44	38	15.4	94	-2.6	706
Distilleries	31214	37	42	58	77	69	65	-41.2	79	-18.0	831
Tobacco manufacturing	3122	220	215	259	294	244	228	-7.7	435	5.1	3,301
313 Textile mills											
Fibre, yarn and thread mills	3131	48	41	40	43	46	44	-0.4	90	-12.6	547
Fabric mills	3132	162	157	158	178	173	179	-9.3	319	-10.6	2,180
Textile and fabric finishing and fabric coating	3133	53	54	50	60	55	54	-1.5	108	-10.8	694
314 Textile product mills											
Carpet and rug mills	31411	62	56	59	65	69	68	-13.9	119	-8.6	824
Textile bag and canvas mills	31491	15	15	15	19	20	16	-14.9	30	-30.9	267
315 Clothing manufacturing											
Hosiery and sock mills	31511	36	36	40	52	36	42	-7.3	72	-5.1	511
Other clothing knitting mills	31519	39	40	46	64	43	42	-7.1	79	-0.6	586
Men's and boys' cut and sew clothing manufacturing	31522	171	153	154	199	171	170	-4.8	324	-4.6	2,078
Women's and girls' cut and sew clothing manufacturing	31523	190	154	138	181	219	191	-15.9	345	-3.5	2,471
Clothing accessories and other clothing manufacturing	3159	21	21	21	24	21	21	-1.1	41	-4.1	289
316 Leather and allied product manufacturing											
Footwear manufacturing	3162	25	24	25	35	22	25	2.6	48	-17.7	401
321 Wood product manufacturing											
Sawmills and wood preservation	3211	1,205	1,080	1,002	1,141	1,218	1,228	-6.6	2,285	-16.1	14,962
Veneer, plywood and engineered wood product manufacturing	3212	750	623	617	796	532	539	28.2	1,373	19.5	7,928
Other wood product manufacturing	3219	601	560	581	705	616	589	-3.6	1,161	6.2	8,359
322 Paper manufacturing											
Pulp, paper and paperboard mills	3221	1,778	1,743	1,757	1,777	1,805	1,948	-6.2	3,521	-6.6	22,490
Paperboard container manufacturing	32221	392	402	395	445	438	449	-10.4	795	6.6	5,536
Paper bag and coated and treated paper manufacturing	32222	228	225	210	232	259	260	-12.6	454	0.8	3,033
Other converted paper product manufacturing	32229	127	135	127	130	124	134	1.6	262	-2.7	1,624
323 Printing and related support activities											
Printing	32311	822	792	889	967	812	844	-2.5	1,614	-1.5	10,732
Support activities for printing	32312	63	59	61	72	77	71	-17.7	122	10.3	858
324 Petroleum and coal products manufacturing											
Petroleum refineries	32411	3,040	2,985	2,824	2,710	3,193	3,139	-4.9	6,025	10.6	34,729
325 Chemical manufacturing											
Other basic inorganic chemical manufacturing	32518	257	258	255	252	250	250	3.0	515	12.7	3,021
Other basic organic chemical manufacturing	32519	271	274	289	281	283	322	-10.1	545	-6.8	3,419
Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	3252	625	597	603	577	625	649	-4.1	1,222	0.5	7,457
Pesticide and other agricultural chemical manufacturing	32532	62	44	9	6	42	34	37.8	106	21.2	444
Pharmaceutical and medicine manufacturing	3254	673	719	775	704	611	699	6.2	1,392	4.9	8,506
Paint and coating manufacturing	32551	159	138	133	156	143	145	3.1	297	3.5	2,028
Adhesive manufacturing	32552	62	58	51	57	56	52	10.7	119	8.4	772
Soap and cleaning compound manufacturing	32561	128	120	121	118	151	160	-20.3	248	-16.2	1,689
Toilet preparation manufacturing	32562	108	103	108	101	108	107	-1.9	211	2.3	1,289
Printing ink manufacturing	32591	36	38	36	41	36	36	2.2	74	1.6	467
All other chemical product manufacturing	32599	334	324	322	327	332	330	-0.6	658	2.9	3,990
326 Plastics and rubber products manufacturing											
Plastic pipe, pipe fitting and unsupported profile shape manufacturing	32612	132	111	106	138	134	131	-8.4	243	2.5	1,836
Polystyrene foam product manufacturing	32614	37	37	41	49	40	36	-2.6	74	7.3	561
Other plastic product manufacturing	32619	910	827	834	1,003	866	939	-3.8	1,736	2.5	11,881
Other rubber product manufacturing	32629	147	139	130	140	140	140	2.2	286	-11.6	1,750

