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Wholesale Trade

February 2011

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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	suppressed to meet the confidentiality requirements of the *Statistics Act*
E	use with caution
F	too unreliable to be published

Note to users

Figures may not add up to totals because of rounding.

Acknowledgements

This publication was prepared under the direction of:

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Highlights

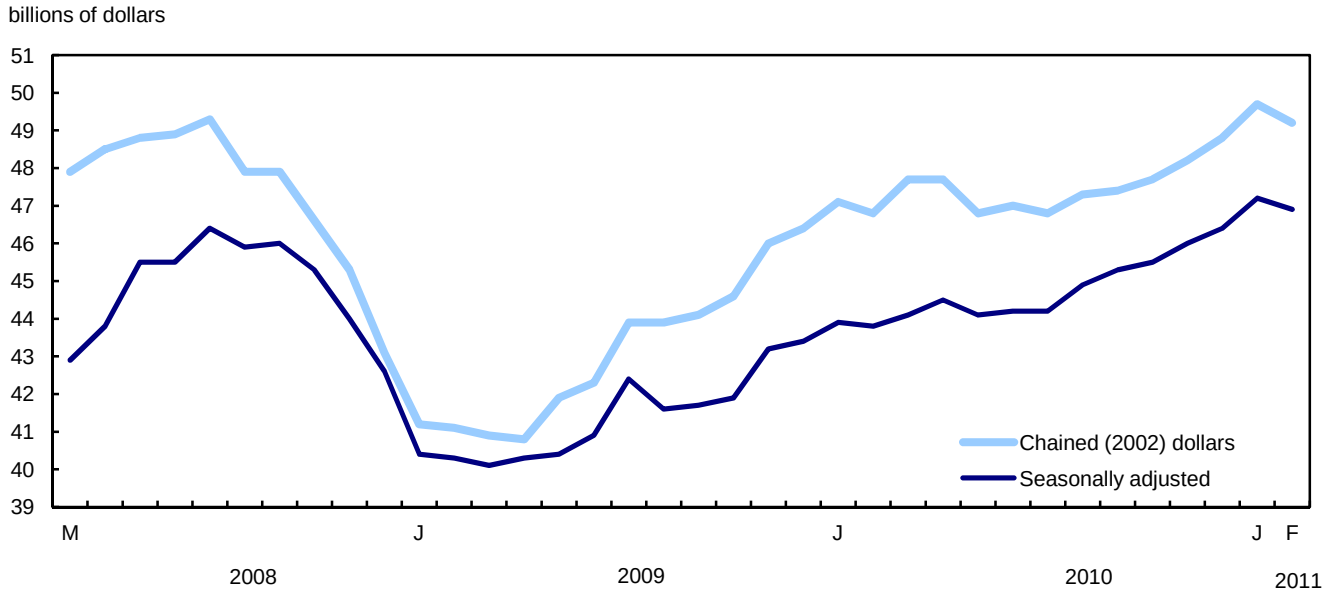
- Wholesale sales fell 0.6% in February to $46.9 billion, largely as a result of lower sales in the motor vehicle and parts and the miscellaneous subsectors. This decline followed six months of consecutive increases.

Analysis — February 2011

Wholesale sales fell 0.6% in February to $46.9 billion, largely as a result of lower sales in the motor vehicle and parts and the miscellaneous subsectors. This decline followed six months of consecutive increases.

In volume terms, wholesale sales declined 1.0% in February.

Chart 1
Wholesale sales



Despite the decrease in February, wholesale sales were 16.8% higher than their most recent low in March 2009. Since then, wholesalers have increased in 18 of the past 23 months.

Declines were observed in four of the seven subsectors in February, representing approximately half of the total sales.

Motor vehicle sales post the largest decrease

Sales in the motor vehicle and parts subsector fell 3.1% in February, owing to decreased sales in the motor vehicle industry. This industry registered a 4.3% decline, partially offsetting the strong growth in January. Sales in this industry have remained relatively stable since the end of 2009.

Sales in the miscellaneous subsector were down 3.5%, reflecting lower sales in all of its component industries. The agricultural supplies industry led the decline, with a 5.6% decrease in sales.

The other subsectors with lower sales included personal and household goods (-0.7%) and farm products (-3.2%).

These decreases were partially offset by a 2.0% sales increase in the machinery, equipment and supplies subsector.

Sales down in most provinces

Sales fell in eight provinces in February, while sales edged up in Ontario and New Brunswick.

Note to readers

All the data in this release are seasonally adjusted and in current dollars, unless otherwise noted.

Unadjusted monthly data were revised back to January 2009, while seasonally adjusted data were revised back to January 2006. Factors influencing revisions include late receipt of respondent information, correction of information in the data provided, the replacement of estimated figures with actual values (once available), the reclassification of companies within, into and out of the wholesale trade industry and updates to seasonal factors.

Data in volume terms have also been revised back to January 2004.

Wholesale sales in volume terms are calculated by deflating current dollar values using import and industry product price indexes. Since many of the goods sold by wholesalers are imported, fluctuations in the value of the Canadian dollar can have an important influence on the prices of goods bought and sold by wholesalers.

The wholesale sales series in chained (2002) dollars is a chained Fisher volume index with 2002 as the reference year.

Quebec wholesalers contributed the most to the decline, followed by wholesalers in Alberta and Saskatchewan.

In Quebec, sales were down for the first time in five months, falling 1.7%. This decrease was largely a result of lower sales in the miscellaneous subsector and in the personal and household goods subsector.

In Alberta, sales decreased for a second consecutive month. These declines followed a period of robust growth that began in late 2009, driven by strong sales in the machinery, equipment and supplies subsector.

In Saskatchewan, the 2.5% decrease in February followed a strong sales increase in January.

Inventories up slightly

Inventories rose 0.3% in February to $54.3 billion. Wholesale inventories have been up since the start of 2010, after falling sharply in 2009.

In February, increases were reported by wholesalers in 14 of the 25 industries, led by the metal service centres industry (+3.3%) and the motor vehicle industry (+2.2%).

The inventory-to-sales ratio edged up from 1.15 in January to 1.16 in February. The inventory-to-sales ratio is a measure of the time in months required to exhaust inventories if sales were to remain at their current level.

Chart 2
Inventory-to-sales ratio

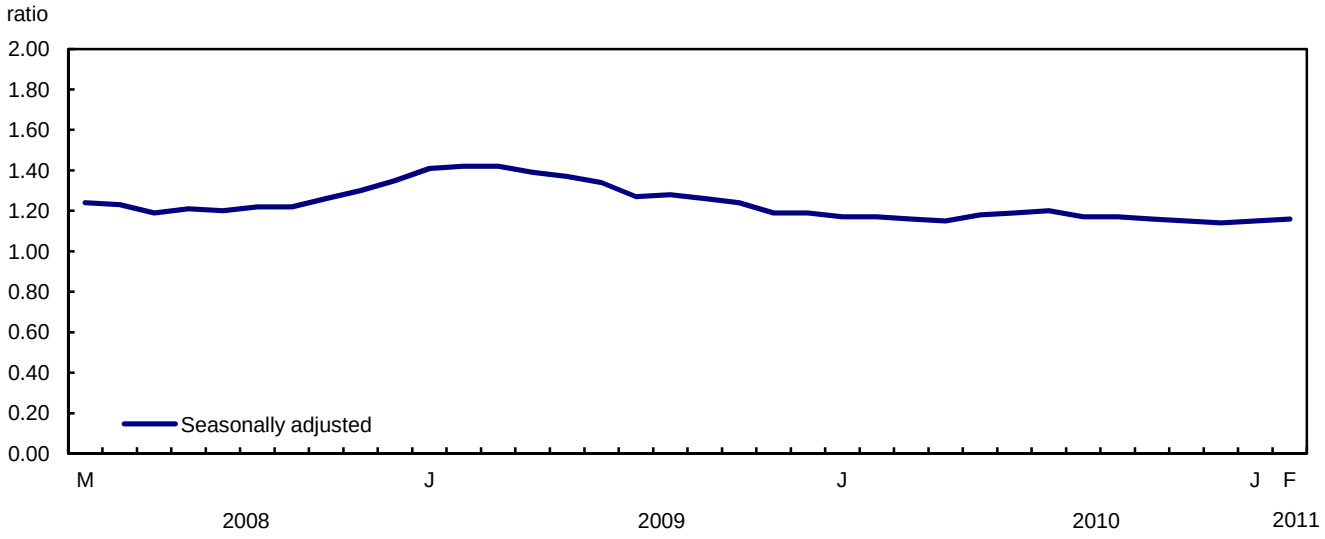
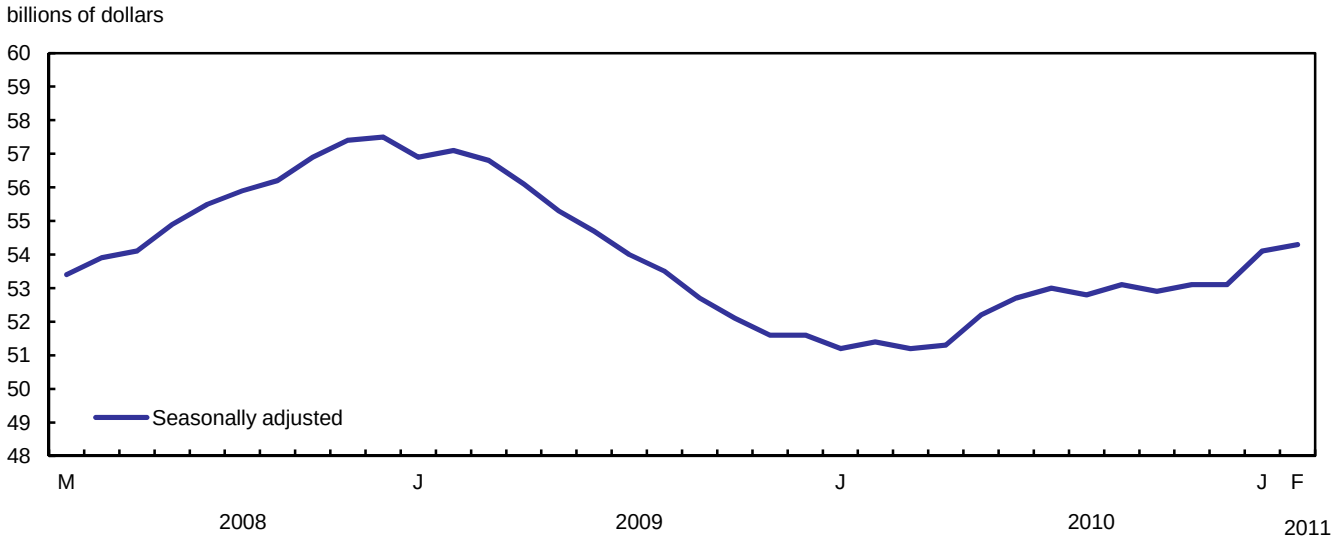


Chart 3
Inventories



Related products

Selected technical and analytical products from Statistics Canada

11-621-M2005026	Wholesalers: A Key Link in Canada's Economy
11-621-M2006040	Between the Producer and Retailer: A Review of Wholesale Trade for 2005

