

# Profitability of UK companies QMI

Contact:  
profitability@ons.gsi.gov.uk


Release date:  
25 October 2012

Next release:  
To be announced

## Table of contents

1. [Methodology background](#)
2. [Executive summary](#)
3. [Output quality](#)
4. [About the output](#)
5. [How the output is created](#)
6. [Validation and quality assurance](#)
7. [Concepts and definitions](#)
8. [Other information](#)
9. [Sources for further information or advice](#)

# 1 . Methodology background

|                           |   |                                    |
|---------------------------|---|------------------------------------|
| <b>National Statistic</b> |  |                                    |
|                           | <b>Frequency</b>  | Quarterly                          |
|                           | <b>How compiled</b>   | Sample survey and third party data |
|                           | <b>Geographic coverage</b>  | UK including UK Continental Shelf  |
|                           | <b>Sample size</b>  | Approx. 1,650                      |
|                           | <b>Last revised</b>   | 25 October 2012                    |

## 2 . Executive summary

This report is part of a rolling programme of quality reports produced by the Office for National Statistics (ONS) to accompany statistical outputs. Quality and Methodology [Information reports](#) are overview notes that pull together important qualitative information on the various dimensions of quality as well as providing a summary of methods used to compile the output.

[The Profitability of UK companies statistical bulletin](#) provides estimates of the gross and net rates of return, gross operating surplus and net operating surplus of UK private non-financial corporations (PNFCs). Data are available back to 1997 on a [Standard Industrial Classification 2007: SIC 2007](#) basis since the implementation of the new classification within the UK National Accounts in October 2011. Further details can be found in the Comparability and coherence section.

The main data sources are the [Quarterly Operating Profits Survey](#) (QOPS), run by ONS and annual data from [Her Majesty's Revenue and Customs](#) (HMRC).

This report 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
- Sources for further information or advice

## 3 . Output quality

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

We have developed [Guidelines for Measuring Statistical Quality](#); these are based upon the five European Statistical System (ESS) Quality Dimensions. This report addresses the quality dimensions and important quality characteristics, which are:

- relevance
- timeliness and punctuality
- comparability and coherence
- accuracy
- output quality trade-offs
- assessment of user needs and perceptions
- accessibility and clarity

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

## 4 . About the output

### Relevance

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

The user feedback survey included in the [Profitability of UK companies Quarter 1 2012](#) statistical bulletin showed that users were broadly happy with the content and compilation of the bulletin and support from the team.

Respondents indicated that they used the bulletin for monitoring the economy, writing briefings and including in their own reports. We have contact with regular users which include Her Majesty's Treasury, the Bank of England, trade associations and other government departments.

A known gap in our ability to satisfy users' expectations is that we cannot provide sector detail below the level of manufacturing, services and UK Continental Shelf. Unfortunately, due to the relatively small sample size of [Quarterly Operating Profits Survey \(QOPS\)](#) we have concerns about both the quality of estimates that could be achieved and the potential disclosure of individual respondents if greater detail were published. See the How the output is created section for details.

### 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.

For more details on related releases, the [GOV.UK release calendar](#) provides 12 months' advanced 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 Official Statistics](#).

Estimates of gross operating surplus (GOS) of UK private non-financial corporations (PNFCs) are produced twice per quarter as part of the quarterly national accounts process. A provisional estimate is produced for the [Second estimate of gross domestic product \(GDP\)](#). This forms part of the estimate of “gross operating surplus of corporations” published in the [Second estimate of GDP](#). See the Compilation of estimates presented in profitability of UK companies section for details of the compilation of GOS.

A revised estimate of GOS of UK PNFCs is produced for the [Quarterly national accounts \(QNA\)](#). This second estimate incorporates any late [QOPS](#) returns in line with the [National Accounts Revisions Policy](#). Additional quality checks are made at this stage to ensure that the data are consistent with [QNA](#) and the [UK Economic Accounts](#).

This revised estimate forms the basis of the quarterly [Profitability of UK companies statistical bulletin](#). This is published 3 months after the reference period and approximately 5 to 10 days after the [QNA](#) publication. See the How the output is created section for further information on the content of [Profitability of UK companies](#).