Table 8-1 – continued

Shipments for selected industries - Unadjusted

	NAICS Code	Current periods				Previous year		Year to date		Annual	
		Feb. 2004	Jan. 2004	Dec. 2003	Nov. 2003	Feb. 2003	Jan. 2003	% Change from 2003	2004	% Change from 2002	2003
327 Non-metallic mineral product manufacturing											
Clay product and refractory manufacturing	3271	46	42	48	60	53	52	-15.5	88	5.4	722
Glass and glass product manufacturing	3272	152	148	127	173	143	157	0.0	300	-0.1	2,083
Cement manufacturing	32731	74	58	84	125	61	61	7.9	132	1.2	1,479
Ready-mix concrete manufacturing	32732	148	109	162	239	111	105	18.4	256	5.1	2,761
Other concrete product manufacturing	32739	61	54	89	119	52	50	11.9	114	9.6	1,143
Abrasive product manufacturing	32791	20	18	19	20	27	29	-31.5	39	-13.5	294
All other non-metallic mineral product manufacturing	32799	128	125	136	146	120	130	1.0	252	12.3	1,683
331 Primary metal manufacturing											
Iron and steel mills and ferro-alloy manufacturing	3311	862	835	753	817	807	965	-4.2	1,698	-1.3	9,877
Iron and steel pipes and tubes manufacturing from purchased steel	33121	272	295	243	260	255	271	7.7	566	6.2	2,908
Foundries	3315	268	246	226	246	258	275	-3.6	514	1.4	3,223
332 Fabricated metal product manufacturing											
Cutlery and hand tool manufacturing	3322	54	49	46	52	46	48	10.0	103	4.1	581
Plate work and fabricated structural product manufacturing	33231	349	330	404	436	323	376	-2.8	679	4.6	4,928
Power boiler and heat exchanger manufacturing	33241	88	78	79	116	75	69	15.2	166	31.7	1,273
Spring and wire product manufacturing	3326	119	114	102	118	137	146	-17.7	233	-12.0	1,573
Coating, engraving, heat treating and allied activities	3328	248	235	224	250	262	262	-7.9	483	-0.6	3,043
Other fabricated metal product manufacturing	3329	273	231	241	277	280	274	-9.0	505	-6.6	3,484
333 Machinery manufacturing											
Agricultural implement manufacturing	33311	170	170	159	141	174	148	5.3	339	-12.0	1,956
Ventilation, heating, air-conditioning and commercial refrigeration equipment manufacturing	3334	192	196	192	227	178	186	6.7	388	-7.2	2,465
All other general-purpose machinery manufacturing	33399	156	170	181	195	150	190	-4.0	326	-1.9	2,336
334 Computer and electronic product manufacturing											
Computer and peripheral equipment manufacturing	3341	197	162	303	253	227	203	-16.5	359	-22.7	3,046
Communications equipment manufacturing	3342	514	406	723	545	452	460	0.9	920	-20.4	6,162
Audio and video equipment manufacturing	3343	14	14	20	20	18	18	-23.6	28	-12.2	211
335 Electrical equipment, appliance and component manufacturing											
Lighting fixture manufacturing	33512	72	66	70	83	72	82	-10.4	138	-9.3	968
Small electrical appliance manufacturing	33521	22	25	21	27	17	22	21.0	47	-1.7	263
Major appliance manufacturing	33522	143	138	119	149	146	143	-3.0	281	-3.4	1,754
Battery manufacturing	33591	18	18	17	21	17	18	3.7	36	19.0	217
Communication and energy wire and cable manufacturing	33592	190	164	170	195	162	154	11.9	354	-14.5	2,170
All other electrical equipment and component manufacturing	33599	39	36	39	37	34	35	8.6	75	-0.1	429
336 Transportation equipment manufacturing											
Motor vehicle manufacturing	3361	5,609	5,259	4,818	5,477	6,126	5,989	-10.3	10,868	-6.4	69,258
Motor vehicle parts manufacturing	3363	2,724	2,533	2,321	2,639	2,679	2,700	-2.3	5,257	-0.1	31,433
Aerospace product and parts manufacturing	3364	741	1,244	1,084	848	861	1,091	1.7	1,985	1.5	11,585
Railroad rolling stock manufacturing	3365	191	164	201	212	186	286	-24.7	355	-7.7	2,370
Ship and boat building	3366	101	89	95	82	86	78	15.9	190	-5.4	1,100
337 Furniture and related product manufacturing											
Household and institutional furniture and kitchen cabinet manufacturing	3371	622	651	625	645	613	635	1.9	1,273	-1.3	7,751
Office furniture (including fixtures) manufacturing	3372	389	411	386	424	413	410	-2.8	801	5.3	5,107
339 Miscellaneous manufacturing											
Medical equipment and supplies manufacturing	3391	194	175	220	216	173	167	8.7	369	10.7	2,287
Other miscellaneous manufacturing	3399	365	327	432	438	411	381	-12.6	692	0.7	5,210