Selected CANSIM tables from Statistics Canada

081-0011	Wholesale trade, sales by the North American Industry Classification System (NAICS), monthly
081-0012	Wholesale trade, inventories by the North American Industry Classification System (NAICS), monthly
081-0013	Wholesale trade, sales, chained dollars and price index based on the North American Industry Classification System (NAICS), monthly

Selected surveys from Statistics Canada

2401	Wholesale Trade Survey (Monthly)

Selected summary tables from Statistics Canada

- *Wholesale merchants' sales, by province and territory*
- *Wholesale merchants' sales, by industry (monthly)*
- *Wholesale merchants' inventories, by industry (monthly)*
- *Wholesale merchants' sales, by industry*
- *Wholesale merchants' inventories, by industry*
- *Wholesale merchants' sales, by province and territory (monthly)*

Statistical tables

Table 1-1
Wholesale merchants — Sales, by NAICS and region, seasonally adjusted — Sales

	February [p] 2011	January [r] 2011	December [r] 2010	November [r] 2010	Year-to-date 2011
	millions of dollars				
NAICS - Canada					
Wholesale trade*[41]*	**46,872**	**47,156**	**46,415**	**46,006**	**94,028**
Farm product wholesaler-distributors*[411]*	**524**	**542**	**551**	**600**	**1,067**
Food, beverage and tobacco wholesaler-distributors*[413]*	**8,987**	**8,948**	**8,793**	**8,827**	**17,935**
Food*[4131]*	8,015	7,951	7,828	7,869	15,966
Beverage*[4132]*	460	492	463	461	952
Cigarette and tobacco product*[4133]*	512	505	503	497	1,017
Personal and household goods wholesaler-distributors*[414]*	**6,969**	**7,021**	**6,973**	**6,882**	**13,990**
Textile, clothing and footwear*[4141]*	949	953	950	908	1,902
Home entertainment equipment and household appliance*[4142]*	692	741	755	793	1,433
Home furnishings*[4143]*	512	516	510	522	1,029
Personal goods*[4144]*	768	776	765	744	1,544
Pharmaceuticals and pharmacy supplies*[41451]*	3,379	3,369	3,340	3,259	6,749
Toiletries, cosmetics and sundries*[41452]*	668	665	654	656	1,333
Motor vehicle and parts wholesaler-distributors*[415]*	**7,734**	**7,982**	**7,624**	**7,540**	**15,716**
Motor vehicle*[4151]*	5,812	6,076	5,706	5,651	11,888
New motor vehicle parts and accessories*[4152]*	1,873	1,858	1,865	1,840	3,731
Used motor vehicle parts and accessories*[4153]*	48	48	52	49	96
Building material and supplies wholesaler-distributors*[416]*	**6,557**	**6,542**	**6,360**	**6,265**	**13,099**
Electrical, plumbing, heating and air-conditioning equipment and supplies*[4161]*	2,101	2,066	2,028	2,025	4,167
Metal service centres*[4162]*	1,452	1,422	1,418	1,354	2,875
Lumber, millwork, hardware and other building supplies*[4163]*	3,003	3,054	2,914	2,885	6,057
Machinery, equipment and supplies wholesaler-distributors*[417]*	**9,977**	**9,779**	**9,919**	**9,820**	**19,756**
Farm, lawn and garden machinery and equipment*[4171]*	1,074	1,041	1,041	1,045	2,115
Construction, forestry, mining, and industrial machinery, equipment and supplies*[4172]*	3,186	3,224	3,231	3,195	6,410
Computer and communications equipment and supplies*[4173]*	3,248	3,203	3,351	3,175	6,451
Other machinery, equipment and supplies*[4179]*	2,470	2,310	2,297	2,405	4,780
Miscellaneous wholesaler-distributors*[418]*	**6,123**	**6,343**	**6,194**	**6,073**	**12,466**
Recyclable material*[4181]*	758	822	740	726	1,580
Paper, paper product and disposable plastic product*[4182]*	782	800	805	809	1,582
Agricultural supplies*[4183]*	1,571	1,664	1,683	1,562	3,235
Chemical (except agricultural) and allied product*[4184]*	1,099	1,107	1,122	1,092	2,206
Other miscellaneous*[4189]*	1,913	1,950	1,845	1,883	3,862
Regions					
Newfoundland and Labrador	310	326	298	295	636
Prince Edward Island	46	46	47	48	92
Nova Scotia	643	660	651	645	1,303
New Brunswick	498	497	493	473	995
Quebec	8,900	9,054	8,924	8,867	17,954
Ontario	23,848	23,815	23,421	23,182	47,663
Manitoba	1,212	1,213	1,213	1,212	2,425
Saskatchewan	1,651	1,693	1,621	1,574	3,344
Alberta	5,486	5,555	5,572	5,560	11,041
British Columbia	4,206	4,229	4,104	4,080	8,435
Yukon	11	11	9	10	22
Northwest Territories	53	51	54	54	103
Nunavut	7	6	8	6	12

Note(s): NAICS: North American Industry Classification System Canada

Table 1-2
Wholesale merchants — Sales, by NAICS and region, seasonally adjusted — Percentage change from previous month

	February [p] 2011	January [r] 2011	December [r] 2010	November [r] 2010
	percent			
NAICS - Canada				
Wholesale trade*[41]*	**-0.6**	**1.6**	**0.9**	**1.1**
Farm product wholesaler-distributors*[411]*	**-3.2**	**-1.7**	**-8.1**	**9.0**
Food, beverage and tobacco wholesaler-distributors*[413]*	**0.4**	**1.8**	**-0.4**	**1.3**
Food*[4131]*	0.8	1.6	-0.5	1.4
Beverage*[4132]*	-6.6	6.4	0.3	3.2
Cigarette and tobacco product*[4133]*	1.5	0.4	1.1	-2.6
Personal and household goods wholesaler-distributors*[414]*	**-0.7**	**0.7**	**1.3**	**-0.9**
Textile, clothing and footwear*[4141]*	-0.4	0.3	4.6	0.6
Home entertainment equipment and household appliance*[4142]*	-6.6	-1.8	-4.8	4.2
Home furnishings*[4143]*	-0.7	1.3	-2.4	13.4
Personal goods*[4144]*	-1.0	1.4	2.8	-3.7
Pharmaceuticals and pharmacy supplies*[41451]*	0.3	0.9	2.5	-3.3
Toiletries, cosmetics and sundries*[41452]*	0.4	1.7	-0.3	-3.1
Motor vehicle and parts wholesaler-distributors*[415]*	**-3.1**	**4.7**	**1.1**	**-4.1**
Motor vehicle*[4151]*	-4.3	6.5	1.0	-6.6
New motor vehicle parts and accessories*[4152]*	0.8	-0.4	1.4	4.0
Used motor vehicle parts and accessories*[4153]*	1.1	-7.3	5.4	-0.6
Building material and supplies wholesaler-distributors*[416]*	**0.2**	**2.9**	**1.5**	**0.6**
Electrical, plumbing, heating and air-conditioning equipment and supplies*[4161]*	1.7	1.9	0.2	2.5
Metal service centres*[4162]*	2.1	0.3	4.7	3.7
Lumber, millwork, hardware and other building supplies*[4163]*	-1.7	4.8	1.0	-2.1
Machinery, equipment and supplies wholesaler-distributors*[417]*	**2.0**	**-1.4**	**1.0**	**5.4**
Farm, lawn and garden machinery and equipment*[4171]*	3.1	0.0	-0.4	4.2
Construction, forestry, mining, and industrial machinery, equipment and supplies*[4172]*	-1.2	-0.2	1.1	4.6
Computer and communications equipment and supplies*[4173]*	1.4	-4.4	5.5	7.5
Other machinery, equipment and supplies*[4179]*	6.9	0.6	-4.5	4.4
Miscellaneous wholesaler-distributors*[418]*	**-3.5**	**2.4**	**2.0**	**3.5**
Recyclable material*[4181]*	-7.9	11.2	1.9	4.1
Paper, paper product and disposable plastic product*[4182]*	-2.2	-0.7	-0.5	6.0
Agricultural supplies*[4183]*	-5.6	-1.1	7.7	6.6
Chemical (except agricultural) and allied product*[4184]*	-0.7	-1.3	2.8	3.6
Other miscellaneous*[4189]*	-1.9	5.7	-2.0	-0.2
Regions				
Newfoundland and Labrador	-5.0	9.4	1.2	6.8
Prince Edward Island	-0.2	-0.9	-2.1	14.3
Nova Scotia	-2.7	1.5	0.9	-0.6
New Brunswick	0.3	0.9	4.1	-2.5
Quebec	-1.7	1.5	0.6	3.5
Ontario	0.1	1.7	1.0	0.2
Manitoba	-0.1	0.0	0.1	0.5
Saskatchewan	-2.5	4.4	3.0	4.6
Alberta	-1.2	-0.3	0.2	1.8
British Columbia	-0.5	3.0	0.6	-0.3
Yukon	2.6	22.9	-10.3	-6.9
Northwest Territories	4.6	-6.3	0.2	-1.2
Nunavut	17.1	-29.9	40.3	7.5

Note(s): NAICS: North American Industry Classification System Canada

Table 1-3
Wholesale merchants — Sales, by NAICS and region, seasonally adjusted — Percentage change from previous year