## 5 . How the output is created

[The Profitability of UK companies statistical bulletin](#) provides estimates of the gross and net rates of return, gross operating surplus and net operating surplus of private non-financial corporations (PNFCs).

Gross trading profits (GTP) include only that part of a company's income arising from trading activities in the UK. It does not include income from investments or other means, such as earnings, from abroad. GTP are calculated before payments of dividends, interest and tax.

### Data sources for GTP

Provisional annual trading profits data from Her Majesty's Revenue and Customs (HMRC).

An important strength of this measure of profitability is that survey data are benchmarked every 6 months to [HMRC](#) trading profits data. [HMRC](#) collects annual information on company profits as part of the tax collection process. It collects in excess of 98% of all industrial and commercial businesses' data via their statutory tax returns. The benchmark data are therefore equivalent to a census rather than a sample survey and hence are more robust.

### Calculating quarterly profits estimates

For the Office for National Statistics (ONS) to produce more timely quarterly profits estimates, it collects data from the Quarterly Operating Profits Survey (QOPS). This survey collects data from a relatively small stratified sample of approximately 1,650 businesses. The survey sample is selected from the [Inter-Departmental Business Register \(IDBR\)](#), a database of UK businesses that is maintained by ONS.

We ask businesses to provide their profits information for the latest quarter. The results from this survey are used to provide estimates of the change in profits from one quarter to the next. Estimated growth rates by sector derived from QOPS are then applied to the latest annual data from [HMRC](#) to give up-to-date estimates of the level of profits. See the QOPS weighting and estimation section for details of how QOPS growth rates are obtained.

[QOPS](#) covers all private non-financial sectors of the economy with the exception of agricultural businesses. Data are requested quarterly for operating profits before exceptional items, depreciation, amortisation, impairment and losses and/or profits on disposals and exceptional items.

All businesses employing more than 5,000 staff are included permanently in the [QOPS](#) sample. A stratified random sample at enterprise group level (an association of enterprises bound together by legal and/or financial links) is selected in the first quarter of each year for smaller businesses. These are stratified by UK Standard Industrial Classification 2007: SIC 2007 groupings and employment size band. Smaller businesses stay in the sample for 12 months, to yield quarterly growth rates for operating profits.

## **QOPS weighting and estimation**

There is no construction or weighting of data as the data are delivered on a [matched pairs basis](#) 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](#) estimates allow a quarter-on-quarter growth rate to be calculated for each respondent. This contributes to the overall calculated growth rate in the industry to which they belong.

## **QOPS imputation**

There is no imputation in the [QOPS](#) survey. Non-responders are not used in the process of [matched pairs](#) estimation as only returned respondent data from two sequential periods are used to estimate a growth rate between those periods.

Quality assurance is applied at source and further quality checks are carried out before further processing to ensure relevance. We attempt to query significant movements for individual responders directly, leading to three possible outcomes: the return is cleared unchanged, the return is amended by the responder or further investigation of the return is carried out. If the return cannot be validated, the individual return is treated as an outlier, meaning it is distorting the industry growth rate, and is removed from the industry growth rate calculation.

## **Use of other government departments and National Grid data in compiling UK Continental Shelf (UKCS) estimates**

[QOPS](#) data for UKCS businesses are supplemented by oil and gas output, sales and prices data obtained from [Department for Business, Energy and Industrial Strategy](#) and the [National Grid](#). The data obtained are used to determine total income (total sales multiplied by price) and total expenses. Estimates of UKCS operating surplus are then calculated by deduction of total expenses from total income.

## **Other data sourced from ONS**

We publish estimates collected via the [Quarterly Capital Expenditure](#) Survey and the [Quarterly Stocks Survey](#). Capital Expenditure data is combined with public sector data for the [Business investment](#) publication. Other source material includes:

- appreciation of North Sea oil stocks
- PNFCs inventory holding gains
- work in progress within the services industries sector
- gross fixed capital formation (GFCF) associated with computer software, mineral exploration, entertainment, literature and artistic originals, agricultural assets and UK continental shelf (UKCS) exploration expenditure
- book values of PNFCs, UKCS, manufacturing and services sectors
- capital consumption
- gross and net capital stock values for PNFCs, UKCS, manufacturing and services sectors
- PNFCs self-employment income
- PNFCs self-employed (quasi), manufacturing and services rental income

## Compilation of estimates presented in Profitability of UK companies

The quarterly [Profitability of UK companies](#) release provides estimates of gross and net rates of return, gross operating surplus and net operating surplus of UK PNFCs.