Table 8-2

Inventory owned for selected industries - Unadjusted

	NAICS Code	Current periods				Previous year		Year to date		Average per month	
		Feb. 2004	Jan. 2004	Dec. 2003	Nov. 2003	Feb. 2003	Jan. 2003	% Change from 2003	Average 2004	% Change from 2002	2003
		$ millions									
311 Food manufacturing											
Animal food manufacturing	3111	298	283	281	290	282	266	5.9	290	4.4	282
Starch and vegetable fat and oil manufacturing	31122	270	234	213	185	217	205	19.6	252	4.6	180
Sugar and confectionery product manufacturing	3113	288	294	308	329	295	307	-3.3	291	5.0	310
Fruit and vegetable preserving and specialty food manufacturing	3114	867	893	910	954	844	861	3.2	880	5.3	853
Dairy product manufacturing	3115	881	841	806	805	834	823	4.0	861	-3.6	813
Meat product manufacturing	3116	770	737	709	795	841	818	-9.2	754	-5.4	797
Cookie, cracker and pasta manufacturing	31182	120	124	123	124	132	132	-7.6	122	7.1	128
Other food manufacturing	3119	470	475	470	487	432	424	10.5	473	2.9	455
312 Beverage and tobacco product manufacturing											
Soft drink and ice manufacturing	31211	227	217	205	244	238	217	-2.5	222	7.8	250
Breweries	31212	186	185	182	192	176	174	6.2	185	0.8	185
Wineries	31213	251	254	247	255	255	252	-0.4	253	4.8	251
Distilleries	31214	476	476	471	483	555	557	-14.4	476	3.3	528
Tobacco manufacturing	3122	516	462	439	463	463	435	8.9	489	-1.1	434
313 Textile mills											
Fibre, yarn and thread mills	3131	60	66	67	68	65	64	-2.1	63	0.3	69
Fabric mills	3132	334	334	338	349	390	391	-14.5	334	-12.3	378
Textile and fabric finishing and fabric coating	3133	73	72	68	69	74	74	-2.4	72	11.7	73
314 Textile product mills											
Carpet and rug mills	31411	88	86	86	94	103	103	-15.4	87	2.2	101
Textile bag and canvas mills	31491	37	39	38	39	45	45	-16.0	38	-32.1	42
315 Clothing manufacturing											
Hosiery and sock mills	31511	139	135	136	134	134	120	8.1	137	6.8	142
Other clothing knitting mills	31519	149	142	139	147	151	138	0.2	145	6.1	164
Men's and boys' cut and sew clothing manufacturing	31522	452	450	456	461	509	493	-10.0	451	6.1	507
Women's and girls' cut and sew clothing manufacturing	31523	403	413	399	401	420	446	-5.9	408	1.0	416
Clothing accessories and other clothing manufacturing	3159	67	64	61	61	56	54	18.7	65	8.0	62
316 Leather and allied product manufacturing											
Footwear manufacturing	3162	66	69	70	74	83	80	-16.9	68	-7.4	92
321 Wood product manufacturing											