	February [p] 2011	January [r] 2011	December [r] 2010	November [r] 2010	Year-to-date 2011
	percent				
NAICS - Canada					
Wholesale trade*[41]*	**7.0**	**7.4**	**7.0**	**6.5**	**7.2**
Farm product wholesaler-distributors*[411]*	**-0.3**	**6.9**	**11.6**	**26.2**	**3.3**
Food, beverage and tobacco wholesaler-distributors*[413]*	**5.6**	**7.8**	**5.3**	**6.4**	**6.7**
Food*[4131]*	5.5	7.5	5.5	6.5	6.5
Beverage*[4132]*	10.6	22.1	11.6	15.3	16.3
Cigarette and tobacco product*[4133]*	3.2	0.6	-1.6	-2.8	1.9
Personal and household goods wholesaler-distributors*[414]*	**-1.4**	**-1.8**	**-1.1**	**-4.3**	**-1.6**
Textile, clothing and footwear*[4141]*	12.4	8.9	7.9	8.0	10.6
Home entertainment equipment and household appliance*[4142]*	-6.9	-2.6	2.5	8.5	-4.7
Home furnishings*[4143]*	3.4	4.1	3.7	9.2	3.7
Personal goods*[4144]*	-10.4	-13.9	-18.1	-19.3	-12.2
Pharmaceuticals and pharmacy supplies*[41451]*	-2.6	-2.5	0.5	-8.1	-2.6
Toiletries, cosmetics and sundries*[41452]*	2.0	0.5	F	F	1.2
Motor vehicle and parts wholesaler-distributors*[415]*	**6.1**	**6.5**	**1.6**	**0.9**	**6.3**
Motor vehicle*[4151]*	1.4	3.1	-3.9	-3.9	2.2
New motor vehicle parts and accessories*[4152]*	23.8	19.0	22.3	18.7	21.4
Used motor vehicle parts and accessories*[4153]*	17.7	18.9	F	F	18.3
Building material and supplies wholesaler-distributors*[416]*	**7.3**	**8.5**	**7.5**	**7.1**	**7.9**
Electrical, plumbing, heating and air-conditioning equipment and supplies*[4161]*	12.1	9.2	6.6	7.3	10.6
Metal service centres*[4162]*	22.8	21.1	31.3	23.7	21.9
Lumber, millwork, hardware and other building supplies*[4163]*	-1.7	3.1	-0.7	0.7	0.7
Machinery, equipment and supplies wholesaler-distributors*[417]*	**16.0**	**10.7**	**15.0**	**16.3**	**13.3**
Farm, lawn and garden machinery and equipment*[4171]*	10.4	4.6	6.1	7.9	7.4
Construction, forestry, mining, and industrial machinery, equipment and supplies*[4172]*	20.7	18.4	27.6	31.2	19.5
Computer and communications equipment and supplies*[4173]*	16.5	17.3	21.8	18.5	16.9
Other machinery, equipment and supplies*[4179]*	12.2	-3.0	-2.6	2.1	4.3
Miscellaneous wholesaler-distributors*[418]*	**7.2**	**13.4**	**13.7**	**11.3**	**10.3**
Recyclable material*[4181]*	17.6	26.4	14.7	28.6	22.0
Paper, paper product and disposable plastic product*[4182]*	3.3	3.6	19.9	17.6	3.4
Agricultural supplies*[4183]*	12.2	34.0	40.1	17.7	22.4
Chemical (except agricultural) and allied product*[4184]*	15.2	14.5	19.3	16.1	14.8
Other miscellaneous*[4189]*	-2.1	-0.6	-7.2	-2.8	-1.3
Regions					
Newfoundland and Labrador	10.5	15.0	6.2	6.9	12.7
Prince Edward Island	13.5	18.3	36.1	31.7	15.8
Nova Scotia	-3.3	4.4	5.0	7.6	0.5
New Brunswick	3.6	4.4	5.9	1.4	4.0
Quebec	4.4	5.9	6.1	6.4	5.1
Ontario	7.2	5.7	3.9	2.7	6.4
Manitoba	9.7	9.9	10.2	9.7	9.8
Saskatchewan	12.2	24.8	29.2	21.2	18.2
Alberta	11.4	16.9	20.3	22.5	14.1
British Columbia	5.1	2.6	3.0	4.7	3.9
Yukon	29.4	5.7	-6.2	11.6	16.5
Northwest Territories	3.1	-3.4	15.4	17.1	-0.2
Nunavut	27.4	-4.7	93.7	28.0	10.3

Note(s): NAICS: North American Industry Classification System Canada

Table 2-1
Wholesale merchants — Sales, by NAICS and region, not seasonally adjusted — Sales

	February [p] 2011	January [r] 2011	December 2010	November 2010	Year-to-date 2011
	millions of dollars				
NAICS - Canada					
Wholesale trade*[41]*	**41,599**	**40,842**	**45,307**	**47,522**	**82,441**
Farm product wholesaler-distributors*[411]*	**521**	**468**	**535**	**676**	**989**
Food, beverage and tobacco wholesaler-distributors*[413]*	**7,873**	**7,784**	**9,271**	**8,913**	**15,657**
Food*[4131]*	7,079	7,030	8,240	7,946	14,109
Beverage*[4132]*	362	332	516	487	694
Cigarette and tobacco product*[4133]*	432	422	516	480	854
Personal and household goods wholesaler-distributors*[414]*	**6,200**	**6,195**	**6,985**	**7,707**	**12,395**
Textile, clothing and footwear*[4141]*	987	813	692	920	1,801
Home entertainment equipment and household appliance*[4142]*	488	564	845	1,180	1,052
Home furnishings*[4143]*	447	457	461	577	904
Personal goods*[4144]*	643	632	817	940	1,275
Pharmaceuticals and pharmacy supplies*[41451]*	3,040	3,183	3,488	3,398	6,222
Toiletries, cosmetics and sundries*[41452]*	595	546	682	692	1,141
Motor vehicle and parts wholesaler-distributors*[415]*	**7,317**	**7,075**	**6,693**	**7,808**	**14,391**
Motor vehicle*[4151]*	5,699	5,478	5,034	5,735	11,178
New motor vehicle parts and accessories*[4152]*	1,571	1,550	1,610	2,025	3,121
Used motor vehicle parts and accessories*[4153]*	46	47	49	49	93
Building material and supplies wholesaler-distributors*[416]*	**5,738**	**5,588**	**5,390**	**6,490**	**11,326**
Electrical, plumbing, heating and air-conditioning equipment and supplies*[4161]*	1,806	1,814	1,886	2,232	3,619
Metal service centres*[4162]*	1,389	1,351	1,229	1,376	2,740
Lumber, millwork, hardware and other building supplies*[4163]*	2,544	2,423	2,275	2,881	4,967
Machinery, equipment and supplies wholesaler-distributors*[417]*	**8,614**	**8,259**	**10,622**	**10,025**	**16,873**
Farm, lawn and garden machinery and equipment*[4171]*	730	666	796	807	1,396
Construction, forestry, mining, and industrial machinery, equipment and supplies*[4172]*	2,854	2,831	3,322	3,257	5,685
Computer and communications equipment and supplies*[4173]*	2,847	2,768	4,041	3,413	5,615
Other machinery, equipment and supplies*[4179]*	2,183	1,994	2,463	2,548	4,177
Miscellaneous wholesaler-distributors*[418]*	**5,336**	**5,473**	**5,811**	**5,904**	**10,809**
Recyclable material*[4181]*	679	716	680	727	1,394
Paper, paper product and disposable plastic product*[4182]*	723	721	776	824	1,444
Agricultural supplies*[4183]*	1,405	1,452	1,221	1,269	2,857
Chemical (except agricultural) and allied product*[4184]*	1,048	1,062	1,014	1,042	2,110
Other miscellaneous*[4189]*	1,482	1,523	2,121	2,043	3,004
Regions					
Newfoundland and Labrador	251	252	293	296	503
Prince Edward Island	32	33	44	46	65
Nova Scotia	531	540	620	632	1,071
New Brunswick	403	408	470	481	812
Quebec	7,981	7,744	8,526	9,274	15,725
Ontario	21,247	20,763	23,353	24,411	42,010
Manitoba	1,020	993	1,060	1,158	2,013
Saskatchewan	1,438	1,486	1,394	1,410	2,924
Alberta	4,888	4,877	5,531	5,529	9,765
British Columbia	3,741	3,687	3,947	4,220	7,428
Yukon	9	8	7	9	17
Northwest Territories	55	48	59	52	103
Nunavut	3	2	4	3	5

Note(s): NAICS: North American Industry Classification System Canada

Table 2-2
Wholesale merchants — Sales, by NAICS and region, not seasonally adjusted — Percentage change from previous year

	February 2011 p	January 2011 r	December 2010	November 2010	Year-to-date 2011
	percent				
NAICS - Canada					
Wholesale trade*[41]*	**7.1**	**7.4**	**6.2**	**10.1**	**7.3**
Farm product wholesaler-distributors*[411]*	**-0.3**	**9.9**	**9.6**	**32.2**	**4.3**
Food, beverage and tobacco wholesaler-distributors*[413]*	**5.6**	**6.6**	**4.6**	**9.6**	**6.1**
Food*[4131]*	5.5	6.6	4.6	9.9	6.1
Beverage*[4132]*	10.6	20.6	11.2	19.5	15.1
Cigarette and tobacco product*[4133]*	3.1	-2.7	-0.9	-2.3	0.1
Personal and household goods wholesaler-distributors*[414]*	**-0.9**	**-2.6**	**-2.1**	**-1.3**	**-1.7**
Textile, clothing and footwear*[4141]*	11.8	9.3	4.9	11.6	10.7
Home entertainment equipment and household appliance*[4142]*	-7.1	-2.3	1.5	12.9	-4.6
Home furnishings*[4143]*	3.7	4.1	3.3	14.2	3.9
Personal goods*[4144]*	-10.6	-12.3	-17.6	-17.1	-11.5
Pharmaceuticals and pharmacy supplies*[41451]*	-2.4	-4.5	-0.1	-5.6	-3.5
Toiletries, cosmetics and sundries*[41452]*	2.0	0.4	F	F	1.2
Motor vehicle and parts wholesaler-distributors*[415]*	**5.2**	**9.1**	**0.1**	**3.7**	**7.1**
Motor vehicle*[4151]*	1.0	6.5	-5.2	-2.3	3.6
New motor vehicle parts and accessories*[4152]*	23.7	19.2	20.3	24.8	21.4
Used motor vehicle parts and accessories*[4153]*	18.8	20.5	F	F	19.6
Building material and supplies wholesaler-distributors*[416]*	**7.8**	**8.6**	**6.8**	**11.9**	**8.2**
Electrical, plumbing, heating and air-conditioning equipment and supplies*[4161]*	12.2	10.7	5.4	12.0	11.4
Metal service centres*[4162]*	23.0	20.6	27.7	29.4	21.8
Lumber, millwork, hardware and other building supplies*[4163]*	-1.5	1.5	-0.8	5.1	-0.1
Machinery, equipment and supplies wholesaler-distributors*[417]*	**16.5**	**10.8**	**14.9**	**19.2**	**13.7**
Farm, lawn and garden machinery and equipment*[4171]*	16.2	7.5	7.6	10.0	11.9
Construction, forestry, mining, and industrial machinery, equipment and supplies*[4172]*	20.2	18.4	26.3	36.8	19.3
Computer and communications equipment and supplies*[4173]*	16.4	16.6	20.9	19.7	16.5
Other machinery, equipment and supplies*[4179]*	12.1	-3.5	-2.7	4.4	4.1
Miscellaneous wholesaler-distributors*[418]*	**8.1**	**12.6**	**12.0**	**18.8**	**10.3**
Recyclable material*[4181]*	17.5	27.3	16.0	36.3	22.3
Paper, paper product and disposable plastic product*[4182]*	3.7	0.8	20.4	22.7	2.2
Agricultural supplies*[4183]*	13.7	32.4	52.6	46.9	22.5
Chemical (except agricultural) and allied product*[4184]*	15.0	12.6	18.4	18.3	13.7
Other miscellaneous*[4189]*	-2.1	-1.4	-8.0	1.2	-1.7
Regions					
Newfoundland and Labrador	10.5	9.1	5.6	11.0	9.8
Prince Edward Island	12.6	16.5	37.3	37.9	14.5
Nova Scotia	-2.9	1.9	4.5	11.2	-0.5
New Brunswick	3.8	2.8	5.7	4.3	3.3
Quebec	4.3	4.8	5.7	8.9	4.6
Ontario	7.3	7.1	2.9	6.3	7.2
Manitoba	9.8	10.8	9.2	16.5	10.3
Saskatchewan	13.3	23.6	26.8	32.2	18.3
Alberta	11.5	14.0	20.8	27.9	12.7
British Columbia	5.2	1.4	3.2	8.5	3.3
Yukon	32.3	-1.3	-6.1	9.1	14.3
Northwest Territories	4.4	2.3	10.2	23.8	3.4
Nunavut	15.1	-16.6	68.8	-11.5	-0.7

