

UK Trade QMI

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1 . Methodology background

National Statistic	No
Frequency	Monthly
How compiled	Various surveys and third party data
Geographic coverage	UK
Last revised	12 May 2021

2 . About this Quality and Methodology Information report

This quality and methodology report contains information on the quality characteristics of the data (including the European Statistical System 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
- help you to decide suitable uses for the data
- reduce the risk of misusing data

3 . Important points about UK trade data

- Trade is measured through both imports and exports of goods and services.
- The quality of the HM Revenue and Customs (HMRC) source data for trade in goods is high in terms of the timeliness, comprehensiveness and coverage.
- Trade in services estimates are less timely than trade in goods estimates, and sourced mainly from survey data, but also a variety of administrative sources.
- Trade in services data are processed quarterly, so monthly forecasts are made to provide a complete trade total; this means that the latest months are uncertain.
- Trade statistics for any one month can be volatile; for that reason we recommend comparing the latest three months against the preceding three months and the same three months of the previous year.
- When examining the trade in goods data, precious metals (which are high-value, low-volume products) are removed from some analysis as they can make a large contribution to trade in goods as a whole; the trade excluding "precious metals" series may provide a better guide to the emerging trade picture.

HMRC publish [Overseas trade statistics \(OTS\)](#) on the same day as we release the UK trade data each month; these aggregate estimates will differ slightly from those that are published by us on a [Balance of payments \(BoP\)](#) basis, as the two sets of data are compiled to different concepts.

4 . Quality summary

Overview

UK trade shows the extent of import and export activity and is a main contributor to the measurement of overall economic growth of the UK.

The UK trade balance is the headline figure in the bulletin and is calculated as total exports less imports. The trade balance reflects the overall net position of the UK, describing whether the UK exports more than it imports (a trade surplus) or whether it imports more than it exports (a trade deficit).

Trade in goods reports the level of import and export activity in general merchandise, goods for processing, repairs on goods, goods procured in port and non-monetary gold. It shows the monthly movements in terms of value, volume and price by commodity and breaks the value of trade down by geographical trading partner.

Trade in services covers import and export activity across 12 categories:

- transport
- travel
- telecommunication, computer and information
- construction
- insurance
- financial
- intellectual property
- other business
- personal, cultural and recreational
- government
- manufacturing and maintenance
- repair services

As with trade in goods, monthly movements are shown via the statistical bulletin, with complete geographical breakdowns released annually.

The UK trade bulletin was developed to provide a detailed indicator of the trading patterns of the UK, in regards to commodity by Standard International Trade Classification (SITC), Classification of Product by Activity (CPA) and geography, through a country breakdown. The International Monetary Fund's (IMF's) Balance of Payments Manual sixth edition (BPM6) describes the goods and services account as overseas transactions in items that are outcomes of production activities.

5 . Quality characteristics of the UK trade data

Relevance

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

UK trade is a main economic indicator due to the importance of international trade to the UK economy. It is also a very timely statistic, providing an early indicator of what is happening more generally in the economy. UK trade shows the extent of import and export activity and is an important contributor to the measurement of overall economic growth of the UK.

The conceptual framework of the UK trade data corresponds to that of the International Monetary Fund (IMF) Balance of Payments Manual sixth edition (BPM6). Merchandise trade data are collected under the guidance of the United Nations International Trade Statistics Concepts and Definitions. These provide objective and coherent international standards to make data for the UK and other countries comparable, reflecting the needs of international and domestic users. The UK economic territory excludes the Channel Islands and the Isle of Man which have their own fiscal and monetary authorities. BPM6 was compiled in close co-operation with Eurostat, the Organisation for Economic Co-operation and Development (OECD), the United Nations and the World Bank.

All information included in the monthly UK trade statistical bulletin is on a balance of payments (BoP) basis and is seasonally adjusted unless otherwise specified. Data appearing in the UK trade statistical bulletin are also used as a direct input into the quarterly balance of payments and national accounts.

The UK trade data form part of the broader system of UK National Accounts. The international standard for national accounts is the System of National Accounts 2008 (SNA08) jointly published by the same organisations. The EU published its own version of SNA08, European System of National Accounts 2010 (ESA 2010) upon which the UK's National Accounts are based. BPM6, SNA08 and ESA 2010 are consistent.