Sawmills and wood preservation	3211	3,045	2,705	2,503	2,284	3,403	3,054	-10.9	2,875	-5.2	2,770
Veneer, plywood and engineered wood product manufacturing	3212	860	779	725	694	873	799	-2.0	819	5.4	761
Other wood product manufacturing	3219	1,015	973	947	977	1,038	996	-2.3	994	8.0	1,003
322 Paper manufacturing											
Pulp, paper and paperboard mills	3221	2,491	2,444	2,448	2,482	2,546	2,499	-2.2	2,467	-3.1	2,508
Paperboard container manufacturing	32221	469	456	455	479	481	463	-2.1	462	2.8	479
Paper bag and coated and treated paper manufacturing	32222	374	393	383	378	393	392	-2.2	384	4.9	391
Other converted paper product manufacturing	32229	139	136	137	144	146	140	-3.8	138	0.9	146
323 Printing and related support activities											
Printing	32311	832	814	814	829	804	772	4.5	823	-0.5	832
Support activities for printing	32312	35	37	35	35	46	50	-25.3	36	-32.0	37
324 Petroleum and coal products manufacturing											
Petroleum refineries	32411	1,773	1,691	1,545	1,607	1,742	1,706	0.5	1,732	1.4	1,703
325 Chemical manufacturing											
Other basic inorganic chemical manufacturing	32518	251	247	250	250	227	223	10.6	249	8.7	243
Other basic organic chemical manufacturing	32519	289	294	309	325	344	322	-12.6	291	8.7	346
Resin, synthetic rubber, and artificial and synthetic fibres and filaments manufacturing	3252	601	557	542	559	539	532	8.2	579	3.1	565
Pesticide and other agricultural chemical manufacturing	32532	105	96	88	87	80	82	23.6	100	29.1	84
Pharmaceutical and medicine manufacturing	3254	2,882	2,891	2,739	2,717	2,446	2,330	20.9	2,887	14.5	2,545
Paint and coating manufacturing	32551	276	268	249	261	265	253	5.1	272	2.8	268
Adhesive manufacturing	32552	104	99	100	99	89	88	14.6	101	12.8	95
Soap and cleaning compound manufacturing	32561	101	95	95	99	111	115	-12.9	98	-29.0	106
Toilet preparation manufacturing	32562	187	187	183	191	190	195	-2.8	187	8.6	194
Printing ink manufacturing	32591	85	78	83	71	72	75	10.8	81	12.0	74
All other chemical product manufacturing	32599	384	372	376	370	417	409	-8.6	378	1.3	399
326 Plastics and rubber products manufacturing											
Plastic pipe, pipe fitting and unsupported profile shape manufacturing	32612	341	322	295	304	364	363	-8.9	331	-8.5	340
Polystyrene foam product manufacturing	32614	55	55	51	51	55	56	-0.3	55	16.6	54
Other plastic product manufacturing	32619	961	947	918	945	925	926	3.1	954	7.4	938
Other rubber product manufacturing	32629	130	131	128	133	142	143	-8.5	131	-13.0	138