Note(s): NAICS: North American Industry Classification System Canada

Table 3-1
Wholesale merchants — Inventories, by NAICS, seasonally adjusted — Inventories

	February [p] 2011	January [r] 2011	December [r] 2010	November [r] 2010
	millions of dollars			
NAICS - Canada				
Wholesale trade*[41]*	**54,283**	**54,129**	**53,055**	**53,125**
Farm product wholesaler-distributors*[411]*	**166**	**168**	**173**	**162**
Food, beverage and tobacco wholesaler-distributors*[413]*	**4,778**	**4,769**	**4,689**	**4,726**
Food*[4131]*	4,282	4,303	4,219	4,262
Beverage*[4132]*	259	238	226	232
Cigarette and tobacco product*[4133]*	237	229	243	233
Personal and household goods wholesaler-distributors*[414]*	**9,597**	**9,677**	**9,528**	**9,647**
Textile, clothing and footwear*[4141]*	1,845	1,801	1,785	1,790
Home entertainment equipment and household appliance*[4142]*	776	785	774	806
Home furnishings*[4143]*	1,046	1,044	1,026	1,020
Personal goods*[4144]*	1,230	1,284	1,254	1,233
Pharmaceuticals and pharmacy supplies*[41451]*	4,073	4,143	4,098	4,197
Toiletries, cosmetics and sundries*[41452]*	628	620	591	601
Motor vehicle and parts wholesaler-distributors*[415]*	**6,734**	**6,610**	**6,550**	**6,313**
Motor vehicle*[4151]*	3,549	3,471	3,435	3,153
New motor vehicle parts and accessories*[4152]*	3,109	3,063	3,038	3,087
Used motor vehicle parts and accessories*[4153]*	75	76 [E]	77	73 [E]
Building material and supplies wholesaler-distributors*[416]*	**10,279**	**10,311**	**10,062**	**10,133**
Electrical, plumbing, heating and air-conditioning equipment and supplies*[4161]*	2,931	3,012	2,910	2,889
Metal service centres*[4162]*	2,835	2,745	2,640	2,711
Lumber, millwork, hardware and other building supplies*[4163]*	4,513	4,554	4,511	4,532
Machinery, equipment and supplies wholesaler-distributors*[417]*	**15,487**	**15,440**	**15,169**	**15,281**
Farm, lawn and garden machinery and equipment*[4171]*	3,182	3,260	3,261	3,223
Construction, forestry, mining, and industrial machinery, equipment and supplies*[4172]*	7,328	7,253	7,172	7,293
Computer and communications equipment and supplies*[4173]*	1,702	1,655	1,528	1,624
Other machinery, equipment and supplies*[4179]*	3,275	3,272	3,208	3,141
Miscellaneous wholesaler-distributors*[418]*	**7,244**	**7,153**	**6,884**	**6,863**
Recyclable material*[4181]*	564	518	535	511
Paper, paper product and disposable plastic product*[4182]*	626	630	631	637
Agricultural supplies*[4183]*	2,614	2,596	2,556	2,567
Chemical (except agricultural) and allied product*[4184]*	949	954	915	861
Other miscellaneous*[4189]*	2,491	2,455	2,246	2,287

Note(s): NAICS: North American Industry Classification System Canada

Table 3-2
Wholesale merchants — Inventories, by NAICS, seasonally adjusted — Percentage change from previous month

	February [p] 2011	January [r] 2011	December [r] 2010	November [r] 2010
	percent			
NAICS - Canada				
Wholesale trade*[41]*	**0.3**	**2.0**	**-0.1**	**0.5**
Farm product wholesaler-distributors*[411]*	**-1.7**	**-2.6**	**6.8**	**3.7**
Food, beverage and tobacco wholesaler-distributors*[413]*	**0.2**	**1.7**	**-0.8**	**1.2**
Food*[4131]*	-0.5	2.0	-1.0	1.3
Beverage*[4132]*	8.7	5.4	-2.6	-0.6
Cigarette and tobacco product*[4133]*	3.5	-6.1	4.6	1.8
Personal and household goods wholesaler-distributors*[414]*	**-0.8**	**1.6**	**-1.2**	**0.5**
Textile, clothing and footwear*[4141]*	2.4	0.9	-0.3	6.3
Home entertainment equipment and household appliance*[4142]*	-1.2	1.4	-3.9	-4.2
Home furnishings*[4143]*	0.1	1.8	0.6	2.7
Personal goods*[4144]*	-4.2	2.3	1.8	-6.4
Pharmaceuticals and pharmacy supplies*[41451]*	-1.7	1.1	-2.4	0.9
Toiletries, cosmetics and sundries*[41452]*	1.3	4.9	-1.8	0.1
Motor vehicle and parts wholesaler-distributors*[415]*	**1.9**	**0.9**	**3.8**	**-3.0**
Motor vehicle*[4151]*	2.2	1.1	8.9	-5.5
New motor vehicle parts and accessories*[4152]*	1.5	0.8	-1.6	-0.4
Used motor vehicle parts and accessories*[4153]*	-0.2	-1.8	6.0	3.8
Building material and supplies wholesaler-distributors*[416]*	**-0.3**	**2.5**	**-0.7**	**0.8**
Electrical, plumbing, heating and air-conditioning equipment and supplies*[4161]*	-2.7	3.5	0.7	1.6
Metal service centres*[4162]*	3.3	3.9	-2.6	1.7
Lumber, millwork, hardware and other building supplies*[4163]*	-0.9	0.9	-0.5	-0.2
Machinery, equipment and supplies wholesaler-distributors*[417]*	**0.3**	**1.8**	**-0.7**	**0.7**
Farm, lawn and garden machinery and equipment*[4171]*	-2.4	0.0	1.2	-1.7
Construction, forestry, mining, and industrial machinery, equipment and supplies*[4172]*	1.0	1.1	-1.7	1.3
Computer and communications equipment and supplies*[4173]*	2.9	8.3	-5.9	0.7
Other machinery, equipment and supplies*[4179]*	0.1	2.0	2.1	1.9
Miscellaneous wholesaler-distributors*[418]*	**1.3**	**3.9**	**0.3**	**2.1**
Recyclable material*[4181]*	8.8	-3.2	4.8	6.4
Paper, paper product and disposable plastic product*[4182]*	-0.6	-0.2	-0.9	-1.3
Agricultural supplies*[4183]*	0.7	1.6	-0.4	1.1
Chemical (except agricultural) and allied product*[4184]*	-0.6	4.2	6.3	4.7
Other miscellaneous*[4189]*	1.5	9.3	-1.8	2.2

Note(s): NAICS: North American Industry Classification System Canada

Table 3-3
Wholesale merchants — Inventories, by NAICS, seasonally adjusted — Percentage change from previous year

	February [p] 2011	January [r] 2011	December [r] 2010	November [r] 2010
	percent			
NAICS - Canada				
Wholesale trade*[41]*	**5.5**	**5.7**	**2.9**	**3.0**
Farm product wholesaler-distributors*[411]*	**1.6**	**2.9**	**14.1**	**5.7**
Food, beverage and tobacco wholesaler-distributors*[413]*	**2.2**	**2.3**	**0.1**	**1.6**
Food*[4131]*	2.4	3.4	0.4	2.4
Beverage*[4132]*	3.9	-5.5	-6.4	-10.4
Cigarette and tobacco product*[4133]*	-2.4	-8.3	2.1	-0.6
Personal and household goods wholesaler-distributors*[414]*	**2.1**	**5.0**	**1.4**	**1.1**
Textile, clothing and footwear*[4141]*	22.5	17.7	15.8	14.3
Home entertainment equipment and household appliance*[4142]*	8.1	26.1	8.9	7.0
Home furnishings*[4143]*	8.5	12.8	12.3	16.0
Personal goods*[4144]*	-15.2	-14.0	-15.0	-20.1
Pharmaceuticals and pharmacy supplies*[41451]*	-1.5	2.2	-1.7	0.0
Toiletries, cosmetics and sundries*[41452]*	0.5	5.5	1.3	0.0
Motor vehicle and parts wholesaler-distributors*[415]*	**2.6**	**-1.3**	**-1.0**	**-4.4**
Motor vehicle*[4151]*	0.0	-4.2	-2.4	-9.2
New motor vehicle parts and accessories*[4152]*	5.7	2.2	0.5	1.1
Used motor vehicle parts and accessories*[4153]*	4.3	3.5	F	F
Building material and supplies wholesaler-distributors*[416]*	**11.4**	**9.6**	**10.4**	**10.1**
Electrical, plumbing, heating and air-conditioning equipment and supplies*[4161]*	9.5	11.7	6.3	4.6
Metal service centres*[4162]*	21.0	10.3	12.7	16.3
Lumber, millwork, hardware and other building supplies*[4163]*	7.3	7.9	11.8	10.4
Machinery, equipment and supplies wholesaler-distributors*[417]*	**4.5**	**5.7**	**1.0**	**1.1**
Farm, lawn and garden machinery and equipment*[4171]*	4.0	11.6	7.4	3.1
Construction, forestry, mining, and industrial machinery, equipment and supplies*[4172]*	6.9	3.6	-0.7	1.8
Computer and communications equipment and supplies*[4173]*	11.6	10.7	-1.9	1.0
Other machinery, equipment and supplies*[4179]*	-3.1	2.6	0.0	-2.5
Miscellaneous wholesaler-distributors*[418]*	**9.9**	**10.3**	**4.4**	**8.3**
Recyclable material*[4181]*	105.3	74.4	46.2	43.8
Paper, paper product and disposable plastic product*[4182]*	-0.9	-0.9	5.6	-0.4
Agricultural supplies*[4183]*	5.6	2.8	6.6	13.0
Chemical (except agricultural) and allied product*[4184]*	3.1	15.5	-2.9	-5.7
Other miscellaneous*[4189]*	8.7	11.4	-1.9	6.1

Note(s): NAICS: North American Industry Classification System Canada

Table 4-1
Wholesale merchants — Inventories, by NAICS, not seasonally adjusted — Inventories