The main users of the UK trade bulletin are: [Bank of England \(BoE\)](#); [Her Majesty's Treasury \(HMT\)](#); [Department for Business, Energy and Industrial Strategy \(BEIS\)](#); [Department for International Trade \(DIT\)](#); and [Her Majesty's Revenue and Customs \(HMRC\)](#). They primarily use the data to inform decisions on fiscal and monetary policy and the monthly trade statistics are essential for their briefing and forecasting purposes.

Trade statistics for any one month can be volatile. For that reason, we recommend comparing the latest three months against the preceding three months and the same three months of the previous year. However, we also recognise the importance to users of an early estimate of trade, so we continue to produce a monthly estimate.

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 UK trade bulletin is published on our website around one month after the end of the reference month. There are Eurostat requirements on the timeliness of Quarterly National Accounts.

For more details on related releases, our [release calendar](#) provides 12 months' advance notice of release dates. Publication dates for UK trade are fixed, but, in the unlikely event of a change 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](#).

Accuracy

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

There is no simple way of measuring the accuracy of UK trade statistics, that is, the extent to which they measure the underlying "true" value for a particular period. Non-sampling errors are not easy to quantify and include errors of coverage, measurement, processing and non-response. Various procedures and checks are made to ensure these errors are minimised. HM Revenue and Customs (HMRC) collects the raw data, and automatic corrections are built into their computer systems to cope with certain common types of error such as invalid codes. There are a number of credibility checks on the trade data, which focus on value and quantity.

Trade in services estimates have been derived from a number of monthly and quarterly sources. For components where no monthly data are available, estimates have been derived on the basis of recent trends. The results should be used with appropriate caution, as they are therefore likely to be less reliable than those for trade in goods.

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.)

Every effort is made to ensure that the series are comparable over time, and annual time series are available back to at least 1998. Where possible, any changes to methodology are applied to the whole series to ensure comparability is maintained. However, the national accounts revisions policy may mean that this is not always possible, or that a change is introduced over a shorter time period to minimise the discontinuity. International standards (BPM6, SNA2008 and ESA2010) are used in the production of trade data; therefore, figures published by the UK should be comparable with other countries. UK representation in working groups and committee meetings at the European Central Bank (ECB) and Eurostat (by ONS and HMRC), help ensure that the UK is synchronised with any changes from EU member states.

Concepts and definitions

(Concepts and definitions describe the legislation governing the output and a description of the classifications used in the output.)

[UK Trade glossary](#) and [Balance of Payments glossary](#).

6 . Methods used to produce the UK trade data

Data sources

International Trade in Services (ITIS) Survey

Data from the ITIS survey make up over 50% of trade in services data. The UK trade release incorporates data collected from the quarterly ITIS survey, which is sent to around 2,200 businesses. As a result of the coronavirus (COVID-19), many businesses have moved to a working from home arrangement or suspended trade, causing a lower response to the survey than usual.

To maintain the quality of the survey, we have developed improved imputation methods where we do not have actual data. We have used information from other surveys alongside expert guidance to implement these methods and quality assure the data. We continue to review and refine these methods, along with the associated survey methods, to ensure the data are as robust as possible. Alongside this, ITIS data collection has now been moved to online methods, enabling businesses to respond to the survey using spreadsheets, rather than paper, which can then be emailed back to us.

International Passenger Survey

Data from the International Passenger Survey (IPS) are the main source for travel services, making up around 8% of total trade. The IPS was suspended from 16 March 2020 because of the coronavirus (COVID-19) pandemic. We have been investigating alternative ways to continue to measure these services in the future.

We have worked with the ONS Data Science Campus to create new estimates using alternative data sources. The data sources that have been used include the Civil Aviation Authority, Eurotunnel, the Consumer Prices Index including owner occupiers' housing costs (CPIH), airline stock figures and aggregated and anonymised foreign-issued card spend processed through Barclays Point-of-Sale (POS) and "card-not present" channels.

We will continue to develop these estimates over the coming months and any improvements may result in larger than usual revisions for travel services.

HMRC data

Data from HM Revenue and Customs (HMRC) are the main data source for trade in goods making up over 90% of trade in goods value. The ONS has worked closely with HMRC to prepare for the change in collection of customs data which occurred at the end of the transition period. In order to maintain the quality of the data we have worked with HMRC to ensure our processes are robust and we only reflect changes in the economic trends. Further information can be found in our article on the ['impact of EU exit on the collection and compilation of UK trade statistics'](#)

Unless otherwise specified, data within this bulletin are in current prices. This means they have not been adjusted to remove the effects of inflation.

