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MONTHLY WHOLESALE TRADE: SALES AND INVENTORIES AUGUST 2002

Sales. August 2002 sales of merchant wholesalers, after adjustment for seasonal variations and trading-day differences but not for price changes, were \$233.5 billion, up 0.9 percent (+/-0.6%) from the revised July level, and were up 3.0 percent (+/-1.1%) from the August 2001 level. The July preliminary estimate was revised upward \$0.4 billion or 0.2 percent. Among durable goods, sales of motor vehicle and motor vehicle parts and supplies were up 4.1 percent from last month and lumber and other construction materials were up 2.5 percent. August sales of nondurable goods increased 1.5 percent (+/-0.8%) from last month and were up 5.7 percent (+/-1.7%) from last year. Compared to last month, sales of petroleum and petroleum products were up 4.4 percent and chemicals and allied products increased 1.8 percent.

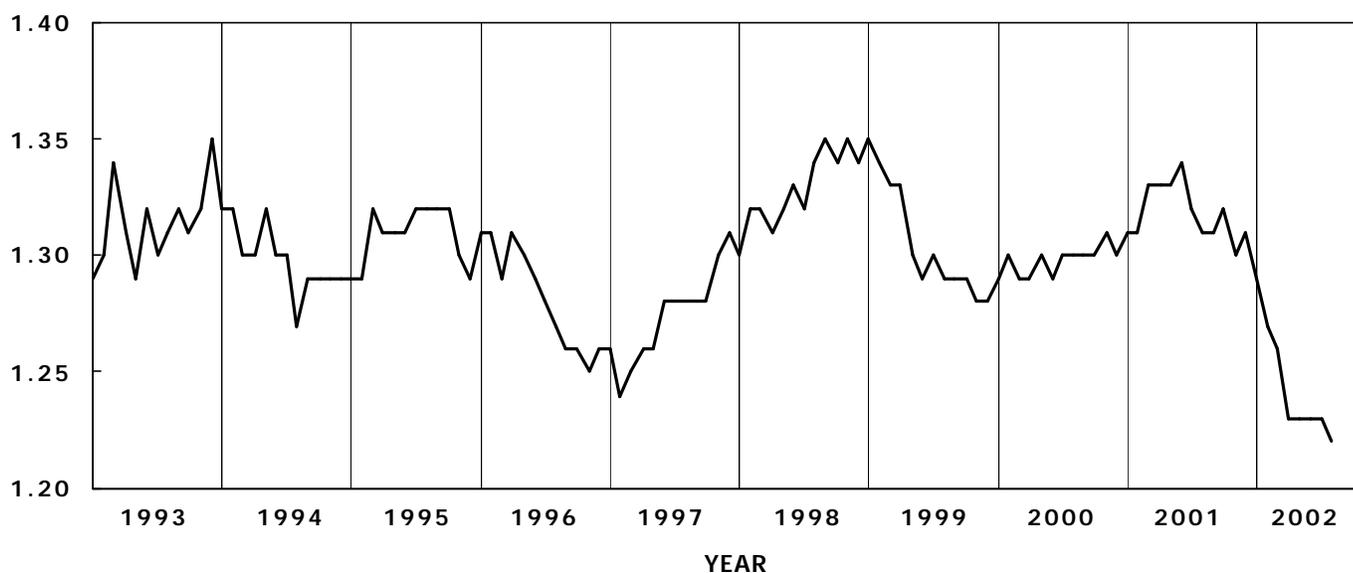
Inventories. Total inventories of merchant wholesalers, after adjustment for seasonal variations but not for price changes, were \$284.5 billion at the end of August, up 0.2 percent (+/-0.3%) from last month, but were down 4.2 percent (+/-1.0%) from a year ago. The July preliminary estimate was revised downward \$0.1 billion. Among durable goods, inventories of electrical goods were up 2.4 percent from last month, while motor vehicle and motor vehicle parts and supplies decreased 2.3 percent. Among nondurable goods, inventories of apparel, piece goods, and notions increased 2.6 percent from July and chemicals and allied products were up 2.0 percent.

