

Retail Sales Index (RSI) QMI

Quality and Methodology Information (QMI) report for retail sales output in Great Britain, detailing the strengths and limitations of the data, methods used, and data uses and users.

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1 . Methodology background

- National Statistic: Yes
- Survey name: Monthly Business Survey – Retail Sales Index (MBS-RSI)
- Frequency: Monthly
- How compiled: Sample based survey
- Geographic coverage: Great Britain
- Sample size: 5,000 retailers

2 . About this Quality and Methodology Information report

This Quality and Methodology Information (QMI) report contains information on the quality characteristics of the data (including the European Statistical System's five dimensions of quality) as well as the methods used to create it.

The information in this report will help you to:

- understand the strengths and limitations of the data
- learn about existing uses and users of the data
- understand the methods used to create the data
- decide suitable uses for the data
- reduce the risk of misusing the data

3 . Important points

- The Retail Sales Index (RSI) is compiled using data from the Monthly Business Survey – Retail Sales Index (MBS-RSI).
- The RSI covers businesses that are engaged in retail trade and that operate in Great Britain; it does not include Northern Ireland, the Isle of Man or the Channel Islands.
- Retail sales data are collected from a sample of approximately 5,000 retailers across Great Britain.
- The sample represents the whole retail sector and includes all large retailers and a representative sample of smaller businesses; the known retail industry population is approximately 200,000 businesses and while the sample represents 2.5% of this population, in terms of the number of businesses the sample represents approximately 75.6% of all known turnover in the retail industry (averaged across November 2022 to October 2023).
- Retailers provide total retail turnover inclusive of Value Added Tax (VAT), including sales from stores via the internet, mail orders, stalls and markets, door-to-door, and telephone sales; a separate question is asked for total retail sales generated via the internet only.

4 . Quality summary

The primary purpose of the Retail Sales Index (RSI) is to produce a short-term measure of the changes in the volume and value of sales of goods by retail businesses in Great Britain, providing a timely indicator of economic performance and strength of consumer spending. The industries included in the Retail Sales Inquiry are defined by the [UK Standard Industrial Classification \(SIC 2007\)](#). Retail sales statistics published in the [Retail sales statistical bulletin](#) are presented for all retailing, both including and excluding automotive fuel, and in four retail sector groupings:

- predominantly food
- non-food
- non-store retailing
- automotive fuel

The non-food sector is broken down further to provide statistics on:

- non-specialised stores or department stores
- textiles, clothing and footwear
- household goods stores
- other specialised stores

At this level, statistics on volume and value of retail sales, seasonally adjusted, are published.

Retail sales statistics published in the [Retail sales quality tables](#) on a monthly basis are presented by retail sector groupings and more detailed industry sub-groups. At this level, non-disclosive statistics covering small and large businesses, non-seasonally adjusted, are provided.

The main output measures include value and volume estimates, in both seasonally adjusted and non-seasonally adjusted forms. The value estimates reflect the total turnover that businesses have collected over a standard period, while the volume estimates are calculated by taking the value estimates and adjusting to remove the impact of price changes.

5 . Quality characteristics of Retail Sales Index data

Relevance

(The degree to which the statistical outputs meet users' needs.)

The value and volume measures of retail sales estimates are widely used in private and public sector institutions, particularly by the Bank of England (BoE) and HM Treasury. Their primary use of the data is to assist in informed decision-making and policymaking. Other users include business and research communities, economic and financial organisations, the media, and the general public.

We regularly review our statistical outputs to ensure they continue to meet users' needs. Several changes have been made to the statistical bulletins to make them more relevant for users. In a survey, users found the Retail Sales Index (RSI) statistics important to their work. It was found to be crucial for financial modelling of sectors and was recognised as a timely indicator for the economy. It has been used as a comparative tool with the British Retail Consortium (BRC) and other market sources, to boost context. Practically, it has been utilised as a comparative tool for business performance, and the ability to access internet retail sales has been particularly beneficial to some. On a non-industry level, the RSI was perceived as important for informing political opinions or simply for curiosity by individuals who were not necessarily utilising it as a reference for work purposes.