How the output is created

The balance of payments statistics of trade in goods that we compile are derived principally from data provided by HM Revenue and Customs (HMRC) on the physical goods exported from and imported to the UK. However, such data are on a different basis from that required for balance of payments statistics. To conform to the International Monetary Fund (IMF) definition, we have to make various adjustments to certain transactions which are not reported to HMRC and also, conversely, to exclude certain transactions that, although are reported by HMRC, do not involve a change in ownership. Furthermore, since the value required for balance of payments is the value of goods at the point of export (at the customs border of the exporting country) as opposed to the value as they arrive in the UK (as HMRC measures), estimates of the freight and insurance costs of transporting the goods to the UK are deducted from the values submitted by HMRC.

The basic data are obtained from two different sources. For trade with non-EU countries, and EU exports, the Trade Statistics unit in HMRC receives detailed customs data for imports and exports of goods. This system is known as Extrastat, with coverage being close to 100% by the end of the month following the month of trade. For EU imports, traders whose annual value of arrivals and/or dispatches that exceeds the given thresholds are required to provide an Intrastat declaration each month, showing full details of their arrivals and dispatches during the month. These thresholds are reviewed annually. The threshold for arrivals has been set at £600,000, to capture a reduced coverage of 95% of trade by value. The threshold for dispatches has been set at £250,000 to maintain coverage at 97%.

The balance of payments statistics of trade in services are derived from a variety of sources, though International Passenger Survey (IPS) and International Trade in Services (ITIS) Survey form the bulk of these data. The monthly trade release features actual IPS data, representing 12% exports and 27% imports, with the remaining components forecast from previous quarters. The first estimates of the ITIS survey data, using a 50% response rate, are included in the second estimate of GDP around 20 days after the monthly release. At this point, services data also includes Financial Intermediation Services Indirectly Measured (FISIM) data from the Bank of England (BoE), sample shipping figures from the Chamber of Shipping (CoS) and Government Services data.

The Quarterly National Accounts and balance of payments release contains improved ITIS data with a survey response rate of 80%, Financial Inquiries estimates and further Financial Services data from BoE. The largest datasets are compiled for the annual Pink Book publication, notably a further ITIS survey sample and expansive CoS data, which is used to weight future returns. Annual insurance estimates are also included within this release.

More quality and methodology information on the ITIS data is available in the [ITIS QMI](#).

Aside from the above main datasets, trade in services also captures further transport data from airlines, airports, Department for Transport (DfT), National Air Traffic Services (NATS), fuel companies, Trinity House (for lighthouse shipping dues), Home Office Border Force and Office for Rail Regulation (ORR). Additionally, Royal Mail data are used to calculate freight on air returns and deflators, and the Ministry of Defence (MoD) provides figures for revenue and expense generated from military services.

Import and export totals for trade in services and trade in goods are combined within the monthly trade bulletin to form a seasonally adjusted total trade balance.

Annual detailed and balanced accounts - Blue Book and Pink Book

The geographical breakdown of the current account within the annual [UK Balance of Payments Pink Book](#) (usually in July or October) features combined services and goods imports and exports split by country, based upon geographical data provided by our main suppliers.

Additional information on the annual estimates for trade in goods BoP adjustments, and extra services detail, is published in the Pink Book.

Normally, when figures are being prepared for the Pink Book, estimates for the past four complete years are reassessed in the annual cycle. Trade in goods estimates are considered to be based on one of the most accurate data sources available and therefore exempt from balancing adjustments, whereas some of the complexities surrounding the measurement of trade in services mean this may have more adjustments when set in context with the other components used to measure the economy. Further information on the annual balancing process can be found within [short guide to GDP](#).

Additionally, production of the annual Blue Book and Pink Book datasets is the point at which methodological changes are usually incorporated into the accounts, with quarterly series created to reflect these changes. The national accounts methods committee decides whether revisions should be introduced and are subject to a standard process of quality assurance.

At Blue Book and Pink Book 2014 the largest set of changes in 20 years were introduced to trade due to revising the national accounts in line with revised international standards ESA 2010 and BPM6. Please refer to this [article](#) for more information. In Blue Book and Pink Book 2015 further changes were implemented which mainly relate to meeting gross national income requirements as a member of the EU. Please see this [BoP article](#) for more information.

Seasonal adjustment

The data published in the UK trade release are seasonally adjusted. This aids interpretation by removing annually recurring fluctuations, for example, due to holidays or other regular seasonal patterns.