Inventories/Sales Ratio. The August inventories/sales ratio for merchant wholesalers, based on seasonally adjusted data, was 1.22. The August 2001 ratio was 1.31.

Data in this report are based on a sample and, therefore, are subject to sampling and nonsampling error. A discussion of the reliability of the estimates and general survey methodology appears in BW/01-A Current Business Reports.

RATIO

Monthly Inventories/Sales Ratios of Merchant Wholesalers: 1993 to 2002
(Estimates adjusted for seasonal and trading-day differences, but not for price changes)



Monthly Wholesale Trade for September is scheduled to be released November 7, 2002 at 10:00 a.m.

Address inquiries concerning this report to Service Sector Statistics Division, U.S. Census Bureau, Washington, DC 20233, or call Nancy Piesto, (301) 763-2747.

This report is available on day of issue through the Department of Commerce's STAT-USA website; for information, call (202) 482-1986. The data are also available on the internet - <http://www.census.gov/whl>.

Table 1. Estimated Monthly Sales, Inventories, and Inventories/Sales Ratios of Merchant Wholesalers

[Total sales and inventory estimates are shown in millions of dollars. Estimates are based on data from the Monthly Wholesale Trade Survey, Annual Wholesale Trade Survey, and administrative records. Except for NAICS code 4225, estimates have been adjusted using results of the most recent economic census.]

