

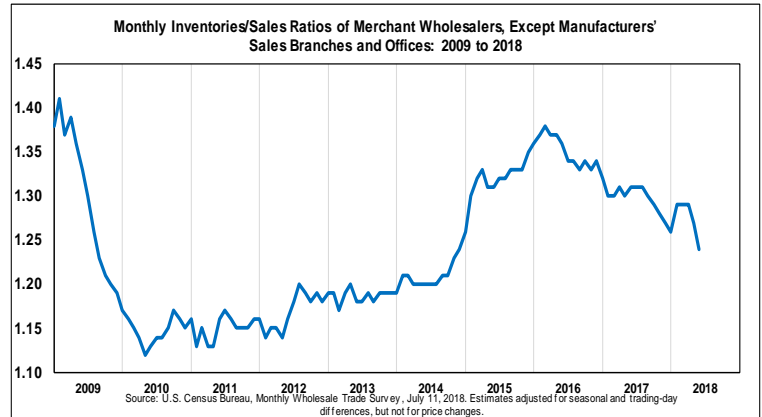
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## MONTHLY WHOLESALE TRADE: SALES AND INVENTORIES, MAY 2018

Release Number: CB18-108

**July 11, 2018** — The U.S. Census Bureau announced the following new wholesale trade statistics for May 2018:

MONTHLY WHOLESALE INVENTORIES		
MAY 2018	\$633.5 billion	+0.6%
APRIL 2018 (revised)	\$629.9 billion	+0.1%*
Next release: August 9, 2018		
* The 90 percent confidence interval includes zero. There is insufficient evidence to conclude that the actual change is different from zero. Data adjusted for seasonality but not price changes. Source: U.S. Census Bureau, Monthly Wholesale Trade Survey, July 11, 2018.		



### Sales

May 2018 sales of merchant wholesalers, except manufacturers' sales branches and offices, after adjustment for seasonal variations and trading-day differences but not for price changes, were \$509.0 billion, up 2.5 percent ( $\pm 0.4$  percent) from the revised April level and were up 11.8 percent ( $\pm 3.3$  percent) from the May 2017 level. The March 2018 to April 2018 percent change was revised from the preliminary estimate of up 0.8 percent ( $\pm 0.4$  percent) to up 1.4 percent ( $\pm 0.4$  percent).

### Inventories

Total inventories of merchant wholesalers, except manufacturers' sales branches and offices, after adjustment for seasonal variations but not for price changes, were \$633.5 billion at the end of May, up 0.6 percent ( $\pm 0.2$  percent) from the revised April level. Total inventories were up 5.9 percent ( $\pm 3.7$  percent) from the revised May 2017 level. The April 2018 to May 2018 percent change was revised from the advance estimate of up 0.5 percent ( $\pm 0.2$  percent) to up 0.6 percent ( $\pm 0.2$  percent).

### Inventories/Sales Ratio

The May inventories/sales ratio for merchant wholesalers, except manufacturers' sales branches and offices, based on seasonally adjusted data, was 1.24. The May 2017 ratio was 1.31.

### General Information

The June 2018 Monthly Wholesale Trade Report is scheduled for release on August 9, 2018. View the full schedule in the Economic Briefing Room: [www.census.gov/economic-indicators/](http://www.census.gov/economic-indicators/).

#### Data Inquiries

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For additional survey information, including customizable time series estimates by industry, visit [www.census.gov/wholesale/](http://www.census.gov/wholesale/).

## EXPLANATORY NOTES

### Reliability of the Estimates

Because the estimates presented in this report are based on a sample survey, they contain sampling error and nonsampling error.

Sampling error is the difference between the estimate and the result that would be obtained from a complete enumeration of the sampling frame conducted under the same survey conditions. This error occurs because only a subset of the entire sampling frame is measured in a sample survey. Standard errors and coefficients of variation, as given in Table 2 of this report, are estimated measures of sampling variation.

The margin of sampling error, as used on page 1, gives a range about the estimate, which can be used to construct a 90-percent confidence interval. If, for example, the percent change estimate is +1.2 percent and its estimated standard error is 0.8 percent, then the margin of sampling error is  $\pm 1.753 \times 0.8$  percent or  $\pm 1.4$  percent, and the 90 percent confidence interval is 1.2 +/-1.4 or -0.2 percent to 2.6 percent. If the interval contains 0, then one does not have sufficient statistical evidence to conclude at the 90 percent confidence level that the actual change is different from zero. Estimated changes shown in the text are statistically significant unless otherwise noted. For a monthly total, the estimated coefficient of variation is given. The resulting confidence interval is the estimated monthly total  $\pm 1.753 \times CV \times$  (the estimated monthly total). The Census Bureau recommends that individuals using estimates in this report incorporate this information into their analyses, as sampling error could affect the conclusions drawn from the estimates.