The RSI feeds into estimates of gross domestic product (GDP) in two ways. First, it feeds into the services industries where GDP is measured from the output approach. Secondly, it is a data source used to measure household final consumption expenditure, which feeds into GDP estimates when measured from the expenditure approach.

Accuracy and reliability

(The degree of closeness between an estimate and the true value.)

There are two possible types of error in estimates of retail sales: sampling error and non-sampling error.

[Sampling](#) error occurs because a sample, rather than the entire population, is surveyed; it is the difference between the true value of the population and the estimated value. One way of measuring this difference is through standard errors.

Non-sampling errors arises from inaccuracies in collecting, recording and processing the data. The most significant of these errors are: misreporting of data items, deficiencies in coverage, non-response and processing errors. Every effort is made to minimise reporting error, for example, all Monthly Business Survey – Retail Sales Index (MBS-RSI) respondents who do not return data by the stated deadline are response chased to reduce the non-response rate. Non-response error is minimised through the use of imputation. The careful design of questionnaires, intensive training and supervision of editing and validation staff, and efficient data-processing procedures are also used to minimise reporting errors.

A report on RSI standard errors and response rates titled [Improving quality information for the RSI \(PDF, 119KB\)](#) was published in January 2015. The report shows that the median year-on-year standard error is estimated at 0.9% and the month-on-month standard error is estimated at 0.5%. More recent analysis shows that when averaged over 2022, the year-on-year standard error estimate has increased to 1.9%, whilst the month-on-month standard error estimate has risen to 0.8%.

In 2022, the RSI was published using an average of 51.2% questionnaire response rate; this equates with approximately 88.6% of sampled turnover. The sample of 5,000 from a population of approximately 200,000 may seem small, but together these 5,000 retailers cover approximately 75.6% of all retailing turnover captured on the [Inter-Departmental Business Register \(IDBR\)](#).

A form of measurement error arises from respondents reporting turnover in British pounds (thousands), when actual British pounds are required. Where this is the case, we correct the figure and inform respondents as to which figures they need to provide.

Processing errors can be introduced where data are inputted manually by data analysts in British pounds (thousands) rather than actual British pounds. We provide training to minimise this processing error.

Coverage error is introduced where businesses are not classified to retail or are not registered for Value Added Tax (VAT) or Pay As You Earn (PAYE) and are therefore not listed on the IDBR.

Revisions

Retail sales non-seasonally adjusted data are revised as needed. Revisions and sampling variations are a consequence of the trade-off between timeliness and accuracy. All estimates are subject to statistical error, which refers to the [uncertainty](#) inherent in any process or calculation that uses sampling, estimation or modelling. Estimates for the most recent month are provisional and subject to revision because of:

- late responses to the MBS-RSI
- revisions to seasonal adjustment factors, which are re-estimated every month and reviewed annually
- changes from the annual seasonal adjustment review
- annual updating of the business register that forms the basis for the sample for the RSI (usually occurring in January)
- other methodological improvements

Changes are not made to any non-seasonally adjusted data prior to 2001. Revisions to non-seasonally adjusted data will directly impact on the seasonally adjusted estimates.

Revisions to all published seasonally adjusted estimates are not constrained or restricted as they are for other short-term indicators and the national accounts. Revisions are allowed to occur naturally each month along the full length of each time series as a consequence of the direct seasonal adjustment of the component time series. Aggregate seasonally adjusted estimates will then be derived. Any revisions from the directly seasonally adjusted time series will then occur as part of the higher-level aggregation. This approach ensures that the RSI uses all available information and provides the most up-to-date estimates for recent periods.

A report on [Revisions to the RSI \(PDF, 100KB\)](#) and the [RSI revisions policy \(PDF, 48KB\)](#) are published on our website.

Output quality trade-offs

(Trade-offs are the extent to which different dimensions of quality are balanced against each other.)

The main quality trade-off in producing the RSI occurs between timeliness and response rate. By publishing 18 days after the month's end, in 2022 the RSI had a 51.2% response rate. One month later, this response rate will have risen to approximately 60.0%. The difference in coverage is smaller, with results published on approximately 88.6% sampled turnover, which rises to approximately 94.0% sampled turnover a month later.

Coherence and comparability

(Coherence is the degree to which data that are derived from different sources or methods, but refer to the same topic, are similar. Comparability is the degree to which data can be compared over time and domain, for example, geographic level.)