Table 8-2 – continued

Inventory owned for selected industries - Unadjusted

	NAICS Code	Current periods				Previous year		Year to date		Average per month	
		Feb. 2004	Jan. 2004	Dec. 2003	Nov. 2003	Feb. 2003	Jan. 2003	% Change from 2003	Average 2004	% Change from 2002	2003
327 Non-metallic mineral product manufacturing											
Clay product and refractory manufacturing	3271	75	68	67	71	80	81	-11.4	71	-8.1	76
Glass and glass product manufacturing	3272	254	250	245	250	252	252	0.1	252	-2.2	252
Cement manufacturing	32731	211	197	174	151	206	208	-1.7	204	-6.8	182
Ready-mix concrete manufacturing	32732	85	84	83	83	84	89	-2.2	84	-7.7	87
Other concrete product manufacturing	32739	142	139	124	124	108	101	34.7	141	12.0	117
Abrasive product manufacturing	32791	49	50	48	52	70	70	-29.2	50	-19.4	61
All other non-metallic mineral product manufacturing	32799	130	130	129	129	133	127	0.0	130	8.2	131
331 Primary metal manufacturing											
Iron and steel mills and ferro-alloy manufacturing	3311	1,745	1,830	1,855	1,859	2,078	2,123	-14.9	1,787	-1.8	1,950
Iron and steel pipes and tubes manufacturing from purchased steel	33121	472	523	478	499	491	494	1.1	497	2.3	495
Foundries	3315	274	278	273	289	293	289	-5.3	276	1.6	291
332 Fabricated metal product manufacturing											
Cutlery and hand tool manufacturing	3322	85	83	80	82	87	87	-3.2	84	2.2	83
Plate work and fabricated structural product manufacturing	33231	677	656	612	630	664	638	2.3	666	-1.8	677
Power boiler and heat exchanger manufacturing	33241	89	88	83	86	100	101	-12.4	88	4.1	96
Spring and wire product manufacturing	3326	143	137	137	141	203	205	-31.5	140	-11.6	172
Coating, engraving, heat treating and allied activities	3328	176	163	165	159	187	188	-9.3	170	-2.0	169
Other fabricated metal product manufacturing	3329	615	631	575	571	570	573	9.1	623	6.5	580
333 Machinery manufacturing											
Agricultural implement manufacturing	33311	450	445	441	466	525	527	-15.0	448	1.3	475
Ventilation, heating, air-conditioning and commercial refrigeration equipment manufacturing	3334	304	296	300	310	316	307	-3.8	300	-7.2	324
All other general-purpose machinery manufacturing	33399	563	551	561	582	499	514	9.9	557	15.0	530
334 Computer and electronic product manufacturing											
Computer and peripheral equipment manufacturing	3341	574	580	557	640	702	695	-17.4	577	1.2	669
Communications equipment manufacturing	3342	2,300	2,310	2,217	2,319	2,593	2,607	-11.4	2,305	-12.2	2,387
Audio and video equipment manufacturing	3343	60	59	56	58	63	62	-4.9	59	5.0	59
335 Electrical equipment, appliance and component manufacturing											
Lighting fixture manufacturing	33512	142	136	134	131	150	156	-9.5	139	-9.1	141
Small electrical appliance manufacturing	33521	39	40	45	42	38	38	4.1	40	9.3	40
Major appliance manufacturing	33522	195	181	173	184	185	178	3.4	188	12.0	186
Battery manufacturing	33591	44	42	40	42	33	33	29.6	43	-10.8	37
Communication and energy wire and cable manufacturing	33592	788	774	736	774	794	812	-2.8	781	-0.1	808
All other electrical equipment and component manufacturing	33599	100	101	98	101	102	104	-2.3	100	-2.0	103
336 Transportation equipment manufacturing											
Motor vehicle manufacturing	3361	1,401	1,277	1,183	1,258	1,345	1,318	0.5	1,339	-8.6	1,288
Motor vehicle parts manufacturing	3363	1,883	1,812	1,819	1,908	1,869	1,862	-1.0	1,847	13.1	1,847
Aerospace product and parts manufacturing	3364	3,681	4,010	4,397	4,668	5,237	5,089	-25.5	3,846	-30.5	4,874
Railroad rolling stock manufacturing	3365	672	746	740	774	900	930	-22.5	709	-7.5	876
Ship and boat building	3366	126	130	127	137	143	147	-11.8	128	-1.8	129
337 Furniture and related product manufacturing											
Household and institutional furniture and kitchen cabinet manufacturing	3371	764	764	748	746	828	805	-6.4	764	1.3	790
Office furniture (including fixtures) manufacturing	3372	321	317	327	342	322	323	-1.1	319	8.9	335
339 Miscellaneous manufacturing											
Medical equipment and supplies manufacturing	3391	253	251	297	307	244	243	3.6	252	13.0	255
Other miscellaneous manufacturing	3399	974	943	910	934	969	988	-2.0	959	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							
February 2003	26,805	14,658	20,719	62,182	26,193	14,643	20,575	61,410
March 2003	27,171	14,471	21,280	62,922	26,484	14,341	20,801	61,625
April 2003	26,694	14,530	21,469	62,694	26,396	14,438	20,954	61,789
May 2003	25,843	14,491	21,346	61,680	26,047	14,259	20,937	61,243
June 2003	25,401	13,943	20,938	60,282	25,824	13,870	20,788	60,481
July 2003	25,574	13,406	20,505	59,485	25,873	13,602	20,654	60,129
August 2003	25,520	13,515	20,386	59,420	25,705	13,443	20,393	59,541
September 2003	25,155	13,396	20,250	58,801	25,527	13,401	20,379	59,307
October 2003	25,049	13,296	19,853	58,199	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	24,885	12,897	19,444	57,226	24,964	13,131	20,121	58,215
January 2004	25,491	12,969	19,790	58,250	25,215	13,149	20,077	58,442
February 2004	25,837	12,963	20,413	59,214	25,072	12,734	20,192	57,997