Seasonal adjustment removes regular variation from a time series. Regular variation includes effects caused by differing month lengths, different activity near particular events, such as shopping activity before Christmas, and regular holidays such as the May bank holiday. Some time series depend partly on features of the calendar that are not the same each year -- for example, the number of working days in a month or the date of Easter may have a significant effect. As Easter varies between March and April we can estimate its effect on time series and adjust for it in March and April depending on where Easter falls. Estimates of the effects of day of the week and Easter are used respectively to make trading day and Easter adjustments prior to seasonal adjustment.

There are 230 trade in goods series which are directly seasonally adjusted. The parameter settings used for the process of seasonal adjustment are derived by our experts in time series methodology, with software parameter X13-ARIMA-SEATS. Indirect seasonally adjusted time series are then calculated for approximately 2,200 additional series. Directly seasonally adjusted time series data are quality assured each year and are available on the national accounts website.

Trade in services has 12 account levels which are directly seasonally adjusted and processed using a similar method to trade in goods seasonally adjusted series.

Index construction and deflation

The headline statistics within UK trade are in current prices.

Indices within the UK trade release are constructed within the Central ONS Repository for Data (CORD), a computer system that is widely used in compiling the national accounts.

Any difference between time periods in the total value of trade reflects changes in prices as well as changes in the levels of the underlying economic activity (for example, the physical amounts of goods exported or imported). Separation of these changes greatly enhances the interpretation of the data and, for this reason, we compile separate data measuring changes in price and changes in volume. These data are presented in index number form for exports and imports of goods.

Net trade in volume terms is an expenditure component of gross domestic product (GDP). Methodology information on how trade deflators are derived can be found in [Deflation improvements in the UK National Accounts](#) Annex A.

There were a number of recommendations included in the [National Accounts and Balance of Payments National Statistics Quality Review \(NSQR\)](#) related to deflation and deflators. We are developing a Deflation Strategy that will provide a direction and framework for all work related to this area which UK trade will align with.

There is also a review of trade prices being undertaken by the prices branch and a new deflation strategy has been identified as an important strategic initiative in the [National Accounts work plan](#).

End of EU exit transition period

As the transition period has ended and the UK has now entered into a new Trade and Cooperation Agreement with the EU, the UK statistical system will continue to produce and publish our wide range of economic and social statistics and analysis. We are committed to continued alignment with the highest international statistical standards, enabling comparability both over time and internationally, and ensuring the general public, statistical users and decision makers have the data they need to be informed.

Additionally, the Withdrawal Agreement outlines a need for UK gross national income (a fundamental component of the national accounts, which includes GDP) statistics to remain in line with those of other EU countries until EU budget contributions are finalised for the years in which we were a member, and making budget contributions during the transition period. To ensure this comparability during this period, the national accounts will continue to be produced according to [European System of Accounts \(ESA\) 2010](#) definitions and standards until at least 2024.

As the shape of the UK's future statistical relationship with the EU becomes clearer over the coming period, the ONS is making preparations to assume responsibilities that as part of our membership of the EU, and during the transition period, were delegated to the statistical office of the EU, Eurostat. This includes responsibilities relating to international comparability of economic statistics, deciding what international statistical guidance to apply in the UK context and to provide further scrutiny of our statistics and sector classification decisions.

In applying international statistical standards and best practice to UK economic statistics, we will draw on the technical advice of experts in the UK and internationally, and our work will be underpinned by the UK's well-established and robust framework for independent official statistics, set out in the [Statistics and Registration Service Act 2007](#). Further information on our proposals will be made available later this year.

Value Added Tax (VAT)

The most significant issue that has affected the UK trade data in recent years has been the adjustment necessary for trade associated with VAT missing trade intra community (MTIC) fraud. MTIC is a systematic, criminal attack on the VAT system, which has been detected in many EU member states. In essence, fraudsters obtain VAT registration to acquire VAT-free goods from other member states. They then sell on the goods at VAT-inclusive prices and disappear without paying over the VAT from their customers to the tax authorities. The fraud is often carried out very quickly, with the fraudsters disappearing by the time the tax authorities follow up the registration with their regular assurance activities.

Trade asymmetries

These data are our best estimates of bilateral UK trade flows, compiled following internationally agreed standards and using a wide range of robust data sources. However, in some cases, alternative estimates of bilateral trade flows are available from the statistical agencies for the relevant countries or through central databases such as [UN Comtrade](#). Differences between estimates are known as trade asymmetries and are a known aspect of international trade statistics, affecting bilateral estimates across the globe, not just in the UK.

