

Information paper

Quality and Methodology Information

General details

Title of output:	Quarterly Operating Profits Survey
Abbreviated title:	QOPS
Designation:	N/A
Geographic coverage:	United Kingdom
Date of last QMI:	June 2011
Contact details:	financial.inquiries@ons.gsi.gov.uk

Executive summary

The Quality and Methodology Information report (QMI) forms part of a programme of quality reports produced by the Office for National Statistics (ONS) and provides an overview combining key qualitative information with a summary of methods used to compile the output.

This QMI report relates to estimates of Operating Profits collected by the Quarterly Operating Profits Survey (QOPS) each calendar quarter for businesses within the UK and aims to provide users with information on usability and fitness for purpose of these estimates. The survey results are used in the production of the National Accounts, in particular the release: [Profitability of UK companies](#)¹. Further information on quality and methodology is therefore provided in the [QMI for Profitability of UK Companies](#)².

This document contains the following sections:

- Output quality;
- About the output;
- How the output is created;
- Validation and quality assurance;
- Concepts and definitions;
- Other information, relating to quality trade-offs and user needs; and
- Sources for further information or advice.

Output quality

This document provides a range of information that describes the quality of the output and details any points that should be noted when using the output.

ONS has developed [Guidelines for Measuring Statistical Quality](#)³; these are based upon the five European Statistical System (ESS) quality dimensions. This document addresses these quality dimensions and other important quality characteristics, which are:

- Relevance;
- Timeliness and punctuality;
- Coherence and comparability;
- Accuracy;
- Output quality trade-offs;
- Assessment of user needs and perceptions; and
- Accessibility and clarity.

More information is provided about these quality dimensions in the sections below.

About the output

Relevance

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

What it measures

The QOPS measures operating profit before exceptional items; depreciation; amortisation; impairment; losses and/or profits on disposals and exceptional items.

Frequency

The QOPS is collected on a quarterly basis.

Sample size

The sample consists of approximately 1,650 businesses.

Sample frame

Sample selection is carried out using the Inter Departmental Business Register (IDBR), which holds a record of all businesses VAT registered within the UK. The QOPS covers Private Non-financial Corporations (PNFCs) trading in Great Britain in the industrial, commercial and services sector. Agricultural businesses, public sector organisations and charities are excluded from the survey, as data for these sectors are obtained from other sources.

Sample design

A stratified random sample at an enterprise group level (an association of enterprises bound together by legal and/or financial links) is selected in the first quarter of each year, stratified by 13 Standard Industrial Classification (SIC 2007) groupings and five employment size bands. The industrial groupings are listed below:

SIC 2007 classification:	Description:
09.1	Mining Support Service Activities
05, 07, 08, 09.9	Mining and Quarrying
10-12	Manufacture of Food Products, Beverages and Tobacco
20-21	Manufacture of Chemicals and Chemical Products
26-27	Manufacture of Computers, Electronic and Optical Products, Manufacture of Electrical Products
13-19, 22-25, 28-33	Other Manufacturing
35-39	Electricity, Gas, Steam, and Air Conditioning Supply and Water Supply, Sewage, Waste Management and Remediation Activities
41-43	Construction
45-47, 55-56	Wholesale and Retail Trade, Repair of Motor Vehicles and Motorcycles, Accommodation and Food Services Activities
49-53, 58-63	Transport and Storage, Information and Communication
68-75, 77-82	Real Estate Activities, Professional, Scientific and Technical Activities, Administrative and Support Service Activities
85-88	Education, Human Health and Social Work Activities
90-96	Arts, Entertainment and Recreation and Other Service Activities

The sampled employment size bands for all industries are:

- 20-49, 50-149, 150-999, 1000-4999 and 5000+

There is complete enumeration of the top band (5,000+ employment) and stratified random sampling of the other bands. Businesses with 0-19 employment are not sampled - instead, weighting and estimation is applied to the estimates for businesses at this level. These businesses are not sampled as part of an ONS policy to reduce burden on small businesses.

The sample is converted to a reference list for the remaining quarters of the survey year to maintain data stability. This means businesses are kept in the sample for a minimum of four quarters.

Weighting/estimation

Estimates are calculated using matched pairs except SIC 09.1 (Mining Support Service Activities), where weighting is applied to the sampled units to give an estimate for the whole industry (weights are based on the employment of the responders and of the whole universe). Matched pairs estimation is a method that only uses data from respondents who have returned for two time periods (quarterly and annual). It is used to estimate the growth rate in operating profits between those time periods.

Outliers

A business that has a profit that is atypical or extreme may be removed from the estimation process if it is proved that the data are unduly affected by 'exceptional business'. They are identified via validation checks performed on the data upon retrieval and queried with contributors where necessary. Outliers are manually removed prior to estimation taking place.

Other information

The key users of the operating profits growth rates estimates are the Private Non-financial Corporation (PNFC) Branch of the ONS National Accounts. The results are used by both government and industry. PNFC Branch use the data to calculate quarterly estimates of gross operating profits; an important element of the income measure of Gross Domestic Product (GDP). Data collected by the QOPS are used to calculate growth rates which are then applied to HM Revenue and Customs (HMRC) annual profits data to derive estimates of quarterly profits for PNFCs. Gross operating profits is the largest component of the income and capital account of the PNFC sector. HM Treasury uses the results for forecasting, analytical and briefing work on the economy wide output.

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 QOPS is quarterly and produces three outputs per quarter. Provisional results are available to National Accounts five to six weeks after the end of the calendar quarter; revised results eight to nine weeks, at which time late estimates for the previous quarter are also delivered.

Estimates from the QOPS form an input into the National Accounts. Further information can be found in the [Profitability of UK Companies Quality and Methodology Information report](#)².

How the output is created

There is one questionnaire for the survey.