Table 10

Shipments by major group and province - Unadjusted

Province	Current year				Previous year		Year to date		Annual	
	Feb. 2004	Jan. 2004	Dec. 2003	Nov. 2003	Feb. 2003	Jan. 2003	% Change from 2003	2004	% Change from 2002	2003
	$ millions									
Total										
Newfoundland and Labrador	**179**	**172**	**203**	**208**	**148**	**163**	**12.7**	**351**	**12.5**	**2,827**
Prince Edward Island	**97**	**94**	**105**	**119**	**82**	**90**	**11.2**	**191**	**2.2**	**1,356**
Nova Scotia	**631**	**658**	**695**	**712**	**667**	**677**	**-4.1**	**1,289**	**2.7**	**8,523**
New Brunswick	**952**	**877**	**1,057**	**1,062**	**948**	**1,011**	**-6.6**	**1,829**	**2.7**	**12,866**
Quebec	**10,022**	**10,084**	**10,476**	**10,750**	**9,967**	**10,153**	**-0.1**	**20,106**	**-1.3**	**128,514**
Ontario	**23,316**	**22,354**	**22,055**	**23,810**	**23,567**	**24,109**	**-4.2**	**45,670**	**-1.7**	**289,200**
Manitoba	**921**	**912**	**952**	**936**	**882**	**895**	**3.1**	**1,833**	**1.3**	**11,411**
Saskatchewan	**715**	**665**	**632**	**629**	**612**	**637**	**10.5**	**1,380**	**3.7**	**7,913**
Alberta	**3,748**	**3,691**	**3,865**	**3,793**	**3,622**	**3,781**	**0.5**	**7,439**	**4.9**	**45,829**
British Columbia	**3,008**	**2,787**	**2,921**	**2,959**	**2,883**	**2,895**	**0.3**	**5,795**	**-3.3**	**37,224**
311 Food manufacturing										
Newfoundland and Labrador	52	53	66	77	48	45	12.8	104	-9.3	1,056
Prince Edward Island	62	63	72	76	54	63	7.1	125	-1.0	902
Nova Scotia	146	144	177	165	150	145	-1.6	290	-0.7	1,999
New Brunswick	117	122	153	175	101	114	11.8	240	0.6	2,034
Quebec	1,244	1,199	1,261	1,330	1,153	1,129	7.1	2,443	5.2	15,169
Ontario	1,999	1,992	2,200	2,168	1,851	1,897	6.5	3,991	1.9	25,008
Manitoba	199	211	223	214	186	193	7.9	410	1.0	2,457
Saskatchewan	163	158	175	167	144	158	6.2	321	4.0	1,947
Alberta	685	706	680	695	661	676	4.0	1,390	-3.5	7,976
British Columbia	353	352	401	384	338	361	0.8	705	3.5	4,890
312 Beverage and tobacco product manufacturing										
Nova Scotia	14	11	22	16	14	11	0.0	25	17.5	223
Quebec	251	251	362	329	233	250	4.1	502	9.4	3,965
Ontario	345	321	448	442	382	325	-5.7	666	0.6	5,316
Saskatchewan	2	2	3	2	2	2	12.9	4	-48.8	33
British Columbia	73	64	99	81	68	65	2.9	137	0.4	1,091
313 Textile mills										
Quebec	153	147	147	168	165	162	-8.3	300	-13.6	2,046
Ontario	86	84	77	85	83	87	0.0	170	-10.0	1,028
314 Textile product mills										
Quebec	63	63	63	77	74	69	-11.7	126	-11.0	912
Ontario	75	78	72	76	87	87	-12.3	153	-9.7	1,038
Alberta	4	5	5	5	5	4	0.6	9	6.2	58
British Columbia	7	7	9	10	9	8	-16.5	14	-26.9	117
315 Clothing manufacturing										
Quebec	337	292	265	338	374	327	-10.3	629	-7.0	4,246
Ontario	144	137	143	184	151	158	-9.2	281	-6.1	1,923
Manitoba	21	21	20	25	20	19	6.9	42	-5.1	263
Saskatchewan	2	2	3	3	3	2	-13.6	4	7.6	28
Alberta	x	x	x	x	10	11	x	x	-19.3	x
British Columbia	27	30	29	30	32	33	-11.8	57	-2.4	384
316 Leather and allied product manufacturing										
Quebec	24	23	22	32	24	24	-2.4	47	-9.4	390
Ontario	17	14	24	23	16	17	-8.4	30	-15.5	239
321 Wood product manufacturing										
Nova Scotia	35	41	32	46	37	39	0.0	76	-1.8	543
Quebec	709	619	578	762	686	670	-2.0	1,329	-0.9	8,848
Ontario	434	388	405	513	442	449	-7.8	821	-2.0	6,060
Manitoba	61	53	50	59	42	49	25.1	114	4.5	697
Saskatchewan	47	36	38	50	30	30	39.9	83	14.6	468
Alberta	273	236	250	284	197	205	26.7	509	11.3	2,932
British Columbia	867	774	723	769	821	798	1.4	1,641	-12.0	9,913
322 Paper manufacturing										
Nova Scotia	72	75	64	81	69	64	9.6	146	1.3	875
Quebec	801	808	794	821	870	920	-10.1	1,610	-8.4	10,620
Ontario	810	813	788	862	899	935	-11.5	1,623	-1.9	10,824
Alberta	137	130	149	135	137	139	-3.4	267	1.4	1,788
British Columbia	465	436	459	448	437	474	-1.2	901	2.8	5,652
323 Printing and related support activities										
Quebec	227	213	220	238	212	216	2.6	440	-3.7	2,758
Ontario	484	466	530	587	493	513	-5.5	951	0.4	6,421
Manitoba	38	36	45	45	37	36	0.2	73	-1.2	510
Saskatchewan	10	11	12	11	10	10	5.3	21	5.4	147
Alberta	49	48	55	58	52	54	-8.6	97	-5.6	662