	February [p] 2011	January [r] 2011	December 2010	November 2010
	millions of dollars			
NAICS - Canada				
Wholesale trade*[41]*	**55,255**	**54,322**	**52,407**	**52,765**
Farm product wholesaler-distributors*[411]*	**154**	**151**	**150**	**157**
Food, beverage and tobacco wholesaler-distributors*[413]*	**4,683**	**4,709**	**4,702**	**4,843**
Food*[4131]*	4,185	4,252	4,243	4,384
Beverage*[4132]*	271	236	203	229
Cigarette and tobacco product*[4133]*	227	221	256	231
Personal and household goods wholesaler-distributors*[414]*	**9,575**	**9,704**	**9,474**	**9,865**
Textile, clothing and footwear*[4141]*	1,914	1,878	1,743	1,667
Home entertainment equipment and household appliance*[4142]*	708	714	735	918
Home furnishings*[4143]*	1,018	1,033	995	1,028
Personal goods*[4144]*	1,230	1,284	1,254	1,233
Pharmaceuticals and pharmacy supplies*[41451]*	4,077	4,174	4,156	4,418
Toiletries, cosmetics and sundries*[41452]*	628	620	591	601
Motor vehicle and parts wholesaler-distributors*[415]*	**7,235**	**6,739**	**6,456**	**6,159**
Motor vehicle*[4151]*	4,086	3,694	3,460	3,066
New motor vehicle parts and accessories*[4152]*	3,071	2,968	2,919	3,023
Used motor vehicle parts and accessories*[4153]*	78	77 [E]	76	70 [E]
Building material and supplies wholesaler-distributors*[416]*	**10,353**	**10,321**	**9,974**	**9,940**
Electrical, plumbing, heating and air-conditioning equipment and supplies*[4161]*	2,931	3,012	2,910	2,889
Metal service centres*[4162]*	2,835	2,745	2,640	2,711
Lumber, millwork, hardware and other building supplies*[4163]*	4,587	4,564	4,424	4,339
Machinery, equipment and supplies wholesaler-distributors*[417]*	**15,557**	**15,318**	**14,834**	**15,149**
Farm, lawn and garden machinery and equipment*[4171]*	3,197	3,166	3,059	2,949
Construction, forestry, mining, and industrial machinery, equipment and supplies*[4172]*	7,312	7,228	7,040	7,278
Computer and communications equipment and supplies*[4173]*	1,762	1,677	1,561	1,780
Other machinery, equipment and supplies*[4179]*	3,286	3,247	3,174	3,144
Miscellaneous wholesaler-distributors*[418]*	**7,699**	**7,379**	**6,817**	**6,651**
Recyclable material*[4181]*	564	518	535	511
Paper, paper product and disposable plastic product*[4182]*	634	647	651	627
Agricultural supplies*[4183]*	3,017	2,804	2,616	2,460
Chemical (except agricultural) and allied product*[4184]*	988	981	905	833
Other miscellaneous*[4189]*	2,496	2,429	2,110	2,221

Note(s): NAICS: North American Industry Classification System Canada

Table 4-2
Wholesale merchants — Inventories, by NAICS, not seasonally adjusted — Percentage change from previous year

	February [p] 2011	January [r] 2011	December 2010	November 2010
	percent			
NAICS - Canada				
Wholesale trade*[41]*	**5.5**	**5.6**	**2.9**	**2.9**
Farm product wholesaler-distributors*[411]*	**0.9**	**3.8**	**14.7**	**5.4**
Food, beverage and tobacco wholesaler-distributors*[413]*	**2.2**	**2.2**	**0.1**	**1.6**
Food*[4131]*	2.3	3.3	0.3	2.4
Beverage*[4132]*	4.3	-5.3	-6.7	-10.0
Cigarette and tobacco product*[4133]*	-1.9	-8.7	2.2	-0.7
Personal and household goods wholesaler-distributors*[414]*	**2.2**	**5.0**	**1.4**	**1.2**
Textile, clothing and footwear*[4141]*	22.7	17.9	16.1	14.6
Home entertainment equipment and household appliance*[4142]*	8.0	25.5	8.3	6.9
Home furnishings*[4143]*	8.6	12.9	12.1	16.3
Personal goods*[4144]*	-15.2	-14.0	-15.0	-20.1
Pharmaceuticals and pharmacy supplies*[41451]*	-1.5	2.2	-1.5	0.3
Toiletries, cosmetics and sundries*[41452]*	0.5	5.5	1.3	0.0
Motor vehicle and parts wholesaler-distributors*[415]*	**2.5**	**-1.4**	**-1.1**	**-4.6**
Motor vehicle*[4151]*	0.4	-4.0	-2.4	-9.7
New motor vehicle parts and accessories*[4152]*	5.5	1.9	0.4	1.2
Used motor vehicle parts and accessories*[4153]*	4.2	3.3	F	F
Building material and supplies wholesaler-distributors*[416]*	**11.3**	**9.6**	**10.5**	**10.4**
Electrical, plumbing, heating and air-conditioning equipment and supplies*[4161]*	9.5	11.7	6.3	4.6
Metal service centres*[4162]*	21.0	10.3	12.7	16.3
Lumber, millwork, hardware and other building supplies*[4163]*	7.2	7.9	12.0	10.9
Machinery, equipment and supplies wholesaler-distributors*[417]*	**4.5**	**5.8**	**0.9**	**1.0**
Farm, lawn and garden machinery and equipment*[4171]*	3.8	12.1	7.8	3.1
Construction, forestry, mining, and industrial machinery, equipment and supplies*[4172]*	6.7	3.5	-0.7	1.8
Computer and communications equipment and supplies*[4173]*	12.2	11.1	-2.3	0.9
Other machinery, equipment and supplies*[4179]*	-2.9	2.7	0.0	-2.8
Miscellaneous wholesaler-distributors*[418]*	**9.5**	**10.2**	**4.6**	**8.4**
Recyclable material*[4181]*	105.3	74.4	46.2	43.8
Paper, paper product and disposable plastic product*[4182]*	-0.9	-0.7	5.8	-0.3
Agricultural supplies*[4183]*	4.7	2.7	6.6	13.7
Chemical (except agricultural) and allied product*[4184]*	3.3	15.8	-2.7	-5.5
Other miscellaneous*[4189]*	9.5	12.0	-2.0	5.5

Note(s): NAICS: North American Industry Classification System Canada

Table 5-1
Wholesale merchants — Inventories/sales ratio, seasonally adjusted, by NAICS — Current period

	Inventories/sales ratio			
	February [p] 2011	January [r] 2011	December [r] 2010	November [r] 2010
	percent			
NAICS - Canada				
Wholesale trade*[41]*	**1.16**	**1.15**	**1.14**	**1.15**
Farm product wholesaler-distributors*[411]*	**0.32**	**0.31**	**0.31**	**0.27**
Food, beverage and tobacco wholesaler-distributors*[413]*	**0.53**	**0.53**	**0.53**	**0.54**
Food*[4131]*	0.53	0.54	0.54	0.54
Beverage*[4132]*	0.56	0.48	0.49	0.50
Cigarette and tobacco product*[4133]*	0.46	0.45	0.48	0.47
Personal and household goods wholesaler-distributors*[414]*	**1.38**	**1.38**	**1.37**	**1.40**
Textile, clothing and footwear*[4141]*	1.94	1.89	1.88	1.97
Home entertainment equipment and household appliance*[4142]*	1.12	1.06	1.03	1.02
Home furnishings*[4143]*	2.04	2.02	2.01	1.95
Personal goods*[4144]*	1.60	1.66	1.64	1.66
Pharmaceuticals and pharmacy supplies*[41451]*	1.21	1.23	1.23	1.29
Toiletries, cosmetics and sundries*[41452]*	0.94	0.93	0.90	0.92
Motor vehicle and parts wholesaler-distributors*[415]*	**0.87**	**0.83**	**0.86**	**0.84**
Motor vehicle*[4151]*	0.61	0.57	0.60	0.56
New motor vehicle parts and accessories*[4152]*	1.66	1.65	1.63	1.68
Used motor vehicle parts and accessories*[4153]*	1.56	1.58	1.49	1.48
Building material and supplies wholesaler-distributors*[416]*	**1.57**	**1.58**	**1.58**	**1.62**
Electrical, plumbing, heating and air-conditioning equipment and supplies*[4161]*	1.39	1.46	1.43	1.43
Metal service centres*[4162]*	1.95	1.93	1.86	2.00
Lumber, millwork, hardware and other building supplies*[4163]*	1.50	1.49	1.55	1.57
Machinery, equipment and supplies wholesaler-distributors*[417]*	**1.55**	**1.58**	**1.53**	**1.56**
Farm, lawn and garden machinery and equipment*[4171]*	2.96	3.13	3.13	3.08
Construction, forestry, mining, and industrial machinery, equipment and supplies*[4172]*	2.30	2.25	2.22	2.28
Computer and communications equipment and supplies*[4173]*	0.52	0.52	0.46	0.51
Other machinery, equipment and supplies*[4179]*	1.33	1.42	1.40	1.31
Miscellaneous wholesaler-distributors*[418]*	**1.18**	**1.13**	**1.11**	**1.13**
Recyclable material*[4181]*	0.74	0.63	0.72	0.70
Paper, paper product and disposable plastic product*[4182]*	0.80	0.79	0.78	0.79
Agricultural supplies*[4183]*	1.66	1.56	1.52	1.64
Chemical (except agricultural) and allied product*[4184]*	0.86	0.86	0.82	0.79
Other miscellaneous*[4189]*	1.30	1.26	1.22	1.21

Note(s): NAICS: North American Industry Classification System Canada

Table 5-2
Wholesale merchants — Inventories/sales ratio, seasonally adjusted, by NAICS — Historical

	Inventories/sales ratio			
	February 2010	January 2010	December 2009	November 2009
	percent			
NAICS - Canada				
Wholesale trade*[41]*	**1.17**	**1.17**	**1.19**	**1.19**
Farm product wholesaler-distributors*[411]*	**0.31**	**0.32**	**0.31**	**0.32**
Food, beverage and tobacco wholesaler-distributors*[413]*	**0.55**	**0.56**	**0.56**	**0.56**
Food*[4131]*	0.55	0.56	0.57	0.56
Beverage*[4132]*	0.60	0.62	0.58	0.65
Cigarette and tobacco product*[4133]*	0.49	0.50	0.47	0.46
Personal and household goods wholesaler-distributors*[414]*	**1.33**	**1.29**	**1.33**	**1.33**
Textile, clothing and footwear*[4141]*	1.78	1.75	1.75	1.86
Home entertainment equipment and household appliance*[4142]*	0.97	0.82	0.97	1.03
Home furnishings*[4143]*	1.94	1.87	1.86	1.84
Personal goods*[4144]*	1.69	1.66	1.58	1.67
Pharmaceuticals and pharmacy supplies*[41451]*	1.19	1.17	1.25	1.18
Toiletries, cosmetics and sundries*[41452]*	0.95	0.89	0.85	0.89
Motor vehicle and parts wholesaler-distributors*[415]*	**0.90**	**0.89**	**0.88**	**0.88**
Motor vehicle*[4151]*	0.62	0.61	0.59	0.59
New motor vehicle parts and accessories*[4152]*	1.95	1.92	1.98	1.97
Used motor vehicle parts and accessories*[4153]*	1.76	1.81	1.85	1.78
Building material and supplies wholesaler-distributors*[416]*	**1.51**	**1.56**	**1.54**	**1.57**
Electrical, plumbing, heating and air-conditioning equipment and supplies*[4161]*	1.43	1.42	1.44	1.46
Metal service centres*[4162]*	1.98	2.12	2.17	2.13
Lumber, millwork, hardware and other building supplies*[4163]*	1.38	1.42	1.38	1.43
Machinery, equipment and supplies wholesaler-distributors*[417]*	**1.72**	**1.65**	**1.74**	**1.79**
Farm, lawn and garden machinery and equipment*[4171]*	3.14	2.93	3.10	3.23
Construction, forestry, mining, and industrial machinery, equipment and supplies*[4172]*	2.60	2.57	2.85	2.94
Computer and communications equipment and supplies*[4173]*	0.55	0.55	0.57	0.60
Other machinery, equipment and supplies*[4179]*	1.54	1.34	1.36	1.37
Miscellaneous wholesaler-distributors*[418]*	**1.15**	**1.16**	**1.21**	**1.16**
Recyclable material*[4181]*	0.43	0.46	0.57	0.63
Paper, paper product and disposable plastic product*[4182]*	0.83	0.82	0.89	0.93
Agricultural supplies*[4183]*	1.77	2.03	2.00	1.71
Chemical (except agricultural) and allied product*[4184]*	0.96	0.85	1.00	0.97
Other miscellaneous*[4189]*	1.17	1.12	1.15	1.11

Note(s): NAICS: North American Industry Classification System Canada

Objective, uses and users

The Monthly Wholesale Trade Survey (MWTS) provides information on the performance of the wholesale trade sector and is an important indicator of the health of the Canadian economy. In addition, the business community uses the data to analyse market performance

Concepts, variables and classifications

Wholesale trade is generally the intermediate step in the distribution of merchandise. The sector comprises establishments primarily engaged in the buying and selling of merchandise and providing logistics, marketing and support services.