Other statistics on retail sales are available. We also produce retail sales statistics as part of the Annual Business Survey (ABS). There are differences between the RSI and ABS retail figures for the following reasons:

- the ABS collects and produces statistics on the UK, whereas the RSI covers Great Britain, resulting in differences in total sales values
- reporting periods can vary: the ABS allows respondents to provide information on either a calendar year or financial calendar year, while the RSI asks respondents to provide information based on a four-week, four-week, five-week cycle reporting period
- for the food sector, the ABS includes automotive fuel sales by supermarkets; for the RSI, these are extracted and used for the calculation of the automotive fuel series
- for chemists, the ABS includes NHS receipts; these are excluded from the RSI

There are other indicators of retail sales available. These include the Retail Sales Monitor (RSM), produced by the BRC in collaboration with KPMG, and the Confederation of British Industry's (CBI's) retail trade statistics, which are published as part of their Distributive Trades Survey (DTS). The data produced by both are regularly used along with the RSI as important indicators of retail sales growth. However, there are differences between the indicators in relation to coverage and compilation that can lead to discrepancies between the published figures. More information on the differences between these two indicators and the RSI can be found in the article [RSI and external surveys \(PDF, 96KB\)](#).

British Retail Consortium's UK Retail Sales Monitor

The RSM is produced using data supplied by retailers from across the UK's retail industry. Sales values from a range of 12 product categories are provided weekly to KPMG, which then aggregates them into annual growth rates for each month on a total and like-for-like basis. The like-for-like figure strips out the effects of expansions and store openings and closures and is presented as a measure of retail industry performance. The total figure reflects retail industry growth. The headline growth rates are published in the second week after end of the month reported on.

In 2018 we published a methodological article which gives an overview of differences in the data collection, classification and compilation of the Retail Sales Index and the [BRC-KPMG UK Retail Sales Monitor](#).

From the [Retail sales statistical bulletin](#), the most appropriate measure to compare with the RSM total sales series is the RSI value of retail sales excluding automotive fuel for large stores, non-seasonally adjusted.

Confederation of British Industry's Distributive Trades Survey

The DTS is a qualitative survey that looks to capture short- and medium-term trends in the UK retail sector. On average, 68 retailers, which account for approximately a third of total employment in the retail sector, respond to the survey. Respondents are required to answer a series of questions regarding sales volumes using a scale of up, down or same as last year.

Comparable time series are available going back to 1988 for the following headline aggregates and their subsector series:

- all retailing excluding automotive fuel
- predominantly food stores
- predominantly non-food stores
- non-store retailing

For the following aggregates, comparable time series are available going back to 1996: all retailing including automotive fuel and automotive fuel.

International data

Eurostat estimates of [volume of retail trade](#) are published both at the level of the [European Union](#) and [euro area](#) and of individual EU member states (as well as some [European Free Trade Association \(EFTA\)](#) and [candidate countries](#)).

Data for Northern Ireland are published by the [Northern Ireland Statistics and Research Agency \(NISRA\)](#). Retail sales figures and commentary for Northern Ireland are included in their [Index of Services release](#).

The United States Census Bureau publish the amount spent in the United States retail industry, including motor vehicles and parts, and food services in their [Advanced monthly sales for retail and food services report](#).

Caution is advised when making direct comparisons against these or other international statistics because of differences in methodology and some differences in coverage.

Concepts and definitions

(Concepts and definitions describe the legislation governing, and the classifications used in, the output.)

The industries included in the MBS-RSI are as defined by the [UK Standard Industrial Classification \(SIC 2007\)](#). The detailed structure of this classification and categories used by the RSI can be found in [A quick guide to the RSI \(PDF, 118KB\)](#).

Retail sales is compliant with the Eurostat short-term business statistics regulation.

Accessibility and clarity

(Accessibility is the ease with which users are able to access the data, also reflecting the format in which the data are available and the availability of supporting information. Clarity refers to the quality and sufficiency of the release details, illustrations and accompanying advice.)