Table 10 – continued

Shipments by major group and province - Unadjusted

Province	Current year				Previous year		Year to date		Annual	
	Feb. 2004	Jan. 2004	Dec. 2003	Nov. 2003	Feb. 2003	Jan. 2003	% Change from 2003	2004	% Change from 2002	2003
British Columbia	53	55	63	69	58	59	-7.1	108	-8.3	760
324 Petroleum and coal products manufacturing										
Quebec	728	714	657	656	774	727	-4.0	1,442	12.2	8,007
Ontario	1,044	1,050	896	936	996	1,029	3.4	2,095	6.8	11,670
Alberta	672	693	638	602	734	702	-5.0	1,364	10.2	8,200
British Columbia	x	x	x	x	105	107	x	x	-15.5	x
325 Chemical manufacturing										
Quebec	661	629	669	684	650	648	-0.6	1,290	0.0	8,556
Ontario	1,783	1,753	1,728	1,667	1,708	1,830	-0.1	3,536	3.1	21,357
Manitoba	58	70	72	66	60	67	1.7	129	28.3	815
Saskatchewan	84	77	35	40	61	67	25.4	160	16.5	799
Alberta	647	646	680	656	706	765	-12.1	1,294	5.3	8,276
British Columbia	81	76	81	84	83	81	-4.4	156	6.6	1,084
326 Plastics and rubber products manufacturing										
Nova Scotia	84	79	78	85	76	86	0.5	163	-7.4	1,028
Quebec	471	442	435	508	448	449	1.7	912	5.8	6,038
Ontario	1,173	1,102	1,041	1,227	1,169	1,254	-6.1	2,275	-0.9	14,790
Manitoba	42	39	42	46	44	43	-6.5	82	5.7	568
Saskatchewan	8	8	6	8	8	7	-0.6	15	3.5	107
Alberta	61	53	61	68	58	56	0.4	115	0.9	836
British Columbia	80	73	81	91	82	80	-5.0	154	9.6	1,156
327 Non-metallic mineral product manufacturing										
Nova Scotia	x	x	x	x	6	8	x	x	-5.0	x
Quebec	152	133	149	236	128	134	8.7	285	4.3	2,678
Ontario	344	305	386	487	327	329	-1.1	649	5.5	5,559
Saskatchewan	2	2	2	3	2	2	-14.8	4	-7.7	71
Alberta	93	90	100	111	99	104	-9.9	183	-0.7	1,556
British Columbia	111	93	98	116	98	95	6.4	204	11.6	1,416
331 Primary metal manufacturing										
Quebec	1,340	1,316	1,325	1,172	1,195	1,245	8.8	2,656	3.1	14,769
Ontario	1,436	1,432	1,327	1,413	1,435	1,576	-4.8	2,867	-2.8	16,912
Alberta	157	162	158	163	160	158	0.6	319	41.3	1,812
332 Fabricated metal product manufacturing										
Newfoundland and Labrador	13	14	10	15	8	8	72.4	27	49.4	153
Prince Edward Island	2	2	3	4	4	1	-22.5	4	19.2	27
Nova Scotia	18	21	28	27	19	18	4.2	38	23.6	318
New Brunswick	21	25	23	31	21	22	6.7	46	-3.4	330
Quebec	494	452	517	595	474	485	-1.4	946	0.5	6,598
Ontario	1,397	1,291	1,251	1,456	1,364	1,408	-3.0	2,688	-3.9	17,457
Manitoba	48	45	49	48	47	47	-1.6	93	6.0	620
Saskatchewan	28	28	27	32	27	26	5.2	56	4.9	389
Alberta	273	255	303	309	236	254	7.7	528	22.6	3,408
British Columbia	133	124	128	131	133	130	-2.5	257	0.4	1,721
333 Machinery manufacturing										
Quebec	381	358	445	469	383	370	-2.0	738	-3.7	4,920
Ontario	1,037	1,039	1,088	1,081	1,079	1,102	-4.8	2,076	-6.8	13,689
Manitoba	66	73	72	64	68	66	3.4	138	-9.0	802
Saskatchewan	58	46	47	42	54	47	3.9	105	-10.7	611
Alberta	296	305	331	267	230	267	20.8	601	13.0	3,308
British Columbia	155	141	152	162	156	135	2.0	296	9.1	1,837
334 Computer and electronic product manufacturing										
Quebec	471	421	619	481	465	447	-2.2	892	-17.3	5,856
Ontario	760	696	963	907	728	710	1.3	1,457	-7.8	9,755
Saskatchewan	18	20	16	14	12	13	48.5	38	32.2	167
Alberta	135	84	172	152	105	133	-8.0	219	-31.8	1,521
British Columbia	95	83	91	104	73	75	19.4	177	-10.0	1,101
335 Electrical equipment, appliance and component manufacturing										
Quebec	267	260	269	297	254	277	-0.9	527	-1.3	3,405
Ontario	464	414	434	464	432	425	2.5	878	-7.9	5,458
Manitoba	13	12	13	14	13	14	-9.6	25	-22.0	166
Saskatchewan	12	11	12	12	9	10	15.6	22	-31.9	145
Alberta	36	33	33	36	25	24	42.5	69	10.3	358
British Columbia	31	26	26	31	31	30	-5.8	57	1.6	368
336 Transportation equipment manufacturing										
Nova Scotia	57	55	65	61	51	55	5.0	112	-10.6	707
Quebec	776	1,300	1,155	983	930	1,162	-0.7	2,076	-7.1	12,570
Ontario	8,612	8,089	7,380	8,340	9,011	9,071	-7.6	16,701	-3.3	103,509