Wholesalers are organized to sell merchandise in large quantities to retailers, business and institutional clients. However, some wholesalers, in particular those that supply non-consumer capital goods, sell merchandise in single units to final users.

The sector recognizes two main types of wholesalers: wholesale merchants and wholesale agents and brokers. Wholesale merchants buy and sell merchandise on their own account, that is, they take title to the goods they sell. They generally operate from warehouse or office locations and they may ship from their own inventory or arrange for the shipment of goods directly from the supplier to the client. In addition to the sales of goods, they may provide, or arrange for the provision of, logistics, marketing and support services, such as packaging and labelling, inventory management, shipping, handling of warranty claims, in-store or co-op promotions, and product training. Dealers of machinery and equipment, such as dealers of farm machinery and heavy-duty trucks, also fall within this category. They are known by a variety of trade designation depending on their relationship with suppliers or customers, or the distribution method they employ.

Examples include wholesale merchant, wholesale distributor, drop shipper, rack-jobbers, import-export merchants, buying groups, dealer-owned cooperatives and banner wholesalers. For purposes of industrial classification, wholesale merchants are classified by industry according to the principal lines of commodities sold. A description of each trade group included in the accompanying statistical data is shown in Appendix IV. As most businesses sell several kinds of commodities, the classification assigned to a business generally reflects either the individual commodity or the commodity group which is the primary source of the establishment's receipts, or some mixture of commodities which characterizes the establishment's business. Wholesale Agents and Brokers buy and sell merchandise owned by others on a fee or commission basis. They do not take title to the goods they buy or sell, and they generally operate at or from an office location. Wholesale agents and brokers are known by a variety of trade designations including import-export agents, wholesale commission agents, wholesale brokers, and manufacturer's representatives' ad agents.

Sales Defined as the sales of all goods purchased for resale, net of returns and discounts. This includes parts used in generating repair and maintenance revenue, labour revenue from repair and maintenance, sales of goods manufactured as a secondary activity by the wholesaler, and revenue from rental and leasing of office space, other real estate, and goods and equipment. As well, any commission revenue and fees earned from buying and selling merchandise on account of others by wholesale merchants is also included. Other operating revenue such as operating subsidies and grants, shipping, handling, and storing goods for others are excluded. Inventories are defined as the book value, .i.e., the value maintained in the accounting records, of all stock owned at month end and intended for resale. This includes stock in selling outlets, in warehouses, in transit, or on consignment to others. It also includes stock owned within and outside Canada. Inventories held on consignment from others (not owned), and store and office supplies and any other supplies not to be sold are excluded. Trading Location is the physical location(s) in which business activity is conducted in each province and territory, and for which sales are credited or recognized in the financial records of the company. For wholesalers, this would normally be a distribution centre.

Current Price refers to the prices prevailing during the period being referred to. Constant Price is the valuation expressed at the prices prevailing during a fixed reference or base period.

The Monthly Wholesale Trade Survey is based on the definition of wholesale trade under the NAICS (North American Industrial Classification System). NAICS is the agreed upon common framework for the production of

comparable statistics by the statistical agencies of Canada, Mexico and the United States. The agreement defines the boundaries of twenty sectors. NAICS is based on a production-oriented, or supply based conceptual framework in that establishments are groups into industries according to similarity in production processes used to produce goods and services.

Estimates appear for 24 industries based on the 2007 North American Industrial Classification System (NAICS) industries. The 24 industries are further aggregated to 7 sub-sectors which correspond exactly to the 3-digit NAICS codes for wholesale trade industries, with the exception of the following: wholesale agents and brokers; and petroleum and oilseed and grain wholesaler-distributors.

Geographically, sales estimates are produced for Canada and each province and territory. Inventory estimates are produced only for Canada as a whole.

Coverage and frames

Statistics Canada's Business Register (BR) provides the frame for the Monthly Wholesale Trade Survey. The BR is a structured list of businesses engaged in the production of goods and services in Canada. It is a centrally maintained database containing detailed descriptions of most business entities operating within Canada. The BR includes all incorporated businesses, with or without employees. For unincorporated businesses, the BR includes all employer businesses, and businesses with no employees with annualized sales that have a Goods and Services Tax (GST) account or annual revenue coming from individual income tax.

The businesses on the BR are represented by a hierarchical structure with four levels, with the statistical enterprise at the top, followed by the statistical company, the statistical establishment and the statistical location. An enterprise can be linked to one or more statistical companies, a statistical company can be linked to one or more statistical establishments, and a statistical establishment to one or more statistical locations.

The target population for the MWTS consists of all statistical establishments on the BR, excluding unincorporated businesses with no employees and with annual sales less than $30,000,.that are classified to the wholesale sector using the North American Industry Classification System (NAICS) (approximately 90,000 establishments). The NAICS code range for wholesale sector is 410000 to 419999. A statistical establishment is the production entity or the smallest grouping of production entities which: produces a homogeneous set of goods or services; does not cross provincial/territorial boundaries; and provides data on the value of output together with the cost of principal intermediate inputs used along with the cost and quantity of labour used to produce the output. The production entity is the physical unit where the business operations are carried out. It must have a civic address and dedicated labour.

The exclusions to the target population are ancillary establishments (producers of services in support of the activity of producing goods and services for the market of more than one establishment within the enterprise, and serves as a cost centre or a discretionary expense centre for which data on all its costs including labour and depreciation can be reported by the business), future establishments, establishments for which economic signals indicate a null or missing revenue, and establishments in the following non-covered NAICS:

– 41112 (oilseed and grain)

– 412 (petroleum products)

– 419 (agents and brokers)

Sampling

The MWTS sample consists of 7,500 groups of establishments (clusters) classified to the Wholesale Trade sector selected from the Statistics Canada Business Register. A cluster of establishments is defined as all establishments belonging to a statistical enterprise that are in the same industrial group and geographical region. The MWTS uses a stratified design with simple random sample selection in each stratum. The stratification is done by industrial groups (mainly, but not only four digit level NAICS), and the geographical regions consisting of the provinces and territories. We further stratify the population by size. The size measure is created using a combination of independent survey data and three administrative variables: the annual profiled revenue, the GST sales expressed on an annual basis, and the declared tax revenue (T1 or T2).

The size strata consist of one take-all (census), at most two take-some (partially sampled) strata, and one take-none (non-sampled) stratum. Take-none strata serve to reduce respondent burden by excluding the smaller businesses from the surveyed population. These businesses should represent at most ten percent of total sales. Instead of sending questionnaires to these businesses, the estimates are produced through the use of administrative data.

The sample was allocated optimally in order to reach target coefficients of variation at the national, provincial/territorial, industrial, and industrial groups by province/territory levels. The sample was also inflated to compensate for dead, non-responding, and misclassified units. MWTS is a repeated survey with maximization of monthly sample overlap. The sample is kept month after month, and every month new units are added (births) to the sample. MWTS births, i.e., new clusters of establishment(s), are identified every month via the BR's latest universe. They are stratified according to the same criteria as the initial population. A sample of these births is selected according to the sampling fraction of the stratum to which they belong and is added to the monthly sample. Deaths also occur on a monthly basis. A death can be a cluster of establishment(s) that have ceased their activities (out-of-business) or whose major activities are no longer in wholesale trade (out-of-scope). The status of these businesses is updated on the BR using administrative sources and survey feedback, including feedback from the MWTS. Methods to treat dead units and misclassified units are part of the sample and population update procedures.

Questionnaire design

The questionnaire collects monthly data on wholesale sales and the number of trading locations by province or territory and inventories of goods owned and intended for resale from a sample of wholesalers. For the 2004 redesign, most questionnaires were subject to cosmetic changes only, with the exception of the inclusion of Nunavut. The modifications were discussed with stakeholders and the respondents were given an opportunity to comment before the new questionnaire was finalized. If further changes are needed to any of the questionnaires, proposed changes would go through a review committee and a field test with respondents and data users to ensure its relevancy.

Response and non-response

Despite the best efforts of survey managers and operations staff to maximize response in the MWTS, some non-response will occur. For statistical establishments to be classified as responding, the degree of partial response (where an accurate response is obtained for only some of the questions asked a respondent) must meet a minimum threshold level below which the response would be rejected and considered a unit non-response. In such an instance, the business is classified as not having responded at all.

Non-response has two effects on data: first it introduces bias in estimates when non-respondents differ from respondents in the characteristics measured; and second, it contributes to an increase in the sampling variance of estimates because the effective sample size is reduced from that originally sought.

The degree to which efforts are made to get a response from a non-respondent is based on budget and time constraints, its impact on the overall quality and the risk of non-response bias. The main method to reduce the impact of non-response at sampling is to inflate the sample size through the use of over-sampling rates that have been determined from similar surveys. Besides the methods to reduce the impact of non-response at sampling and collection, the non-responses to the survey that do occur are treated through imputation.

In order to measure the amount of non-response that occurs each month various response rates are calculated. For a given reference month, the estimation process is run at least twice (a preliminary and a revised run). Between each run, respondent data can be identified as unusable and imputed values can be corrected through respondent data. As a consequence, response rates are computed following each run of the estimation process.

For the MWTS, two types of rates are calculated (unweighted and weighted). In order to assess the efficiency of the collection process, unweighted response rates are calculated. Weighted rates, using the estimation weight and the value for the variable of interest, assess the quality of estimation. Within each of these types of rates, there are distinct rates for units that are surveyed and for units that are only modeled from administrative data that has been extracted from GST files.

To get a better picture of the success of the collection process, two unweighted rates called the ‘collection results rate’ and the ‘extraction results rate’ are computed. They are computed by dividing the number of respondents by the number of units that we tried to contact or tried to receive extracted data for them. Non-monthly reporters (respondents with special reporting arrangements where they do not report every month but for whom actual data is available in subsequent revisions) are excluded from both the numerator and denominator for the months where no contact is performed.