NAICS ¹ code	Kind of Business	Sales						Inventories						Inventories/Sales Ratios		
		Monthly			Percent change			Monthly			Percent change			Ratios		
		Aug. 2002 (p)	Jul. 2002 (r)	Aug. 2001 (r)	Aug./ Jul.	Jul./ Jun.	Aug. 02 Aug. 01	Aug. 2002 (p)	Jul. 2002 (r)	Aug. 2001 (r)	Aug./ Jul.	Jul./ Jun.	Aug. 02 Aug. 01	Aug. 2002 (p)	Jul. 2002 (r)	Aug. 2001 (r)
Adjusted²																
42	U.S. Total	233,468	231,353	226,739	0.9	0.7	3.0	284,530	284,083	297,079	0.2	0.6	-4.2	1.22	1.23	1.31
421	Durable	114,933	114,566	114,628	0.3	0.1	0.3	169,730	169,419	182,068	0.2	0.6	-6.8	1.48	1.48	1.59
4211	Automotive	18,403	17,680	17,318	4.1	1.3	6.3	23,381	23,931	24,256	-2.3	1.5	-3.6	1.27	1.35	1.40
4212	Furniture	3,496	3,550	3,620	-1.5	-3.3	-3.4	5,214	5,209	5,457	0.1	0.7	-4.5	1.49	1.47	1.51
4213	Lumber	6,598	6,435	6,243	2.5	-2.0	5.7	6,715	6,686	6,675	0.4	-0.5	0.6	1.02	1.04	1.07
4214	Prof. equip.	21,782	21,643	21,723	0.6	-1.7	0.3	23,605	23,299	25,087	1.3	0.1	-5.9	1.08	1.08	1.15
42143	Comp. equip.	11,794	11,718	11,645	0.6	0.3	1.3	8,557	8,448	9,387	1.3	-0.4	-8.8	0.73	0.72	0.81
4215	Metals	7,768	7,866	7,990	-1.2	0.3	-2.8	12,463	12,364	13,021	0.8	1.8	-4.3	1.60	1.57	1.63
4216	Electrical	17,470	17,745	17,131	-1.5	-0.2	2.0	23,713	23,164	26,535	2.4	1.3	-10.6	1.36	1.31	1.55
4217	Hardware	5,489	5,393	5,246	1.8	0.7	4.6	9,970	10,069	10,516	-1.0	0.0	-5.2	1.82	1.87	2.00
4218	Machinery	19,796	20,315	22,049	-2.6	-0.1	-10.2	45,186	45,382	49,488	-0.4	0.4	-8.7	2.28	2.23	2.24
4219	Misc. Durable	14,131	13,939	13,308	1.4	3.5	6.2	19,483	19,315	21,033	0.9	-0.7	-7.4	1.38	1.39	1.58
422	Nondurable	118,535	116,787	112,111	1.5	1.4	5.7	114,800	114,664	115,011	0.1	0.7	-0.2	0.97	0.98	1.03
4221	Paper	6,239	6,295	6,321	-0.9	1.0	-1.3	6,040	6,057	6,559	-0.3	-1.6	-7.9	0.97	0.96	1.04
4222	Drugs	18,765	18,564	16,364	1.1	-1.1	14.7	26,982	27,125	26,038	-0.5	-1.6	3.6	1.44	1.46	1.59
4223	Apparel	7,218	7,124	6,635	1.3	2.7	8.8	12,786	12,456	13,503	2.6	2.2	-5.3	1.77	1.75	2.04
4224	Groceries	35,585	35,329	33,789	0.7	0.8	5.3	22,549	22,359	21,625	0.8	1.1	4.3	0.63	0.63	0.64
4225	Farm products	9,249	9,006	8,905	2.7	3.3	3.9	10,253	10,351	10,778	-0.9	3.4	-4.9	1.11	1.15	1.21
4226	Chemicals	5,127	5,035	4,835	1.8	0.9	6.0	6,033	5,914	6,072	2.0	-1.7	-0.6	1.18	1.17	1.26
4227	Petroleum	15,431	14,783	14,304	4.4	1.6	7.9	4,587	4,596	4,167	-0.2	1.0	10.1	0.30	0.31	0.29
4228	Alcohol	6,614	6,590	6,028	0.4	1.5	9.7	6,573	6,674	6,413	-1.5	0.1	2.5	0.99	1.01	1.06