Nonsampling error encompasses all other factors that contribute to the total error of a sample survey estimate. This type of error can occur because of nonresponse, insufficient coverage of the universe of wholesale businesses, mistakes in the recording and coding of data, model error, and other errors of collection, response, coverage, or processing. Although nonsampling error is not measured directly, the Census Bureau employs quality control procedures throughout the process to minimize this type of error.

### Description of the Survey

The Census Bureau conducts the Monthly Wholesale Trade Survey to provide national estimates of monthly sales, end-of-month inventories, and inventories-to-sales ratios by kind of business for wholesale firms located in the United States. Specifically, the MWTS covers wholesale merchants who sell goods on their own account and include such businesses as wholesale merchants or jobbers, industrial distributors, exporters, and importers. Sales offices and branches maintained by manufacturing, refining, or mining firms for the purpose of marketing their products are not covered in this report. Also excluded is NAICS Industry Group 4251: Wholesale Electronic Markets and Agents and Brokers.

The MWTS sample was selected using a stratified, one-stage design with strata defined by kind of business (e.g., Automotive, Furniture, Lumber, etc.) and annual sales size. The sample includes firms of all sizes and is

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updated on a quarterly basis to account for new wholesale firms, deaths, and other changes to the wholesale universe. Each month, questionnaires are mailed to employer firms selected in a probability sample of approximately 4,200. For surveyed companies, approximately 62.9 percent provided data for this reporting period, resulting in a total quantity response rate of 66.3 percent for sales and 65.2 percent for inventories.

Monthly sales and inventories estimates are obtained by summing weighted data (either reported or imputed). The monthly estimates are benchmarked to annual survey estimates and are adjusted for seasonal variation and trading-day differences. Individuals who use estimates in this report to create new estimates should cite the Census Bureau as the source of only the original estimates. Additional information on the MWTS can be found on the Census Bureau website at: <[www.census.gov/wholesale/](http://www.census.gov/wholesale/)>.

## RESOURCES

### API

The Census Bureau's application programming interface lets developers create custom apps to reach new users and makes key demographic, socio-economic and housing statistics more accessible than ever before.

<[www.census.gov/developers/](http://www.census.gov/developers/)>

### FRED Mobile App



Receive the latest updates on the nation's key economic indicators by downloading the FRED App <<https://fred.stlouisfed.org/fred-mobile/>> for both Apple and Android devices. FRED, the signature database of the Federal Reserve Bank of St. Louis, now incorporates the Census Bureau's 13 economic indicators.

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\* The 90 percent confidence interval includes zero. There is insufficient evidence to conclude that the actual change is different from zero.

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**Table 2. Estimated Measures of Sampling Variability of Monthly Wholesale Sales and Inventory Estimates**