We are heavily engaged in analysis of these asymmetries, developing strong bilateral relationships with other countries to understand, explain and potentially reduce them. We have published a [series of analyses](#) showing comparisons and the relative strengths of different estimates, which users may wish to reference to help them better understand the quality of our bilateral trade estimates.

Precious metals

In line with international standards, the ONS's headline trade statistics contain the UK's exports and imports of non-monetary gold.

Because a significant amount of the world's trade in non-monetary gold takes place on the London markets, this trade can have a large impact on the size of and change in the UK's headline trade figures. We present time series data for precious metals as well as total trade excluding this commodity, which may provide a better guide to the emerging trade picture. This includes precious metals and trade excluding precious metals by EU and non-EU countries.

Data on non-monetary gold and other precious metals are obtained from the Bank of England (BoE), who provide a balanced figure (exports less imports). We attribute the balanced data to either exports or imports, depending on whether the data are positive (that is, exports are greater than imports) or negative (that is, exports are less than imports) respectively. Once received from the BoE, the ONS smooths the precious metals data to ensure individual responses cannot be disclosed.

More information about the ONS's [recording of non-monetary gold](#) is available.

Statistical disclosure control

The [Statistical Disclosure Control Policy](#) sets out the standards for safeguarding the information provided to us in confidence. Disclosure control refers to the methods that reduce the risk that confidential information is published in any official statistics. These methods are applied if ethical, practical or legal considerations require the data to be protected. Disclosure control involves modifying data so that the risk of identifying individuals is reduced, but at the same time attempts to find a balance between improving confidentiality protection and maintaining an acceptable level of quality in the published data.

Statistical disclosure control is applied to the UK trade data before publication. All data used to compile the trade statistics are used in-line with statutory obligations. We follow the rules of the feeder sources. For example:

- HM Revenue and Customs (HMRC) states that the disclosive nature of their data requires them to aggregate potential disclosive data to a higher level of detail so that inference on individual businesses cannot be made
- International Trade in Services (ITIS) explains to their respondents that data are treated with confidentiality under legal requirement (the Statistics of Trade Act) and disclosure rules are applied to the data
- International Passenger Survey (IPS) explains to their respondents that the information provided is treated as strictly confidential as directed by the Code of Practice

Our trade team has also offered their expertise with using a range of administrative sources to inform the Administrative Data Division to aid engagement with data suppliers.

Assessment of user needs and perceptions

(The processes for finding out about uses and users, and their views on the statistical products.)

In addition to following international guidance, further steps are taken to ensure the UK trade bulletin is relevant to its users. Regular quarterly user group meetings are held with the Bank of England, HM Treasury and the Department for Business, Energy and Industrial Strategy (BEIS) to address any issues with the data and answer questions that such users may have. This ensures that the output is relevant and coherent to wider users and also that any issues are brought to our attention.

To reach a wider audience, part of trade is featured in the [ONS Economic Forum](#) and [Economic Review](#).

Visit the [user engagement](#) section of the UK trade guidance pages for more information on the main users of our trade statistics. The results of our user engagement survey from 2015 can be found on [our archive website](#).

7 . Other information

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.)

Monthly UK trade statistical bulletins are published on our website and can be downloaded free of charge. Trade data are available monthly or quarterly broken down by products, industries and countries separately, but not simultaneously; individual country data broken down by product or industry are not available. Volume and price indices are also published with deflation for volume indices based on import, export and producer price indices.

Trade in goods data is also accessible via our [Data Explorer](#).

More detailed trade data, prior to the balance of payments (BoP) adjustments are available from HM Revenue and Customs (HMRC), on their trade statistics website.

Individuals essential for production and publication, for quality assurance and operational purposes, have access to the data at 9:30am, 24 hours before publication. This is in accordance with the [Code of Practice for Statistics](#).

As well as the dedicated trade methodology page, the Pink Book includes descriptions of the data sources and methodology, as well as commentary on the trends shown in the figures, for all the standard BoP components.

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

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

General enquiries about trade series, compilation methods, quality information or difficulties finding the latest figures can be emailed to: trade@ons.gov.uk.

Suppliers can also continue to use the separate goods and services email addresses if appropriate:

- trade in goods: trade.in.goods@ons.gov.uk
- trade in services: tis@ons.gov.uk

In addition to this Quality and Methodology Information, further information can be found in various sections of the UK trade statistical bulletin and on the [UK Trade guidance and methodology page](#).