The numerator for estimates of rates of return is gross operating surplus (GOS). The denominator for estimates is capital employed. This means that rates of return presented are ratios of operating surpluses compared with capital employed, expressed as percentages. These ratios measure the accounting rates of return achieved in a particular year from total capital employed. The rates of return are on the basis of current replacement cost and relate to UK operations of PNFCs. The net rate of return uses capital estimates net of capital consumption, which is more widely used than the gross rate of return. Rates of return are published for quarters and for years.

Gross operating surplus of PNFCs are gross trading profits, plus income from rental of buildings less inventory holding gains, both of which are supplied by ONS.

Capital employed and capital consumption data come from the [Capital stock and capital consumption](#) release.

Estimates of company investment are added together for all assets that will still be in use (based on estimates of the asset's life length) to give "gross capital stock" or capital employed. Depreciation is calculated by assuming that the asset loses an equal amount of value each year and is worth zero at the end of its life. "net capital stock" is calculated from gross capital stock by removing depreciation.

In the derived net rates of return, estimates of net operating surplus are net of capital consumption (depreciation). Capital consumption is derived from capital stock and covers the depreciation of fixed assets over their service lives. Estimates of net capital are net of accumulated capital consumption; that is, they are a measure of the written-down replacement costs of fixed assets.

## Statistical disclosure control

[Statistical disclosure control](#) methodology is applied to the [QOPS](#) data. This ensures that information attributable to an individual or individual organisation is not identifiable in any published outputs. [The Code of Practice for Official Statistics](#) and specifically the [Principle on Confidentiality](#) set out practices for how we protect data from being disclosed. The Principle includes the statement that ONS outputs should “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”. More information can be found in the [National Statistician’s Guidance document: Confidentiality of Official Statistics](#).

## 6 . Validation and quality assurance

### Accuracy

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

Quality assurance procedures are in place to check, understand and explain movements in the data. This allows informed quality adjustments to be made and checks that the published series are being correctly calculated.

Quality checks are carried out throughout the process of producing the profitability rates of return. Survey results go through detailed scrutiny and are signed off by the Deputy Director responsible for the survey. The final profitability estimates are independently reviewed by the Deputy Director responsible for sign off of the statistical bulletin and final dataset and approval is given for the estimates to be published.

Guidance is provided by in-house economists regarding economic performance in the relevant sectors. This forms an additional quality check and any inconsistencies are investigated with possible reasons provided to users in the Economic context section of the statistical bulletin.

Estimates for the most recent quarters are provisional and subject to revision in the light of updated source information. Revisions are made in-line with the [National Accounts Revisions Policy](#). Revisions are consistent with the most recent [QNA](#) and may result from new or late data being received. Further details on the [National Accounts Revisions Policy](#) can be found in the Comparability and coherence section.

### Sampling error

This occurs because estimates are based on a sample rather than a census. The Quarterly Operating Profits Survey (QOPS) collects data from a relatively small sample of approximately 1,650 businesses. Sampling error is minimised for the [QOPS](#) survey by quarterly selecting the largest businesses within each sector. The sample design is reviewed and refined periodically, most recently for the new sample selection on a Standard Industrial Classification 2007: SIC 2007 (Quarter 1 (January to March) 2011).

### 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 QOPS respondent data are checked against previous returns and discrepancies queried. Aggregate data are compared quarter-on-quarter and against the previous results. A respondent will, on occasion state that they are unable to provide a quarterly operating profit figure, for example, if they only produce annual figures.

QOPS questionnaires are despatched 2 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.