4229	Misc. Nondur.	14,307	14,061	14,930	1.7	5.0	-4.2	18,997	19,132	19,856	-0.7	2.8	-4.3	1.33	1.36	1.33
Not Adjusted																
Sales to date																
2002																
2001																
42	U.S. Total	238,803	235,123	236,987	1.6	3.7	0.8	280,763	282,379	292,946	-0.6	1.1	-4.2	1,817,618	1,826,329	
421	Durable	118,537	116,791	120,863	1.5	1.9	-1.9	170,360	171,473	182,628	-0.6	1.5	-6.7	903,336	925,532	
4211	Automotive	18,808	17,963	18,028	4.7	2.8	4.3	22,539	23,644	23,383	-4.7	2.2	-3.6	140,477	137,141	
4212	Furniture	3,688	3,543	3,895	4.1	-0.9	-5.3	5,386	5,397	5,637	-0.2	3.7	-4.5	27,920	29,193	
4213	Lumber	7,271	7,046	7,111	3.2	2.3	2.3	6,749	6,793	6,708	-0.6	-1.2	0.6	54,370	49,514	
4214	Prof. equip.	22,414	22,011	22,874	1.8	-1.7	-2.0	23,652	23,555	25,037	0.4	2.1	-5.5	170,123	178,608	
42143	Comp. equip.	12,254	11,741	12,355	4.4	-2.9	-0.8	8,523	8,575	9,321	-0.6	2.3	-8.6	89,821	97,896	
4215	Metals	8,086	8,055	8,565	0.4	3.0	-5.6	12,675	12,574	13,190	0.8	3.4	-3.9	60,685	64,414	
4216	Electrical	17,977	18,029	18,022	-0.3	3.7	-0.2	24,116	23,535	26,986	2.5	2.5	-10.6	138,916	143,038	
4217	Hardware	5,742	5,598	5,592	2.6	2.3	2.7	10,120	10,190	10,653	-0.7	0.1	-5.0	43,790	42,321	
4218	Machinery	19,954	20,579	22,843	-3.0	1.3	-12.6	45,367	46,335	49,686	-2.1	1.0	-8.7	161,076	175,561	
4219	Misc. Durable	14,597	13,967	13,933	4.5	5.2	4.8	19,756	19,450	21,348	1.6	-0.2	-7.5	105,979	105,742	
422	Nondurable	120,266	118,332	116,124	1.6	5.5	3.6	110,403	110,906	110,318	-0.5	0.6	0.1	914,282	900,797	
4221	Paper	6,526	6,433	6,833	1.4	6.4	-4.5	5,961	6,021	6,474	-1.0	-2.2	-7.9	49,414	52,095	
4222	Drugs	18,089	18,304	16,462	-1.2	2.9	9.9	25,552	26,745	24,762	-4.5	-1.5	3.2	145,125	123,616	
4223	Apparel	7,925	7,452	7,498	6.3	12.6	5.7	13,246	12,867	13,962	2.9	3.6	-5.1	56,422	54,620	
4224	Groceries	36,475	36,742	35,039	-0.7	6.3	4.1	22,459	22,046	21,474	1.9	0.0	4.6	278,766	267,494	
4225	Farm products	8,583	8,466	8,353	1.4	8.5	2.8	7,700	7,794	8,019	-1.2	1.5	-4.0	68,042	70,858	
4226	Chemicals	5,332	5,196	5,169	2.6	3.7	3.2	6,051	5,979	6,084	1.2	-1.4	-0.5	40,652	40,480	
4227	Petroleum	16,017	14,946	15,191	7.2	5.7	5.4	4,587	4,568	4,167	0.4	2.9	10.1	113,686	124,883	
4228	Alcohol	6,998	6,873	6,619	1.8	3.2	5.7	6,534	6,787	6,394	-3.7	0.3	2.2	50,617	47,397	
4229	Misc. Nondur.	14,321	13,920	14,960	2.9	2.5	-4.3	18,313	18,099	18,982	1.2	3.2	-3.5	111,558	119,354	

