

Frequently Asked Questions (FAQs)
COVID-19's Effect on the May 2020 Advance Monthly Retail Trade Survey

Data Collection

How has the collection of Advance Monthly Retail Trade Survey data been affected?

Many businesses are operating in a limited capacity or have ceased operations completely. As a result, their ability to provide accurate, timely information to Census may be limited.

For the May 2020 Advance Monthly Sales for Retail and Food Services Report, processing and data quality were monitored throughout the month and quality metrics, including response rates, met the standards for publication

Did the Census Bureau change its data collection procedures this month?

Yes. The Census Bureau utilizes a wide variety of collection methods for its surveys. Data, particularly from businesses, are collected on paper, online, fax, and through telephone interviews. Our National Processing Center (NPC) is responsible for mailing, faxing, data capture, responding to email messages, and handling inbound/outbound calls. Services offered by NPC have been limited to ensure employee safety but are coming back online. Data collection occurred primarily via email requests and online reporting, supplemented by calling operations by staff in NPC.

Methodology

Were any estimates withheld or delayed because of data collection problems?

No. All estimates were released as scheduled.

Did the Census Bureau modify its usual weighting or estimation methods used to produce monthly retail estimates for May 2020?

No. Standard weighted and estimation methods were used to produce all indicator estimates for May 2020.

How did the Census Bureau treat companies that reported 0 sales in April?

Consistent with our normal processing, companies that temporarily closed and reported \$0 sales in April would be tabulated with \$0 sales as long as the company was viewed to be representative of other companies in the same industry.

Has the reliability of the monthly retail estimates changed?

No. The reliability of the retail estimates as measured by the coefficient of variation for monthly totals and the standard error for month-to-month percent change has not changed substantially.

While the measures of sampling variability associated with the month-to-month percent changes presented in the April and May releases are generally higher than those seen in a typical release, this is representative of the sampling variance these metrics are designed to measure. Table 3 of the release contains median measures of error and variability and those medians are used to calculate the margins of error presented in the text of the release. For comparison, this table

shows the margins of error using the medians from table 3 of the release versus the point estimates observed for April and May 2020 to allow users to incorporate this information into their analyses.

Advance Monthly Retail Trade Survey – Margins of Sampling Error

| NAICS | Margin of Error for Month-to-Month Percent Change | | |
|--|---|----------------|----------|
| | Median based on June 2019-May 2020 | April [1] 2020 | May 2020 |
| Retail & food services, total | 0.5 | 0.7 | 1.4 |
| Total (excl. motor vehicle & parts) | 0.4 | 0.7 | 1.1 |
| Total (excl. gasoline stations) | 0.5 | 0.7 | 1.6 |
| Total (excl. motor vehicle & parts & gas stations) | 0.4 | 0.7 | 1.1 |
| Total retail | 0.5 | 0.5 | 1.2 |
| 441 | 1.8 | 2.5 | 5.1 |
| 441X | 1.9 | 2.6 | 5.6 |
| 442 | 2.1 | 4.0 | 16.1 |
| 443 | 1.1 | 2.6 | 6.5 |
| 444 | 1.2 | 3.2 | 2.5 |
| 445 | 0.4 | 0.5 | 0.7 |
| 4451 | 0.4 | 0.4 | 0.7 |
| 446 | 0.7 | 1.2 | 1.2 |
| 447 | 0.7 | 1.2 | 1.4 |
| 448 | 1.4 | 3.3 | 52.8 |
| 451 | 1.6 | 3.3 | 7.7 |
| 452 | 0.2 | 0.4 | 0.4 |
| 4521 | 0.0 | 0.0 | 0.0 |
| 453 | 4.4 | 7.4 | 15.1 |
| 454 | 0.9 | 1.1 | 0.7 |
| 722 | 1.8 | 4.6 | 7.5 |

Note: The margin of sampling error gives a range about the month-to-month percent change estimate which is a 90 percent confidence interval.

[1] – The margin of sampling error presented in this table for April 2020 are based on the Advance Monthly Retail Trade Survey release on May 15, 2020 and are presented for comparison. Revised April 2020 measures of sampling variability used in the May report are based on the larger sample from the Monthly Retail Trade Survey and can be found at <https://www.census.gov/retail/mrts/www/nrelys.txt>

Source: U.S. Census Bureau, Advance Monthly Retail Trade Survey, June 16, 2020.

Additional information on confidentiality protection, sampling error, nonsampling error, sample design, and definitions may be found at www.census.gov/retail/how_surveys_are_collected.html.

Seasonal Adjustment

Did the Census Bureau alter the procedures for developing seasonally adjusted estimates for monthly retail data?

Yes. Similar to March and April, an alteration was made in an option in the Census Bureau's X-13ARIMA-SEATS seasonal adjustment software (the "additive outlier adjustment" option) for the May 2020 data month for some kinds of business. This was done in effort to ensure that the published seasonally adjusted values fully include any immediate effects. These effects are not typical May effects and so should not be permitted to influence the seasonal factors for May and surrounding months. The altered option was applied to each kind of business whose May unadjusted value was found to be statistically untypical, as indicated by the appropriate t-statistic having a magnitude larger than a commonly used "critical value", and for which there were independent indications of an impact. Such indications confirm that a May survey value has an unusual potential to be untypical and justify the use of a standard critical value. In a usual month, every survey value is "blindly" tested, therefore a higher critical value is used, making it more difficult for the survey value to be classified as untypical.

What was the impact of altering the seasonal adjustment option (additive outlier adjustment) for the May 2020 data month?

The kinds of business that the alteration impacted may show a change in either direction from April. For these kinds of business, if the May values had been treated as typical, the program would have taken part of the change to be a seasonal effect and would have adjusted the data in a way that would have brought the adjusted percent change from April to May closer to zero. The altered option we used determined the changes in these kinds of business to be out of the ordinary.

How was the survey value for a kind of business determined to be out of the ordinary?

Each month, independent indications of how each kind of business performed are researched as part of our normal review of the estimates to detect reporting errors. This research includes, but is not restricted to, conversations with companies in our survey, a review of publicly available press releases from both companies and industry associations, and a review of other economic indicators.

This month, the May value of a kind of business was considered to be out of the ordinary if it was found to be statistically untypical (as indicated by the appropriate t-statistic having a magnitude larger than a "standard" critical value) and independent sources indicated an impact.

Additional Information

Are there additional Census Bureau resources available on the COVID-19 Pandemic?

Yes. The Census Bureau has created a [COVID-19 reference page](#) which includes links to relevant Census data sources. There is also a more general [FAQ on the impact of COVID-19 on operations](#).

Source: U. S. Census Bureau
Economic Indicators Division

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