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

NAICS code	Kind of Business	Coefficient of variation for monthly total				Standard error for monthly total				Coefficient of variation for total		Standard error for percent change
		Preliminary estimates		Final estimates		Ratio of two consecutive months		Current month to current month last year		Sales to date		Current year sales to date to previous year sales to date
		Sales	Inv.	Sales	Inv.	Sales	Inv.	Sales	Inv.	Current year	Previous year	
<b>42</b>	<b>U.S. Total</b>	<b>1.0</b>	<b>1.4</b>	<b>1.1</b>	<b>1.4</b>	<b>0.2</b>	<b>0.1</b>	<b>1.9</b>	<b>2.1</b>	<b>1.1</b>	<b>1.1</b>	<b>1.9</b>
<b>423</b>	<b>..Durable</b>	<b>1.5</b>	<b>2.1</b>	<b>1.4</b>	<b>2.1</b>	<b>0.4</b>	<b>0.1</b>	<b>2.8</b>	<b>2.8</b>	<b>1.5</b>	<b>1.5</b>	<b>2.7</b>
4231	..Automotive	2.6	2.6	2.2	2.4	0.9	0.5	5.2	4.6	2.3	3.8	4.2
4232	..Furniture	4.2	8.3	4.2	8.2	1.8	0.4	15.7	19.3	4.0	6.1	14.0
4233	..Lumber	3.5	5.6	3.7	5.5	2.3	0.4	9.0	5.3	3.5	5.0	8.2
4234	..Prof. equip.	3.0	5.8	3.2	5.8	0.6	0.2	3.9	5.9	3.3	3.7	3.6
42343	...Comp. equip.	3.5	5.9	3.5	6.1	0.8	0.3	5.4	8.4	4.5	4.6	5.8
4235	..Metals	4.6	4.2	4.7	4.4	1.0	0.4	9.0	8.9	4.6	5.0	8.5
4236	..Electrical	2.8	4.3	2.8	4.5	0.5	0.4	4.3	5.1	3.0	2.5	4.4
4237	..Hardware	5.5	9.3	5.8	9.0	1.0	0.3	7.7	13.4	5.4	3.1	7.2
4238	..Machinery	2.6	4.3	3.1	4.2	1.4	0.3	5.2	6.0	2.9	2.7	5.2
4239	..Misc. Durable	4.7	8.6	4.8	8.8	1.4	0.4	8.5	14.1	4.7	5.1	7.8
<b>424</b>	<b>..Nondurable</b>	<b>1.0</b>	<b>1.4</b>	<b>1.1</b>	<b>1.5</b>	<b>0.5</b>	<b>0.2</b>	<b>2.2</b>	<b>2.0</b>	<b>1.0</b>	<b>1.7</b>	<b>2.2</b>
4241	..Paper	5.9	10.1	5.5	10.1	1.1	0.3	8.7	12.6	5.8	4.8	9.0
4242	..Drugs	2.8	3.5	2.7	3.5	0.7	0.1	3.5	4.9	2.6	2.3	3.3
4243	..Apparel	4.2	4.1	5.2	4.1	2.4	0.4	9.5	8.8	4.2	7.1	9.5
4244	..Groceries	3.2	3.5	3.2	3.4	0.6	0.4	5.3	10.1	2.9	4.3	5.4
4245	..Farm products	3.5	5.8	3.7	6.3	1.2	0.9	7.2	14.2	3.3	3.4	4.5
4246	..Chemicals	5.1	8.5	5.3	8.6	0.8	0.9	6.1	12.0	4.9	3.3	5.7
4247	..Petroleum	2.8	2.2	3.0	2.5	1.1	0.3	6.9	5.1	2.8	5.1	5.9
4248	..Alcohol	6.9	8.7	6.8	8.7	1.4	0.3	9.6	12.0	6.0	5.4	8.8
4249	..Misc. Nondur.	3.8	4.6	4.2	4.3	1.6	0.6	6.0	9.3	4.2	2.9	5.8

Note:

Estimated measures of sampling variability are based on estimates not adjusted for seasonal variation, trading-day differences, or moving holidays. Additional information on confidentiality protection, sampling error, nonsampling error, sample design, and definitions may be found at <[www.census.gov/wholesale/www/how\\_surveys\\_are\\_collected/monthly\\_methodology.html](http://www.census.gov/wholesale/www/how_surveys_are_collected/monthly_methodology.html)>.

Data adjusted for seasonality but not price changes. Explanations of confidence intervals and sampling variability can be found on our website at <[www.census.gov/wholesale/www/how\\_surveys\\_are\\_collected/monthly\\_methodology.html](http://www.census.gov/wholesale/www/how_surveys_are_collected/monthly_methodology.html)>.

Source: U.S. Census Bureau, Monthly Wholesale Trade Survey, July 11, 2018.

**Table 3. Combined<sup>1</sup> Adjustment Factors for Monthly Wholesale Sales and Inventory Estimates**

[Combined adjustment factors are computed using the Census Bureau's X-13 ARIMA-SEATS program and are based on data from the Monthly Wholesale Trade Survey.]