^p Preliminary estimate. ^r Revised.

¹ For a full description of the NAICS codes used in this table, see <http://www.census.gov/svsd/www/naicsdef.html>.

² Estimates are adjusted for seasonal variations and, in the case of sales, also for trading-day differences. See Table 3 for the seasonal adjustment factors used. Cumulative seasonally adjusted sales estimates are not tabulated.

Note: Estimates have not been adjusted for price changes. Table 2 provides estimated measures of sampling variability. Additional information on confidentiality protection, sampling error, nonsampling error, sample design, and definitions may be found at <http://www.census.gov/svsd/www/mwtsreliability.html>.

Table 2. Coefficients of Variation and Standard Errors for Sales and Inventories Estimates

[Estimates are shown as percents. Estimates are based on data from the Monthly Wholesale Trade Survey and administrative records.]

NAICS code	Kind of Business	Median coefficients of variation for level (%)				Median standard errors for trend				Coefficients of variation for level (%)		Standard errors for trend
		Preliminary estimates		Final estimates		Ratio of two consecutive months		Year-to-year estimates		Cumulative sales estimates		Current year cumulative
		Sales	Inv.	Sales	Inv.	Sales	Inv.	Sales	Inv.	Current year	Previous year	to previous year cumulative
42	U.S. Total	1.2	1.6	1.2	1.6	0.3	0.2	0.7	0.6	1.2	1.3	0.3
421	Durable	1.6	1.6	1.7	1.8	0.5	0.3	1.1	0.8	1.4	1.7	0.6
4211	Automotive	3.3	4.6	3.4	4.5	0.9	0.8	1.9	2.3	3.2	3.8	1.0
4212	Furniture	4.6	7.3	4.6	7.3	1.5	0.7	3.0	2.2	4.6	4.0	2.4
4213	Lumber	4.5	6.3	4.4	6.3	1.0	0.7	2.5	3.0	4.5	3.7	1.7
4214	Prof. equip.	5.0	6.0	5.0	5.8	1.1	0.6	3.1	1.8	4.8	3.9	1.7
42143	Comp. equip.	8.0	6.7	7.9	6.7	2.0	1.2	3.3	3.3	8.6	7.2	2.7
4215	Metals	7.6	8.9	7.6	8.7	1.3	0.7	3.4	3.7	7.0	6.9	2.3
4216	Electrical	3.8	4.8	3.9	4.8	1.3	0.6	1.9	1.7	3.5	3.9	0.8
4217	Hardware	8.1	10.8	8.2	10.8	1.1	0.5	2.5	2.5	8.0	7.7	1.6
4218	Machinery	4.0	3.2	4.1	3.1	1.6	0.5	2.2	1.5	3.7	3.3	1.2
4219	Misc. Durable	5.1	7.7	5.1	7.7	1.8	0.8	2.9	2.4	4.8	5.3	2.2
422	Nondurable	1.7	2.6	1.6	2.6	0.5	0.3	1.0	1.1	1.7	1.6	0.5
4221	Paper	4.4	3.6	4.4	3.6	0.9	0.6	1.2	1.5	4.2	4.7	0.6
4222	Drugs	5.3	5.5	5.2	5.5	0.8	0.4	2.4	2.9	5.3	5.9	1.4
4223	Apparel	5.0	4.8	5.0	4.8	1.8	0.9	3.4	2.6	4.5	4.1	2.1
4224	Groceries	3.1	5.8	3.1	5.7	0.7	0.6	1.6	2.1	3.2	2.8	1.0
4225	Farm products	5.7	11.1	5.6	11.3	1.7	1.7	3.0	3.1	5.5	5.5	1.3
4226	Chemicals	5.2	7.1	5.3	7.1	1.0	0.7	2.1	2.0	5.1	4.9	1.2
4227	Petroleum	5.7	7.4	5.7	7.3	0.7	0.8	1.4	2.0	5.7	5.5	0.9
4228	Alcohol	4.0	4.9	3.9	4.7	0.9	0.8	1.6	1.7	3.9	4.1	0.7
4229	Misc. Nondur.	7.8	7.8	7.8	7.8	1.9	1.2	4.1	2.0	7.6	6.9	2.9

Note: Estimated measures of sampling variability are based on estimates unadjusted for seasonal variation or trading-day differences. Medians are computed using final monthly estimates for the latest 12 months. Additional information on confidentiality protection, sampling error, nonsampling error, sample design, and definitions may be found at www.census.gov/svsd/www/mwtsreliability.html.

Reliability of Estimates

There are two types of errors possible in an estimate based on a sample survey: sampling and nonsampling.

Sampling errors occur because observations are made on a sample, not on the entire population, and different samples could have led to different estimates. Standard errors and coefficients of variation, as calculated for this report, are measures of sampling variation. The margin of sampling error, as used on page 1, gives a range about the estimate which is a 90% confidence interval. If, for example, the percent change estimate is up 1.2% and the standard error is 0.9%, then the margin of sampling error is $\pm 1.65 \times 0.9\%$ or $\pm 1.5\%$, and the 90% confidence interval is -0.3% to $+2.7\%$. If the interval contains zero, then we do not have sufficient evidence to conclude the estimated change was statistically different from zero. For monthly totals, the coefficient of variation (CV) is given. The resulting confidence interval is the estimated value $\pm 1.65 \times CV \times$ (the estimated value).

Nonsampling errors can occur because of nonresponse, insufficient coverage of the universe of wholesale businesses, mistakes in the recording and coding of data, and response errors. Imputed data accounts for approximately 28% of the sales estimates and 31% of the inventories estimates. Additionally, estimates of sales and inventories prior to March 2001 have been restated from SIC-based estimates. The restatement methodology may have introduced additional nonsampling error. The calculated median standard errors of year-to-year change estimates may also be influenced by the methodology used to impute historical data for units in the NAICS sample. The effect of this historic imputation methodology on published estimates will decrease as more data from the NAICS sample is accumulated. Precautionary steps are taken to minimize nonsampling errors, but their magnitude is not directly measured.

Further information regarding the reliability of estimates can be found on the Internet on our web page at <http://www.census.gov/svsd/www/mwtsreliability.html>.

Table 3. Seasonal Adjustment Factors for Sales and Inventories of Merchant Wholesalers

[Seasonal adjustment factors are computed using the Census Bureau's X-12 ARIMA program and are based on data from the Monthly Wholesale Trade Survey, Annual Wholesale Trade Survey, and administrative records.]