Our recommended format for accessible content is a combination of HTML web pages for narrative, charts and graphs, with data being provided in usable formats such as CSV and Excel. Our website also offers users the option to download the narrative in PDF format. In some instances, other software may be used or may be available on request. Available formats for content published on our website but not produced by us, or referenced on our website but stored elsewhere, may vary. For further information, please refer to the contact details at the beginning of this page.

For information regarding conditions of access to data, please refer to the following links:

- [Terms and conditions \(for data on the website\)](#)
- [Accessibility](#)

In addition to this Quality and Methodology Information (QMI) report, quality information relevant to each release is available in the [Retail sales statistical bulletin](#).

Timeliness and punctuality

(Timeliness refers to the lapse of time between publication and the period to which the data refer. Punctuality refers to the gap between planned and actual publication dates.)

The monthly [Retail sales statistical bulletin](#) is released in a timely manner, approximately 20 days after the reference period, and is an important early economic indicator. Data are collected for standard trading periods that follow a four-week, four-week, five-week cycle. For the reference period 3 April 2022 to the 30 April 2022, the RSI was released on 20 May 2022. There are exceptions, such as the release of February data, which are published 27 days after the reference period; this is because price data, which are used for deflation, are released later than usual to allow for the basket of goods to be updated. May is another example (evidenced in 2022 and 2023) occurring when necessary to avoid collecting prices data over Easter.

For more details on related releases, the release calendar is available online from [GOV.UK](#) and provides 12-months' advance notice of release dates. If there are any changes to the pre-announced release schedule, public attention will be drawn to the change and the reasons for the change will be explained fully at the same time, as set out in the [Code of Practice for Statistics](#).

6 . Methods used to produce the Retail Sales Index data

How the output is created

The following provides a summary of how the Retail Sales Index (RSI) and retail internet sales are calculated. The RSI output provides an estimate of the value and volume of retail sales in Great Britain on a monthly basis. This incorporates the retail internet sales data, but these are also published alongside to provide more detailed information for this sector.

Sampling

The population of interest is all businesses resident within Great Britain, where their principal activity is retailing and they are therefore classified to retail under the [UK Standard Industrial Classification \(SIC 2007\)](#). There are an estimated 200,000 retailers listed within the target population or sampling frame, which is taken from the [Inter-Departmental Business Register \(IDBR\)](#).

Retail sales data are collected from a sample of approximately 5,000 retailers from across Great Britain. The sample represents the whole retail sector and includes all large retailers and a representative sample of smaller businesses. The known retail industry population is approximately 200,000 businesses and while the sample represents 2.5% of this population, in terms of the number of businesses, the sample covers approximately 75.6% of all known turnover in the retail industry.

The IDBR is used as the sampling frame for the Monthly Business Survey – Retail Sales Index (MBS-RSI). A sampling frame is a list of all units in the population of interest; in this case, this is a list of all businesses in the UK that we can obtain information from.

A stratified random sample is used to ensure small and large businesses are represented according to the retail trade population structure. First, retailers are classified to their industrial grouping as defined by the SIC 2007. Five bands or strata are then created based on employment size:

- Band 1: 0 to 4 employment
- Band 2: 5 to 9 employment
- Band 3: 10 to 99 employment
- Band 4: 100 and more employment
- Band 5: employment between 10 to 99 with turnover greater than £60 million a year

A random sample is taken from Bands 1, 2 and 3. Retailers in Bands 4 and 5 are continuously sampled.

Data collection

The RSI is compiled using data from the MBS-RSI. The MBS-RSI covers businesses that are engaged in retail trade and that operate in Great Britain. It does not include Northern Ireland, the Isle of Man or the Channel Islands.

Retail sales covers spending on goods such as food, clothing and footwear, and household goods. Spending on services such as holidays, air fares and train tickets, insurance, and banking are not covered, and retailers are asked to separate out turnover from services from their return.

When using the [Retail sales statistical bulletin](#) as an estimate of the performance of the high street, users should note that these services plus services such as hotels and restaurants and other catering services are also not included. Estimates of the performance of these services can be found in the [Index of Services \(IoS\)](#).

Questionnaire

Retailers are asked to provide total retail turnover inclusive of Value Added Tax (VAT), including sales from stores via the internet, mail orders, stalls and markets, door-to-door, and telephone sales. A separate question is asked for total retail sales generated via the internet only.