In 2003, the QOPS questionnaire was reviewed and re-designed. This reduced the number of questions, making it easier to complete and hopefully, improving the quality of data, whilst still meeting the needs of customers in the 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 sample rotation. Some respondents drop off the sample and are replaced by new ones. This causes, on average, about 20% fewer matched pairs in this quarter than in the remaining quarters.

Estimates for the “most recent quarters” are provisional and, as usual, are subject to revisions in the light of updated source information consistent with the [National Accounts Revisions Policy](#).

Provisional [SIC 2007](#) estimates for capital employed and capital consumption are used to calculate the rates of return. Due to the postponement of the 2010 release of Capital stocks and Capital consumption estimates, the estimates in the Profitability release have been produced using the assumption that capital by sector has the same growth rate as gross operating surplus by sector. This method has been used since the [Profitability of UK companies Quarter 2 2011](#) and will continue until the Capital stocks and Capital consumption estimates are available on a [SIC 2007](#) basis. As a consequence, rates of return estimates for manufacturing and services should be used with caution until revised capital stocks and capital consumption estimates are available.

## Comparability and coherence

(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.)

In 2011, a revised Standard Industrial Classification: [SIC 2007](#) was adopted by the national accounts. The implementation of this new classification, motivated by the need to adapt the classification changes in the structure of the economy, inevitably resulted in revisions. Further details of the impact of the classification change can be found [in the article on Methods changes in the 2011 Blue Book](#).

Data revisions are made in accordance with [National Accounts Revisions Policy](#) and any methodological or conceptual changes are made to back data in accordance with this policy to ensure data comparability over time. Estimates are produced in accordance with guidelines set out in the [European System of Accounts 1995: ESA 1995 manual](#).

Comparable time series data for this release are available back to 1997 on the new [SIC 2007](#) industrial classification basis. However, the seasonally adjusted current price annual series for [gross operating surplus of PNFCS](#) (national accounts series identifier CAER) is available back to 1948 on a comparable basis as part of the [QNA](#) dataset.

Gross operating surplus for PNFCS, becomes coherent in the long-term through the use of a [Supply and Use](#) framework. This enables differences between the estimates of supply and use of specific products to be investigated and the accounts adjusted to ensure a balance. These alignment adjustments are made to the quarterly series and sum to zero annually. The gross operating surplus used in the [Profitability of UK companies](#) excludes the quarterly alignment adjustments (national accounts series identifier DMUQ) applied to non-UK Continental Shelf businesses' gross trading profits, as published in the [QNA](#).



## 7 . Concepts and definitions

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

The [Profitability of UK companies](#) release is compliant with the [Code of Practice for Official Statistics](#) and legislation relating to the release is contained within the [Statistics and Registration Service Act 2007](#).

The international standard for estimates used in national accounts is the [System of National Accounts 1993: SNA 1993](#), published in close co-operation with Eurostat, the Organisation for Economic Co-operation and Development (OECD), the United Nations, and the World Bank. The European Union published its own version of SNA 93, [European System of Accounts 1995: ESA 1995](#) [European System of National Accounts \(ES95\)](#) upon which the UK's National Accounts are based.

The [Standard Industrial Classification: SIC 2007](#) is used for classifications in the Profitability of UK companies release.

## 8 . Other information

### Assessment of user needs and perceptions

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

In the [Profitability of UK companies Quarter 1 2012 release](#), a link was included to a user engagement survey. This was prominently displayed with a request to complete it in both the About this release and Background notes sections of the bulletin. There was a low response to this request for information but those that did respond were broadly content. Further details on the user engagement survey can be found in the Relevance section.

The last review of user satisfaction for the Quarterly Operating Profits Survey (QOPS) took place as part of the [mini-triennial review](#) into the survey conducted in 2003.

## 9 . Sources for further information or advice

### 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 webpages 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 report.

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

- [Terms and conditions](#) (for data on the website)
- [Copyright and reuse of published data](#)
- [Pre-release access](#) (ended from 1 July 2017)
- [Accessibility](#)
- Access to microdata via the [Virtual Microdata Laboratory](#)

In addition to this Quality and Methodology Information, basic quality information relevant to each release is available in the quality and methodology section of the [Profitability of UK companies statistical bulletin](#).