NAICS code	Kind of Business	Sales						Inventories					
		2002					2001	2002					2001
		Sep.	Aug.r	Jul.r	Jun.	May	Aug.r	Sep.	Aug.r	Jul.r	Jun.	May	Aug.r
42	U.S. Total ¹	0.997	1.022	1.016	0.988	1.041	1.044	0.986	0.986	0.994	0.989	0.992	0.985
421	Durable	1.011	1.032	1.020	1.003	1.034	1.053	0.997	1.002	1.012	1.002	1.005	1.002
4211	Automotive	0.952	1.022	1.016	1.001	1.045	1.041	0.984	0.964	0.988	0.982	1.002	0.964
4212	Furniture	1.040	1.055	0.998	0.974	1.004	1.076	1.032	1.033	1.036	1.006	0.992	1.033
4213	Lumber	0.992	1.102	1.095	1.049	1.111	1.139	0.998	1.005	1.016	1.023	1.024	1.005
4214	Prof. equip.	1.048	1.029	1.017	1.017	1.006	1.053	0.999	1.002	1.011	0.991	0.988	0.998
42143	Comp. equip.	1.092	1.039	1.002	1.035	0.977	1.061	0.996	0.996	1.015	0.988	0.989	0.993
4215	Metals	0.999	1.041	1.024	0.997	1.050	1.072	1.004	1.017	1.017	1.001	1.001	1.013
4216	Electrical	1.039	1.029	1.016	0.978	0.996	1.052	1.010	1.017	1.016	1.004	1.002	1.017
4217	Hardware	0.987	1.046	1.038	1.021	1.068	1.066	0.998	1.015	1.012	1.011	1.010	1.013
4218	Machinery	0.974	1.008	1.013	0.999	1.070	1.036	0.991	1.004	1.021	1.015	1.018	1.004
4219	Misc. Durable	1.046	1.033	1.002	0.986	0.996	1.047	1.009	1.014	1.007	1.002	1.002	1.015
422	Nondurable	0.978	1.015	1.013	0.974	1.047	1.035	0.974	0.960	0.965	0.967	0.969	0.959
4221	Paper	1.013	1.046	1.022	0.970	1.017	1.081	0.992	0.987	0.994	1.000	1.010	0.987
4222	Drugs	0.984	0.964	0.986	0.947	1.007	1.006	0.985	0.947	0.986	0.985	0.945	0.951
4223	Apparel	1.042	1.098	1.046	0.954	0.947	1.130	1.024	1.036	1.033	1.019	0.987	1.034
4224	Groceries	0.974	1.025	1.040	0.986	1.057	1.037	1.011	0.996	0.986	0.997	0.990	0.993
4225	Farm products	0.917	0.928	0.940	0.895	0.983	0.938	0.811	0.751	0.753	0.767	0.852	0.744
4226	Chemicals	0.959	1.040	1.032	1.004	1.077	1.069	0.985	1.003	1.011	1.008	1.013	1.002
4227	Petroleum	0.982	1.038	1.011	0.972	1.083	1.062	0.995	1.000	0.994	0.975	0.976	1.000
4228	Alcohol	0.956	1.058	1.043	1.026	1.099	1.098	1.027	0.994	1.017	1.015	1.004	0.997
4229	Misc. Nondur.	0.996	1.001	0.990	1.014	1.110	1.002	0.959	0.964	0.946	0.942	0.979	0.956

r Revised.

¹Adjusted sales and inventory estimates for detailed kind-of business levels in Table 1 are computed by dividing each unadjusted estimate by the seasonal adjustment factor for the corresponding kind of business and month. Adjusted estimates for broad kind-of-business levels are obtained by summing adjusted estimates at the appropriate detailed levels. Seasonal factors shown for broad kind-of-business levels may be used to approximate adjusted estimates at these levels, but the resulting estimates may differ slightly from the published estimates.

Note: The seasonal adjustment factors shown are estimates derived from a model that uses sample survey data as input. Therefore, these estimates may contain model error, sampling error, and nonsampling error. Additional information on the general form of the model and the X-12 ARIMA program may be found at <http://www.census.gov/srd/www/x12a/>.