There is a small sub-sample of the RSI that forms the panel for the Monthly Commodity Survey (MCS). As of November 2023, the panel consists of 54 large retailers that are asked to provide the same data as the main retail sales sample and total turnover generated for the following:

- food
- alcohol, confectionery and tobacco
- clothing and footwear
- household goods
- other sales
- automotive fuel

The accounting period follows a four-week, four-week, five-week cycle pattern. As a result, over the course of a 365-day calendar year (or 366 days in a leap year), one (or two) trading day(s) a year is(are) lost. To compensate, every five or six years an extra week is added to the cycle, usually in January. The most recent five-week January was in 2020.

Most businesses are able to report data for these accounting periods; however, some businesses provide data on a calendar month basis. The questionnaire asks respondents to indicate the dates to which the returned turnover data relate, that is, the accounting period or calendar month.

Mode of collection

For the main retail sample, data are collected using electronic data collection (EDC). Respondents are sent an email specifying the questions and instructions on how to return their data via the EDC system.

For the MCS, respondent's data are also collected through EDC.

To ensure a good response rate, approximately 60% each month, response chasing is conducted by trained staff and allows respondents to return data over the phone.

Editing

Returned data are passed through a series of validation checks. The MBS-RSI uses an editing and validation approach known as selective editing. Selective editing is an internationally recognised method that uses a data-based approach to assess the influence of business estimates on the aggregate outputs.

The selective editing approach means that the editing process should be more efficient and effective, since it will only edit potential errors that have a significant impact on final outputs. Under selective editing, the main variables on the questionnaire are defined and scores are derived for these. The scores compare the value provided on the questionnaire with expected values, where the expected values are generally estimated using past data or other available information related to the variable, for example, from administrative sources. The scores from the “main” variables are then combined to derive a score for every questionnaire. This derived, single score for the business’s return is then tested against a methodologically set threshold. If the score is higher than the defined threshold, then the questionnaire will fail and be flagged for manual editing. Returns that fail selective editing are passed to the editing and validation team for manual checking.

Thresholds have been derived and set to ensure minimum bias is introduced from not editing values that may have been edited under the previous edit all returns system. Therefore, selective editing does result in an adverse impact on output quality. To ensure that all errors are captured, before questionnaires pass through selective editing they are subjected to automatic editing and then a number of user-defined checks. For example, these will include checks to detect changes in reporting periods and implausible returns such as turnover being less than zero. Additionally, as of September 2023 businesses returning zero turnover are automatically flagged and queried.

In turn, data are analysed at a macro level to determine the contributing factors to the movement in the value index and its published categories. Together, this micro and macro approach to editing identifies outliers and anomalies within the returned data.

Imputation

In 2022, 51.2% of respondents completed and returned the MBS-RSI questionnaire, equating to approximately 88.6% coverage by turnover. Ratio imputation, explained later, is used to provide estimates for non-responders.

For those respondents who do not return their data in time for publication of the retail sales aggregates, there are two approaches:

- if a company has returned data previously then the total turnover and total internet sales are imputed using [a ratio imputation method \(PDF, 75KB\)](#) known as a ratio of means; the impute calculated is based on their past return
- if they are new to the sample, the total turnover is imputed based on the company's registered turnover on the [Inter-Departmental Business Register \(IDBR\)](#); the same approach is taken to impute the company's internet sales if the company is in the mail order industry, this is because most mail order companies' turnover are from internet sales

However, we do not impute the internet sales for non-responding companies that are new to the sample in other industry sectors. This is because we do not know if they trade online. The impact of this is that once these new companies respond, this will likely lead to an upward revision to the internet sales series and through this, the proportion of sales taking place online. New companies are usually introduced in January following the annual update of the business register, which forms the basis for the sample.

Estimation

Estimation is the process of approximating some characteristic of a population, in this case [retail sales in Great Britain](#), where information is available only for a sample of the population. From the returned and imputed data, a population total is estimated using ratio estimation. Ratio estimation is used when the ratio between the returned turnover over the registered turnover variable on the [IDBR](#) is roughly constant and the variance of the returned turnover can be assumed to be proportional to the registered turnover. The estimate for retail sales in Great Britain is then given by multiplying the estimate of the ratio by the number of retail business on the IDBR. This gives the value of retail sales in British pounds (thousands) and retail internet sales in pounds (millions) for average weekly sales and for the month. These data are published via our website where the retail sales value estimates are produced in index form using the reference year of 2019. The reference period is the year for which the index is scaled to equal 100. To keep the RSI in line with the UK National Accounts, the reference year is updated each year when weights are available from the [Blue Book](#). The change to the reference year is a simple calculation and does not impact on the movements of the series.