Table 10 – continued

Shipments by major group and province - Unadjusted

Province	Current year				Previous year		Year to date		Annual	
	Feb. 2004	Jan. 2004	Dec. 2003	Nov. 2003	Feb. 2003	Jan. 2003	% Change from 2003	2004	% Change from 2002	2003
Manitoba	131	119	131	122	138	134	-7.9	251	3.6	1,697
Saskatchewan	20	19	19	17	19	23	-6.2	39	-11.5	240
Alberta	61	71	58	60	61	64	5.2	132	9.0	780
British Columbia	87	82	74	74	82	80	3.9	169	-36.7	991
337 Furniture and related product manufacturing										
Quebec	313	306	299	331	314	298	1.1	619	-5.6	3,940
Ontario	596	661	601	625	598	637	1.8	1,257	6.2	7,627
Manitoba	44	38	42	45	45	40	-3.4	82	-1.0	544
Saskatchewan	5	5	5	5	5	5	-6.5	9	8.7	68
Alberta	63	65	67	69	65	73	-7.4	128	-10.5	851
British Columbia	62	56	63	63	64	67	-9.5	118	5.6	799
339 Miscellaneous manufacturing										
Newfoundland and Labrador	1	1	1	1	1	1	0.1	1	-10.9	11
Quebec	160	136	225	244	158	144	-2.0	296	-1.1	2,221
Ontario	274	233	272	265	316	272	-13.7	507	2.6	3,560
Manitoba	x	x	x	x	15	13	x	x	-19.9	x
Saskatchewan	x	x	x	x	4	4	x	x	-6.6	x
Alberta	32	45	43	42	26	44	11.1	78	44.3	534
British Columbia	x	x	x	x	43	48	x	x	-17.0	x

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 trans-ac-tions 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 fin-ished product inventories separate-ly. 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 gen-erally maintained. In the case of the aircraft companies, options to purchase are not treated as orders until they are entered into the account-ing 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

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

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

Data quality

Statistical edit and imputation

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

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

Revisions

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

Estimation

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

Benchmarking

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

Text Table 1

National Level CVs by Characteristic

Month	Shipments	Raw material Inventories	Goods in process Inventories	Finished products Inventories	Unfilled orders
			%		
February 2003	0.51	0.89	0.78	1.20	2.20
March 2003	0.53	0.94	0.82	1.23	2.19
April 2003	0.55	0.91	0.83	1.26	2.17
May 2003	0.56	0.94	0.81	1.28	2.14
June 2003	0.55	0.94	0.81	1.33	2.23
July 2003	0.62	0.97	0.85	1.42	2.23
August 2003	0.53	0.98	0.85	1.36	2.24
September 2003	0.57	0.99	0.91	1.42	2.07
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	1.07	1.35	2.01
January 2004	0.58	1.08	1.04	1.37	1.89
February 2004	0.55	1.10	1.07	1.38	1.94

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

Text Table 2

Average national weighted rates by characteristic

Characteristic	Response	Imputation	Editing
	%		
Shipments	91.76	5.80	2.44
Raw materials	79.11	17.50	3.39
Goods in process	66.45	10.06	23.49
Finished products	79.38	13.71	6.91
Unfilled orders	84.69	7.37	7.94

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.