Questionnaire	Information requested
All SICs	1).Operating profit before exceptional items. 2).Depreciation, amortisation, impairment, losses and/or profits on disposals. 3).Exceptional items.

The questionnaire asks for operating profit for a calendar quarter, however, respondents can, if necessary, provide data for a slightly different period if available as the system automatically adjusts data reported outside a calendar quarter. Best estimates are acceptable.

The statutory basis of the Operating Profits survey is the Statistics of Trade Act 1947.

Questionnaires are despatched two weeks before the end of the quarter, followed by two written reminders. Where possible, questionnaires are addressed to a named contact.

Returned questionnaires are scanned with Optical Character Recognition (OCR) used to create an image. Images are stored, thus reducing paper handling, retrieval and storage. Paper questionnaires are subsequently shredded and recycled.

Received data are put through a series of credibility checks. Businesses can be re-contacted if the data fail these checks.

For a business' data to be used within the survey results, they must have provided data for the present and previous quarter as results are produced as 'Matched Pairs'.

Validation and quality assurance

Accuracy

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

The survey sample is selected from the IDBR, a database of UK businesses that is maintained by ONS. The number of questionnaires returned must be at least 51% at the provisional stage and 82% at the revised stage. Respondents are sent reminder letters to encourage response, and are also contacted by telephone to achieve the response targets. Estimates from this survey are subject to various sources of error. Total error consists of two elements, the sampling error and the non-sampling error.

Sampling error

This occurs because estimates are based on a sample rather than a census. Sampling error is minimised for the QOPS survey as the largest known contributors (based on employment) are selected within each sector. The sample design is reviewed and refined periodically, most recently at quarter 1, 2014)

Non-sampling error

Non-sampling errors can occur due to non-response and errors of coverage, measurement, and processing. Response rates give an indication of the presence of non-response error on the estimates (for example, bias). Each quarter respondent data are checked against previous returns and discrepancies queried. Aggregate data are compared quarter-on-quarter and against the previous results.

As mentioned previously, respondents occasionally state that they are unable to provide a quarterly operating profit figure, for example if they only produce annual figures.

In 2003, the questionnaire was reviewed and re-designed. This reduced the number of questions on the form, thereby improving the quality of data after checking, whilst still meeting the needs of customers in National Accounts.

A further impact to the quality of data occurs in the first quarter of each year. The number of matched pairs reduces in this period due to some respondents dropping off the sample and being replaced by new ones. This causes, on average, about 20% fewer matched pairs in this quarter than in the remaining quarters.

Coherence and Comparability

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

Until the first quarter of 1991, HMRC (then Inland Revenue) undertook a voluntary survey of the profits of large business groups. In June 1991, the statutory quarterly survey of companies' profits was launched by ONS (then Central Statistics Office). ONS is now the only source collecting these data - there is no alternative source of operating profits data available.

The 2003 QOPS Mini Triennial Review recommended reviewing the questionnaire. As a result of the review of the questionnaire design, the questionnaire was amended, reducing the number of questions. Data are now requested for three questions, operating profit, depreciation and exceptional items and are available to National Accounts from Q2 2004 to present.

The sample has remained constant over time at approximately 1,650 businesses each quarter.

As of Q2 2004, an additional questionnaire was introduced by ONS to collect operating profits for oil and gas extraction businesses. This is also collected by the Department of Energy and Climate Change (DECC - previously parts of BERR and DEFRA) as part of a survey they conduct. In order to improve accuracy, National Accounts made the decision to collect the data via the DECC survey and so from Q1 2011, the additional questionnaire ceased.

Concepts and definitions

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

The statutory basis of the Operating Profits Survey is the Statistics of Trade Act 1947.

Other information

Assessment of User Needs and Perceptions

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

Regular discussions are held with National Accounts to ensure the data delivery meets requirements.

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.)

Access to data at the individual business level is restricted due to the possibility of unlawful disclosure. The confidentiality of the data are legally enforced by the Statistics of Trade Act 1947.

PNFC Branch within National Accounts receives a briefing for each output. Included in the briefing are response rates achieved along with spreadsheets showing data movements at industrial level and the reasons behind those data movements.

The Quarterly Operating Profits data form part of information used for producing the [Profitability of UK Companies](#)¹. Gross operating profits for PNFCs are also published in the UK National Accounts.

ONS's 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. The ONS 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 the ONS website but not produced by the ONS, or referenced on the ONS website but stored elsewhere, may vary. For further information please refer to the contact details at the beginning of this document.

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

- [Terms and conditions \(for data on the website\)](#)⁴;
- [Copyright and reuse of published data](#)⁵;
- [Pre-release access \(including conditions of access\)](#)⁶; and
- [Accessibility](#)⁷.

References

	Title of Reference	Website Location
1	Profitability of UK companies - statistical release	http://www.ons.gov.uk/ons/rel/pnfc2/profitability-of-uk-companies/index.html
2	Profitability of UK companies - Quality and Methodology Information	http://www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-information/economy/Quality-and-Methodology-Information-for-Profitability-of-UK-Companies.pdf
3	Guidelines for Measuring Statistical Quality	http://www.ons.gov.uk/ons/guide-method/method-quality/quality/guidelines-for-measuring-statistical-quality/index.html
4	Terms and conditions (for data on the website)	http://www.ons.gov.uk/ons/site-information/information/terms-and-conditions/index.html

5	Copyright and reuse of published data	http://www.ons.gov.uk/ons/site-information/information/creative-commons-license/index.html
6	Pre-release access (including conditions of access)	http://www.ons.gov.uk/ons/guide-method/the-national-statistics-standard/code-of-practice/pre-release-access/index.html
7	Accessibility	http://www.ons.gov.uk/ons/site-information/information/accessibility/index.html