Unlike the method used to estimate the full retail sector, an expansion or number-raised estimator is used to estimate the value of internet retail sales. Number-raised estimation works by “expanding” the sample total up to the size of the population by multiplying the sample total by the ratio of the number of retailers on the IDBR divided by the number of businesses within the sample.

Indexing

Estimates of retail sales are published in index form rather than in monetary form. There are two types of index published in the form of value indices and chain volume measures. From this value index, the chained volume index is calculated by adjusting for price movements using a process called deflation. Value and chain volume indices are seasonally adjusted using [X-13-ARIMA-SEATS](#).

Deflation

Value estimates of retail sales reflect both price and volume changes. To remove the direct effects of price changes, value data are deflated to produce RSI volume measures. A separate price deflator is used for each RSI industry at four-digit SIC.

Industry price deflators are calculated from commodity price indices using weights appropriate to the relevant industry derived from the Annual Business Survey (ABS) data on the value of turnover. Currently, an average of the ABS 2018, 2019 and 2020 commodity weights are used along with price indices derived from the [Consumer Prices Index \(CPI\)](#).

Chained volume measures

The chained volume measures of retail sales are annual re-weighted chain Laspeyres indices referenced to current price values, currently 2019. For each year, the values for each good in current prices and previous years' prices are calculated. These values are then aggregated using weights for each retail industry derived from the RSI.

Each year, the series is re-referenced and comparability with previous years is achieved by chain linking the series together to form a continuous time series. An average of the values for October, November and December is used to provide the link factor.

Chain linking starts at the lowest possible level of aggregation. For the RSI, this means that aggregation uses the small and medium-sized businesses combined with the large businesses for each industry within each retail sector. These estimates are used to create a chain-linked estimate for all businesses for each industry. Higher-level chain-linked aggregates are derived in a similar way.

The chain-linking method used is consistent with the standard national accounts method.

Time series analysis

Seasonally adjusted estimates are derived by estimating and removing calendar effects (for example, Easter moving between March and April) and seasonal effects (for example, increased spending in December as a result of Christmas) from the non-seasonally adjusted estimates. Seasonal adjustment is performed each month and reviewed each year using the standard, widely used software, X-13-ARIMA. Before adjusting for seasonality, prior adjustments are made for calendar effects (where [statistically significant](#)) such as returns that do not comply with the standard trading period, bank holidays, Easter and the day of the week Christmas occurs.

While the number of trading days in a set period remains the same, the standard reporting periods' four-week, four-week, five-week cycle introduces a "phase-shift" effect, associated with the fact that the standard periods do not match calendar months and move slightly each year relative to the calendar month. In a typical year, the standard periods total 52 weeks or 364 days. As a result, the standard periods fall back one day each year (or two days for a leap year). Every five or six years, the reporting year is brought back into line with the calendar year by adding an extra week, normally to January.

The seasonally adjusted estimates also have corrections for bank holidays, Easter effects that are caused when Easter falls late in March or early in April and the day of the week Christmas occurs. Prior corrections are applied as necessary. Corrections are estimated and applied where there is a statistically significant effect.

The calculation of the RSI has an adjustment to compensate for calendar effects that arise for the difference in the reporting periods.

Confidentiality and disclosure

Before publication, all data are tested for disclosure and, where there is a risk of disclosure of individual businesses, steps are taken to minimise this risk, for example, by aggregating similar industry sectors.

The RSI is compliant with the [Code of Practice for Statistics](#), Principle 5.

Principle 5, Practice 1, states: "Ensure that official statistics do not reveal the identity of an individual or organisation, or any private information relating to them, taking into account other relevant sources of information."

All necessary steps are taken to protect the confidentiality of data collected from retail businesses. This includes statistical disclosure controls to ensure that individual businesses are not identified in the published statistics.