In summary, the various response rates are calculated as follows:

Weighted rates:

$$\text{Survey Response rate (estimation)} = \frac{\text{Sum of weighted sales of units with response status } i}{\text{Sum of survey weighted sales}}$$

where i = units that have either reported data that will be used in estimation or are converted refusals, or have reported data that has not yet been resolved for estimation.

$$\text{Admin Response rate (estimation)} = \frac{\text{Sum of weighted sales of units with response status } ii}{\text{Sum of administrative weighted sales}}$$

where ii = units that have data that was extracted from administrative files and are usable for estimation.

$$\text{Total Response rate (estimation)} = \frac{\text{Sum of weighted sales of units with response status } i \text{ or response status } ii}{\text{Sum of all weighted sales}}$$

Unweighted rates:

$$\text{Survey Response rate (collection)} = \frac{\text{Number of questionnaires with response status } iii}{\text{Number of questionnaires with response status } iv}$$

where iii = units that have either reported data (unresolved, used or not used for estimation) or are converted refusals.

where iv = all of the above plus units that have refused to respond, units that were not contacted and other types of nonrespondent units.

$$\text{Admin Response rate (extraction)} = \frac{\text{Number of questionnaires with response status } vi}{\text{Number of questionnaires with response status } vii}$$

where vi = in-scope units that have data (either usable or non-usable) that was extracted from administrative files

where vii = all of the above plus units that have refused to report to the adminstrative data source, units that were not contacted and other types of nonrespondent units.

(% of questionnaire collected over all in-scope questionnaires)

$$\text{Collection Results Rate} = \frac{\text{Number of questionnaires with response status } iii}{\text{Number of questionnaires with response status } viii}$$

where iii = same as iii defined above

where viii = same as iv except for the exclusion of units that were contacted because their response is unavailable for a particular month since they are non-monthly reporters.

$$\text{Extraction Results Rate} = \frac{\text{Number of questionnaires with response status } ix}{\text{Number of questionnaires with response status } vii}$$

where ix = same as vi with the addition of extracted units that have been imputed or were out of scope

where vii = same as vii defined above

(% of questionnaires collected over all questionnaire in-scope we tried to collect)

All the above weighted and unweighted rates are provided at the industrial group, geography and size group level or for any combination of these levels.

Use of Administrative Data:

Managing response burden is an ongoing challenge for Statistics Canada. In an attempt to alleviate response burden and survey costs, especially for smaller businesses, the MWTS has reduced the number of simple establishments in the sample that are surveyed directly and instead derives sales data for these establishments from Goods and

Service Tax (GST) files using a statistical model. The model accounts for differences between sales and revenue (reported for GST purposes) as well as for the time lag between the survey reference period and the reference period of the GST file.

Inventories for establishments where sales are GST-based are derived using the MWTS imputation system. The imputation system uses the previous month's values, the month-to-month and year-to-year changes in similar size establishments which are surveyed. For more information on the methodology used for modeling sales from administrative data sources, refer to 'Monthly Wholesale Trade Survey: Use of Administrative Data' under 'Documentation' of the IMDB.

Methods used to reduce non-response at collection

Significant effort is spent trying to minimize non-response during collection. Methods used, among others, are interviewer techniques such as probing and persuasion, repeated re-scheduling and call-backs to obtain the information, and procedures dealing with how to handle non-compliant (refusal) respondents.

If data are unavailable at the time of collection, a respondent's best estimates are also accepted, and are subsequently revised once the actual data become available. To minimize total non-response for all variables, partial responses are accepted. In addition, questionnaires are customized for the collection of certain variables, such as inventory, so that collection is timed for those months when the data are available.

Finally, to build trust and rapport between the interviewers and respondents, cases are generally assigned to the same interviewer each month. This action establishes a personal relationship between interviewer and respondent, and builds respondent trust.

Data collection and capture operations

Collection of the data is performed by Statistics Canada's Regional Offices. Respondents are sent a questionnaire or are contacted by telephone to obtain their sales and inventory values, as well as to confirm the opening or closing of business trading locations. There is also follow-up of non-response. Collection of the data begins approximately 7 working days after the end of the reference month and continues for the duration of that month.

New entrants to the survey are introduced to the survey via an introductory letter that informs the respondent that a representative of Statistics Canada will be calling. This call is to introduce the respondent to the survey, confirm the respondent's business activity, establish and begin data collection, as well as to answer any questions that the respondent may have.

Editing

Data editing is the application of checks to detect missing, invalid or inconsistent entries or to point to data records that are potentially in error. In the survey process for the MWTS, data editing is done at two different time periods.

First of all, editing is done during data collection. Once data are collected via the telephone, or via the receipt of completed mail-in questionnaires, the data are captured using customized data capture applications. All data are subjected to data editing. Edits during data collection are referred to as field edits and generally consist of validity and some simple consistency edits. They are also used to detect mistakes made during the interview by the respondent or the Interviewer and to identify missing information during collection in order to reduce the need for follow-up later on. Another purpose of the field edits is to clean up responses. In the MWTS, the current month's responses are edited against the respondent's previous month's responses and/or the previous year's responses for the current month.. Field edits are used to identify problems with data collection procedures and the design of the questionnaire, as well as the need for more interviewer training.

Follow-up with respondents occurs to validate potential erroneous data following any failed preliminary edit check of the data. Once validated, the collected data is regularly transmitted to the head office in Ottawa.

Secondly, editing known as statistical editing is also done after data collection and this is more empirical in nature. Statistical editing is run prior to imputation in order to identify the data that will be used as a basis to impute non-respondents. Large outliers that could disrupt a monthly trend are excluded from trend calculations by the statistical edits. It should be noted that adjustments are not made at this stage to correct the reported outliers.

The first step in the statistical editing is to identify which responses will be subjected to the statistical edit rules. Reported data for the current reference month will go through various edit checks.

The first set of edit checks is based on the Hidiroglou-Berthelot method whereby a ratio of the respondent's current month data over historical (i.e. last month, or same month last year) or administrative data is analyzed. When the respondent's ratio differs significantly from ratios of respondents who are similar in terms of industrial group and/or geography group, the response is deemed an outlier.

The second set of edits consists of an edit known as the share of market edit. With this method, one is able to edit all respondents even those where historical and auxiliary data is unavailable. The method relies on current month data only. Therefore, within a group of respondents that are similar in terms of industrial group and/or geography, if the weighted contribution of a respondent to the group's total is too large, it will be flagged as an outlier.

For edit checks based on the Hidiroglou-Berthelot method, data that are flagged as an outlier will not be included in the imputation models (those based on ratios). Also, data that are flagged as outliers in the share of market edit will not be included in the imputation models where means and medians are calculated to impute for responses that have no historical responses.

In conjunction with the statistical editing after data collection of reported data, there is also error detection done on the extracted GST data. Modeled data based on the GST are also subject to an extensive series of processing steps which thoroughly verify each record that is the basis for the model as well as the record being modeled. Edits are performed at a more aggregate level (industry by geography level) to detect records which deviate from the expected range, either by exhibiting large month-to-month change, or differing significantly from the remaining units. All data which fail these edits are subject to manual inspection and possible corrective action.

Imputation

Imputation in the MWTS is the process used to assign replacement values for missing data. This is done by assigning values when they are missing on the record being edited to ensure that estimates are of high quality and that a plausible, internal consistency is created. Due to concerns of response burden, cost and timeliness, it is generally impossible to do all follow-ups with the respondents in order to resolve missing responses. Since it is desirable to produce a complete and consistent micro data file, imputation is used to handle the remaining missing cases.

In the MWTS, imputation for missing values can be based on either historical or administrative data. The appropriate method is selected according to a strategy that is based on whether historical data is available, administrative data is available and/or which reference month is being processed.

There are three types of historical imputation methods. The first type is a general trend that uses one historical data source (previous month, data from next month or data from same month previous year). The second type is a regression model where data from previous month and same month previous year are used simultaneously. The third type uses the historical data as a direct replacement value for a non-respondent. Depending upon the particular reference month, there is an order of preference that exists so that a top quality imputation can result. The historical imputation method that was labelled as the third type above is always the last option in the order for each reference month.

The imputation methods using administrative data are automatically selected when historical information is unavailable for a non-respondent. The administrative data source (annual GST sales) is the basis of these methods. The annual GST sales are used for two types of methods. One is a general trend that will be used for simple structure, e.g. enterprises with only one establishment, and a second type is called median-average that is used for units with a more complex structure.

Finally, it should be noted that inventories in the MWTS where sales are derived from monthly GST data are also imputed by the MWTS imputation systems. The imputed values are calculated using the same imputation methods that are in place for missing data from non-respondents.

Estimation

Estimation is a process that approximates unknown population parameters using only the part of the population that is included in a sample. Inferences about these unknown parameters are then made, using the sample data and associated survey design. This stage uses Statistics Canada's Generalized Estimation System (GES).

For wholesale sales, the population is divided into a survey portion (take-all and take-some strata) and a non-survey portion (take-none stratum). From the sample that is drawn from the survey portion, an estimate for the population is determined through the use of a Horvitz-Thompson estimator where responses for sales are weighted by using the inverses of the inclusion probabilities of the sampled units. Such weights (called sampling weights) can be interpreted as the number of times that each sampled unit should be replicated to represent the entire population. The calculated weighted sales values are summed by domain, to produce the total sales estimates by each industrial group / geographic area combination. A domain is defined as the most recent classification values available from the BR for the unit and the survey reference period. These domains may differ from the original sampling strata because units may have changed size, trade group or location. Changes in classification are reflected immediately in the estimates and do not accumulate over time. For the non-survey portion, the sales are estimated with statistical models using monthly GST sales.

For wholesale inventories, the sample selected for estimating sales is used to derive an estimate through the use of a Horvitz-Thompson estimator for the survey portion. A sample-based ratio is then used to produce the estimate for the non-survey portion, and the estimate of the total is derived as the sum of the survey and non-survey portion estimates.

For more information on the methodology for modeling sales from administrative data sources (i.e. GST data) which also contributes to the estimates of the survey portion, refer to 'Monthly Wholesale Trade Survey: Use of Administrative Data' under 'Documentation' of the IMDB. The measure of precision used for the MWTS to evaluate the quality of a population parameter estimate and to obtain valid inferences is the variance. The variance from the survey portion is derived directly from a stratified simple random sample without replacement.

Sample estimates may differ from the 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.

Revisions and seasonal adjustment

Revisions in the raw data are required to correct known non-sampling errors. These normally include replacing imputed data with reported data, corrections to previously reported data, and estimates for new births that were not known at the time of the original estimates. Raw data are revised, on a monthly basis, for the month immediately prior to the current reference month being published. That is, when data for December are being published for the first time, there will also be revisions, if necessary, to the raw data for November. In addition, revisions are made once a year, with the initial release of the February data, for all months in the previous year. The purpose is to correct any significant problems that have been found that apply for an extended period. The actual period of revision depends on the nature of the problem identified, but rarely exceeds three years. Time series contain the elements essential to the description, explanation and forecasting of the behaviour of an economic phenomenon: "They are statistical records of the evolution of economic processes through time."[1] Economic time series such as the Monthly Wholesale Trade Survey can be broken down into five main components: the trend-cycle, seasonality, the trading-day effect, the Easter holiday effect and the irregular component.

The trend represents the long-term change in the series, whereas the cycle represents a smooth, quasi-periodical movement about the trend, showing a succession of growth and decline phases (e.g., the business cycle). These two components—the trend and the cycle—are estimated together, and the trend-cycle reflects the fundamental evolution of the series. The other components reflect short-term transient movements.