NAICS code	Kind of Business	Sales						Inventories					
		2018					2017	2018					2017
		Jun.	May r	Apr.r	Mar.	Feb.	May r	Jun.	May r	Apr.r	Mar.	Feb.	May r
<b>42</b>	<b>U.S. Total<sup>2</sup></b>	<b>1.026</b>	<b>1.052</b>	<b>0.983</b>	<b>1.029</b>	<b>0.891</b>	<b>1.049</b>	<b>0.991</b>	<b>0.992</b>	<b>1.002</b>	<b>1.010</b>	<b>1.007</b>	<b>0.992</b>
<b>423</b>	<b>..Durable</b>	<b>1.029</b>	<b>1.030</b>	<b>0.975</b>	<b>1.034</b>	<b>0.879</b>	<b>1.023</b>	<b>1.000</b>	<b>1.002</b>	<b>1.000</b>	<b>0.997</b>	<b>0.996</b>	<b>1.002</b>
4231	..Automotive	1.003	1.036	1.004	1.055	0.906	1.033	0.993	0.986	1.008	1.015	1.025	0.988
4232	..Furniture	0.969	1.026	0.941	0.967	0.863	1.017	0.993	0.979	0.970	0.973	0.986	0.978
4233	..Lumber	1.088	1.105	1.013	0.998	0.852	1.100	1.034	1.039	1.042	1.029	1.006	1.039
4234	..Prof. equip.	1.070	0.988	0.938	1.053	0.843	0.978	0.997	0.991	0.988	0.973	0.991	0.991
42343	...Comp. equip.	1.126	0.965	0.921	1.041	0.792	0.947	1.013	0.996	0.971	0.968	0.973	0.996
4235	..Metals	1.036	1.070	1.008	1.057	0.935	1.058	1.006	1.006	1.002	0.998	0.993	1.005
4236	..Electrical	1.008	0.994	0.939	1.006	0.849	0.989	0.996	1.007	0.991	0.975	0.977	1.007
4237	..Hardware	1.085	1.087	0.982	1.016	0.872	1.087	1.014	1.016	1.019	1.009	0.994	1.016
4238	..Machinery	1.024	1.071	1.032	1.071	0.886	1.069	1.006	1.012	1.005	1.008	1.002	1.012
4239	..Misc. Durable	1.006	1.025	0.963	1.022	0.924	1.024	0.987	0.986	0.984	0.978	0.983	0.985
<b>424</b>	<b>..Nondurable</b>	<b>1.020</b>	<b>1.079</b>	<b>0.989</b>	<b>1.025</b>	<b>0.906</b>	<b>1.074</b>	<b>0.976</b>	<b>0.976</b>	<b>1.004</b>	<b>1.027</b>	<b>1.024</b>	<b>0.977</b>
4241	..Paper	1.013	1.051	0.986	1.011	0.893	1.053	1.007	1.005	1.011	0.998	1.002	1.005
4242	..Drugs	0.995	1.045	0.972	1.024	0.900	1.054	1.015	0.976	0.986	1.016	0.962	0.975
4243	..Apparel	0.919	0.954	0.843	0.983	0.938	0.944	1.016	0.964	0.953	0.941	0.973	0.965
4244	..Groceries	1.002	1.068	0.986	1.029	0.907	1.067	0.978	0.977	0.982	0.982	0.980	0.976
4245	..Farm products	0.934	1.045	0.983	1.038	0.920	1.027	0.818	0.876	1.037	1.146	1.230	0.872
4246	..Chemicals <sup>3</sup>	1.023	1.043	0.992	1.048	0.943	1.043	1.000	1.000	1.000	1.000	1.000	1.000
4247	..Petroleum	1.045	1.087	0.990	0.995	0.922	1.086	1.033	1.045	1.027	1.022	1.004	1.047
4248	..Alcohol	1.116	1.105	0.945	0.995	0.834	1.097	1.007	1.027	1.018	0.992	0.982	1.028
4249	..Misc. Nondur.	1.111	1.260	1.163	1.111	0.880	1.248	0.915	0.970	1.081	1.132	1.119	0.973

Footnotes:

<sup>r</sup> Revised factors.

<sup>1</sup> Combined factors for sales include the effects of seasonal variation, trading day differences, and moving holidays. Combined factors for inventories include only the effects of seasonal variation.

<sup>2</sup> Adjusted sales and inventories estimates for detailed kind-of-business levels in Table 1 are computed by dividing each "Not Adjusted" estimate by the combined 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. Combined 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.

<sup>3</sup> No significant seasonal pattern for this NAICS code was detected in the latest annual review of the seasonal adjustment for inventories. Therefore, the combined adjustment factors for inventories are set to one for this NAICS code.

Note:

The seasonal adjustment factors shown are estimates derived from a model that uses sample survey data as input. Therefore, these estimates may contain sampling error and nonsampling error. Additional information on the general form of the model and the X-13 ARIMA-SEATS program may be found at <[www.census.gov/srd/www/x13as/](http://www.census.gov/srd/www/x13as/)>.

Data adjusted for seasonality but not price changes. Explanations of confidence intervals and sampling variability can be found on our website at <[www.census.gov/wholesale/www/how\\_surveys\\_are\\_collected/monthly\\_methodology.html](http://www.census.gov/wholesale/www/how_surveys_are_collected/monthly_methodology.html)>.

Source: U.S. Census Bureau, Monthly Wholesale Trade Survey, July 11, 2018.