When data are shared with other bodies, for example, Eurostat and Scottish Government, it is done so under legislation and using secure electronic file transfer methods.

How we review the data

The methodology used to produce retail sales statistics is reviewed periodically by the Methodology Directorate within the Office for National Statistics (ONS). In 2008, the Methodology Directorate conducted a review of the methodology and systems used in the calculation of the RSI. The systems were all found to be working correctly. For the methodology, recommendations were made regarding the chain-linking methodology planned for implementation on the RSI in 2009. The main recommendations of this review were:

- use consumer prices indices for deflation rather than retail prices indices (which are closer to the requirement for a Laspeyres volume index)
- use an annual benchmark derived from the RSI responses and not one from the Annual Business Inquiry (ABI) (reduces revisions and recognises the difference in concept between the RSI and ABI)
- annual updating (and consequent revision) of deflation weights for the latest ABI (again, closer to the requirement for a Laspeyres volume index)

These recommendations were implemented and are described in [Changes to the retail sales methodology](#). Another review of the RSI methodology, in particular the methodology used for editing and validation, was conducted through 2010. The result of this review was the implementation of selective editing. Also reviewed in 2010 were the weights used for annual chain linking and the annual seasonal adjustment, which was conducted for the first time in X-12-ARIMA (now in X-13-ARIMA).

In 2022, alongside the transfer of our production system to a new platform, improvements to the imputation of the mail order industry in internet sales and the adoption of an outlier approach called winsorisation across all variables was also implemented. These improvements are explained further in the [Retail sales: February 2022](#) release.

Seasonal adjustment reviews will continue to take place yearly and re-referencing of the chain volume indices will take place at the same time as the national accounts are re-referenced, that is, when a consistent set of weights is available.

All other reviews of the RSI methodology will be discussed with users, for example, at user engagement events where they will be given the opportunity to feed into the review and methodology changes. Any proposed changes will go through a consultation process and when made, they will be disseminated to users. This Quality and Methodology Information (QMI) report will also be updated when a new review begins and when changes are made to the methodology.

7 . Glossary

Value (amount spent)

The value estimates reflect the total turnover that businesses have collected over a standard period.

Volume (quantity bought)

The volume estimates are calculated by taking the value estimates and adjusting to remove the effect of price changes.

Seasonally adjusted

Seasonally adjusted estimates are derived by estimating and removing calendar effects (for example, Easter moving between April and May) and seasonal effects (such as increased spending in December because of Christmas) from the non-seasonally adjusted (NSA) estimates.

Non-seasonally adjusted

Non-seasonally adjusted estimates refer to raw data, where the effects of regular or seasonal patterns have not been removed.

Non-store retailing

Non-store retailing refers to retailers that do not have a store presence. While the majority is made up of online retailers, it also includes other retailers, such as stalls and markets.

8 . Related links

[Online shopping, hobbies and habits - how our spending has changed since the start of the pandemic](#)

Article | Released 11 July 2022

Explores what people were spending their money on from 2020 onwards by analysing Retail Sales Index (RSI), Clearing House Automated Payments System (CHAPS), and Revolut data. We also discuss whether that spending has changed since the end of restrictions.

[Economic trends in the retail sector, Great Britain: 1989 to 2021](#)

Article | Released 27 July 2021

How retail sales fit in with the wider economic climate, including movements over time, long-term trends and recent growth rates.

[Wrapping up "Black Friday": How the ONS captures the effect of a major shopping trend](#)

Blog post | Released 18 December 2019

How we take into account the effect of Black Friday when compiling our retail statistics.

9 . Other information

We introduced a [Retail sales work plan \(PDF, 88KB\)](#) in 2014 that highlighted the methodological work plan for retail sales and internet retail sales statistics. The plan included a list of updates that take place on an annual basis.

An update on ongoing [developments and future priorities for retail sales statistics was published in June 2022](#).

We welcome feedback on the content, format and relevance of our releases and encourage users to send feedback via email to retail.sales.enquiries@ons.gov.uk.

10 . Cite this Quality and Methodology Information report

Office for National Statistics (ONS), released 15 December 2023, ONS website, Quality and Methodology Information report, [Retail Sales Index \(RSI\) QMI](#)