The seasonal component represents sub-annual, monthly or quarterly fluctuations that recur more or less regularly from one year to the next. Seasonal variations are caused by the direct and indirect effects of the climatic seasons and institutional factors (attributable to social conventions or administrative rules; e.g., Christmas).

The trading-day component originates from the fact that the relative importance of the days varies systematically within the week and that the number of each day of the week in a given month varies from year to year. This effect is present when activity varies with the day of the week. For instance, Sunday is typically less active than the other days, and the number of Sundays, Mondays, etc., in a given month changes from year to year.

The Easter holiday effect is the variation due to the shift of part of April's activity to March when Easter falls in March rather than April.

Lastly, the irregular component includes all other more or less erratic fluctuations not taken into account in the preceding components. It is a residual that includes errors of measurement on the variable itself as well as unusual events (e.g., strikes, drought, floods, major power blackout or other unexpected events causing variations in respondents' activities).

Thus, the latter four components—seasonal, irregular, trading-day and Easter holiday effect—all conceal the fundamental trend-cycle component of the series. Seasonal adjustment (correction of seasonal variation) consists in removing the seasonal, trading-day and Easter holiday effect components from the series, and it thus helps reveal the trend-cycle. 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.

Since April 2008, Monthly Wholesale Trade Survey data are seasonally adjusted using the X-12- ARIMA[2] software. The technique that is used essentially consists of first correcting the initial series for all sorts of undesirable effects, such as the trading-day and the Easter holiday effects, by a module called regARIMA. These effects are estimated

1. A Note on the Seasonal adjustment of Economic Time Series», Canadian Statistical Review, August 1974.
2. For more information , see X-12-ARIMA Reference Manual Version 0.3 (2007), U.S. Census Bureau.

using regression models with ARIMA errors (auto-regressive integrated moving average models). The series can also be extrapolated for at least one year by using the model. Subsequently, the raw series—pre-adjusted and extrapolated if applicable— is seasonally adjusted by the X-11 method.

The X-11 method is used for analysing monthly and quarterly series. It is based on an iterative principle applied in estimating the different components, with estimation being done at each stage using adequate moving averages[3] . The moving averages used to estimate the main components—the trend and seasonality—are primarily smoothing tools designed to eliminate an undesirable component from the series. Since moving averages react poorly to the presence of atypical values, the X-11 method includes a tool for detecting and correcting atypical points. This tool is used to clean up the series during the seasonal adjustment. Outlying data points can also be detected and corrected in advance, within the regARIMA module.

Lastly, the annual totals of the seasonally adjusted series are forced to the annual totals of the original series.

Unfortunately, seasonal adjustment removes the sub-annual additivity of a system of series; small discrepancies can be observed between the sum of seasonally adjusted series and the *direct* seasonal adjustment of their total. To insure or restore additivity in a system of series, a reconciliation process is applied or *indirect* seasonal adjustment is used, i.e. the seasonal adjustment of a total is derived by the summation of the individually seasonally adjusted series.

3. Ladiray, D. and Quenneville, B. (2001). Seasonal Adjustment with the X-11 Method. New York: Springer-Verlag, Lecture Notes in Statistics #158.

Data quality evaluation

The methodology of this survey has been designed to control errors and to reduce their potential effects on estimates. However, the survey results remain subject to errors, of which sampling error is only one component of the total survey error.

Sampling error results when observations are made only on a sample and not on the entire population. All other errors arising from the various phases of a survey are referred to as non-sampling errors. For example, these types of errors can occur when a respondent provides incorrect information or does not answer certain questions; when a unit in the target population is omitted or covered more than once; when GST data for records being modeled for a particular month are not representative of the actual record for various reasons; when a unit that is out of scope for the survey is included by mistake or when errors occur in data processing, such as coding or capture errors.

Prior to publication, combined survey results are analyzed for comparability; in general, this includes a detailed review of individual responses (especially for large businesses), general economic conditions and historical trends.

A common measure of data quality for surveys is the coefficient of variation (CV). The coefficient of variation, defined as the standard error divided by the sample estimate, is a measure of precision in relative terms. Since the coefficient of variation is calculated from responses of individual units, it also measures some non-sampling errors.

The formula used to calculate coefficients of variation (CV) as percentages is:

$$CV(X) = \frac{S(X)}{X} * 100\%$$

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

Confidence intervals can be constructed around the estimates using the estimate and the CV. 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 CV of 2%, the standard error will be $240,000 (the estimate multiplied by the CV). It can be stated with 68% confidence that the expected values will fall within the interval whose length equals the standard deviation about the estimate, i.e. between $11,760,000 and $12,240,000. 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 $11,520,000 and $12,480,000.

Finally, due to the small contribution of the non-survey portion to the total estimates, bias in the non-survey portion has a negligible impact on the CVs. Therefore, the CV from the survey portion is used for the total estimate that is the summation of estimates from the surveyed and non-surveyed portions.

Disclosure control

Statistics Canada is prohibited by law from releasing any data which would divulge information obtained under the Statistics Act that relates to any identifiable person, business or organization without the prior knowledge or the consent in writing of that person, business or organization. Various confidentially rules are applied to all data that are released or published to prevent the publication or disclosure of any information deemed confidential. If necessary, data are suppressed to prevent direct or residual disclosure or identifiable data.

Confidentiality analysis includes the detection of possible “direct disclosure”, which occurs when the value in a tabulation cell is composed of a few respondents or when the cell is dominated by a few companies.

Q & A

What will change with the April releases?

The purpose of a restratification is to improve a sample to account for changes to a population that occur over time. As a result, estimates for previous periods have been revised to account for the new levels from the restratified sample. In addition, data have been revised to incorporate new information based on late receipt of respondent information, correction of information on data provided, the replacement of estimated figures with actual values (once available), the reclassification of companies within, into and out of the retail or wholesale trade industry and updates to seasonal and trading day factors.

Data for retail and wholesale trade are presented based directly on the North American Industrial Classification System (NAICS) basis, rather than using the trade group variant of NAICS.

The unadjusted and seasonally adjusted estimates have been revised back to January 2004.

Why do a restratification?

A common survey approach, which is used by the MWRTS, is to divide the business population into four size groups. The largest businesses—those which contribute the most to the published estimates—are included in the survey every month and represent only themselves in the overall estimates. The second and third size groups generally correspond to medium and small businesses. For reasons of cost and response burden, Statistics Canada does not ask every one of these businesses to provide information on a monthly basis. Instead, a subset of these businesses is sampled and their responses are used to estimate data for the remaining businesses in their group. The fourth size group, representing the smallest businesses, are not subject to sample selection and are estimated using a model based on their sales level according to their Goods and Services Tax (GST) filings.

The last sample allocation for the MWRTS happened in 2004. Since then, a lot has changed in these industries. Some companies have grown, others have gone out of business and some have changed the nature of their activity. The April estimates incorporate a new sample allocation based on the most recent information available on the size of these businesses. This information is obtained from Statistics Canada's Business Register.

In some cases the thresholds defining the size groups were changed and in other, the individual businesses were reassigned to different groups depending on their current size. The end result is that the new sample is a better reflection of the current business population.

What was wrong with the old methodology? Is it a redesign? What are you doing differently than before?

The definition of retail or wholesale trade has not changed. There has been a change in the industry groupings used to draw the sample. For example, in retail trade, the previous sample put used car dealers (NAICS 44112), other motor vehicle dealers (4412) and automotive parts, accessories and tire stores (4413) together. They are now sampled separately.

In addition, for the non-surveyed portion, modeled data based on GST returns is now used instead of a constant ratio type estimator based on the 2003 population.

The sampling strategy involves splitting the business population into groups that are similar in their characteristics. This involves grouping businesses based on their geographic location, the nature of their business activity and also by the size of the business. The recent review of the sample focused on updating the geographic and industrial

coding as well as the size information associated with wholesale and retail businesses. In addition, some of the size thresholds were redefined to distribute the sample more efficiently.

What specific problems caused us to do this? Does it solve all of these problems? Why can you not update the sample on a continuous basis?

The purpose of updating the size thresholds for groups of businesses, reassigning individual businesses based on more current information, was to improve the accuracy and stability of the estimates.

The accuracy of the estimates is improved by having better groupings of businesses with similar characteristics for the estimation of detailed industry estimates.

The sample is not updated on an ongoing basis because of the potential to distort trends. As with the recent sample review, the result of updating the size codes on businesses can change the level of the published estimates. This would make it very difficult to distinguish between month-to-month movements caused by the change in the sample and those caused by the reported data.

Why did you revise back to 2004? How do I link prior to 2004? How can I adjust the previous series?

When the new sample data was collected and parallel estimates produced, there was a difference between the new and old survey estimates. In order to avoid a data break, the previously published estimates were adjusted to this new level. It was assumed that the quality of the sample had gradually deteriorated through time and, therefore, the adjustment method spread the level break over a long time period.

The previously published estimates were revised back to January 2004 because this was the last time a redesign or a restratification was done.

All previously published data for wholesale and retail trade (monthly estimates) should be replaced with the new data series back to 2004.

Caution should be used in making comparisons to previous time periods for certain wholesale trade series.

Are the data more accurate/reliable? Why should we believe the new numbers? Do revisions address any previous bias in the data?

The most recent survey results should be more accurate than the previously published data.

The previously published estimates were not ‘wrong,’ but for some series they were less accurate or more susceptible to sampling variability. The longer the time period since a new sample has been drawn, the more the original sample becomes out of date and is no longer optimal. A non-optimal sample leads to a larger standard error (or CV) than the original sample and less reliable estimates. As well, it is possible for an unknown bias to creep into estimates if the structure of the population changes significantly since the original sample.

It is clear that the revisions have improved the quality of the estimates. Some of the revisions were quite small and would not necessarily qualify as ‘significant.’ Remember that the survey results are estimates and do have a reliability range.

Why change the classification system, too?

We have also taken this opportunity to change our classification system to use directly the North American Industry Classification System (NAICS) rather than its trade group variant. This will make it easier to compare the data with other sources at Statistics Canada.

By using the concordance table you can see the alignment of the Trade Groups to NAICS and vice-versa which will make your transition more seamless.

For your convenience, a concordance table has been created:
www.statcan.gc.ca/imdb-bmdi/document/2401_D12_T9_V1-eng.pdf

What are the impacts on estimates related to the restratification?

Can we see the backcasting effect on the estimates?

When the new sample data was collected and parallel estimates were produced, there was a difference between the new and old survey estimates. In order to avoid a data break, the previously published estimates were adjusted to this new level. It was assumed that the quality of the sample had gradually deteriorated through time and, therefore, the adjustment method spread the level break over a long time period.

The following graphs show the effect of the revisions back to January 2004 on the previously published estimates for the MRTS and the MWTS. Series are defined as follow: unadjusted (UN) and seasonally adjusted (SA) sales of the old sample (OS) versus unadjusted and seasonally adjusted sales of the new sample, results of the restratification (R). It is possible to observe that the historical monthly changes are slightly different between the OS compare to the R, as a result of annuals and historical data revisions, reclassification of companies within, into and out of the retail or wholesale trade industry and updates to seasonal and trading day factors.

Appendix I

41 - Wholesale Trade

http://stds.statcan.gc.ca/naics-scian/2002/cs-rc-eng.asp?criteria=41