

Regional gross disposable household income QMI

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1 . Methodology background

National Statistic	
Survey name	Regional gross disposable household income (GDHI)
Frequency	Annual
How compiled	Survey and administrative data
Geographic coverage	UK NUTS
Last revised	23 July 2018

2 . Important Points

- Regional gross disposable household income (GDHI) measures economic diversity and social welfare at regional, sub-regional and local area levels.
- GDHI is the amount of money that individuals have available for spending or saving.
- Estimates are produced annually and are published in the (GDHI) statistical bulletin and associated datasets.
- GDHI estimates cover the UK as a whole and are broken down according to the Nomenclature of Units for Territorial Statistics (NUTS).
- Regional GDHI estimates are compiled at four levels of NUTS geography: regions, sub-regions, local areas and local authority districts; the estimates are on a residence basis, the incomes of individuals are allocated to the region in which they live.

3 . Overview

Overview

The production of regional net disposable household income (NDHI) is a legal requirement of the European Union.

Office for National Statistics (ONS) publishes regional gross disposable household income (GDHI) for domestic purposes. NDHI estimates are delivered to [Eurostat](#). (See Section 8 Concepts and definitions for details of how NDHI and GDHI are defined). The availability of appropriate data sources for the regionalisation of fixed capital consumption varies between EU member states. The UK regards gross estimates to be a more meaningful indicator.

GDHI is the amount of money that individuals (that is, the household sector) have available for spending or saving. This is money left after expenditure associated with income, for example, taxes and social contributions. It is calculated gross of any deductions for capital consumption.

The GDHI estimates cover the UK as a whole and are broken down to [Nomenclature of Units for Territorial Statistics \(NUTS\)](#). NUTS is a hierarchical classification of spatial units that provides a breakdown of the European Union's territory for producing regional statistics that are comparable across the Union. Regional GDHI estimates are compiled at four levels of NUTS geography:

- NUTS1: 12 regions – Wales, Scotland, Northern Ireland and the nine English regions; can be collectively referred to as regions
- NUTS2: 41 regions – mainly groups of counties and unitary authorities; can be referred to as sub-regions
- NUTS3: 179 regions – principally individual counties and unitary authorities; also known as local areas
- LAU1: 400 local authority or local council areas

As part of the flexible geography project, one of the developments was to produce [Gross disposable household income \(GDHI\) estimates by local authorities](#) and [local enterprise partnerships \(LEPs\)](#), along with details of the [methodology](#).

National totals are allocated to regions using the most appropriate available regional indicators. A regional indicator is a dataset that provides data for calculating regional proportions, which in turn are used to allocate national totals. They can be acquired from administrative sources and structural business surveys. The national totals are consistent with those in the latest published [UK National Accounts, The Blue Book: 2017](#).

Estimates are produced each spring and are disseminated on the ONS website in the form of a statistical bulletin and associated datasets. The [Regional GDHI statistical bulletin](#) can be downloaded free from the ONS website at 9:30am on the day of publication, which is pre-announced on the [release calendar](#).

Estimates of NDHI are delivered to [Eurostat](#) via transmission templates.

Methods and terminology used in the production of GDHI can be obtained from the following publications:

- [European System of Accounts: ESA 2010](#)
- [Regional accounts methodology guide](#)
- [Blue Book](#)

This quality and methodology information report contains the following sections:

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

4 . 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 these quality dimensions and other important quality characteristics, which are:

- relevance
- timeliness and punctuality
- accuracy
- coherence and comparability
- 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.

5 . About the output

Relevance

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

Current price estimates are published for the variables: total gross disposable household income (GDHI), GDHI per head of population and GDHI per head indices at NUTS1, NUTS2, NUTS3 and LAU1 levels. GDHI per head of population is a useful way of comparing areas of different sizes and is an important indicator. It is calculated using the entire resident population of an area (including the economically inactive). Component-level details are published at a NUTS1, NUTS2, NUTS3 and LAU1 level.

The annual provision of regional and sub-regional net disposable household income (NDHI) at NUTS2 level is an EU requirement. The statistical body of the EU, [Eurostat](#), collates regional NDHI from all member states. NDHI estimates are not published on the ONS website.

[Regional GDHI estimates are published annually](#), approximately 17 months after the latest year of published data and are consistent with the previous year's [UK National Accounts, The Blue Book](#).

These statistics provide an overview of economic diversity and social welfare at regional, sub-regional and local area levels. They supply information about the availability of disposable income throughout the UK. Disposable income is a concept that can be used to approximate the "material welfare" within the household sector, although the term "welfare" is commonly used in ways that go beyond financial wealth and, as such, cannot be measured by a single statistic.

These estimates are used by the UK government and the devolved administrations of Northern Ireland, Scotland and Wales to formulate and monitor economic policy and allocate resources.

The Scottish Government uses these statistics as the basis for quarterly estimates of GDHI and the household savings ratio within the [Quarterly National Accounts Scotland release](#). The resulting statistics are widely used by economic commentators and academics in Scotland. The Scottish Government also use GDHI as one of a range of main economic indicators of economic performance, for example in Scotland's Economic Strategy (March 2015).

In Wales, the [Well-being of Future Generations \(Wales\) Act 2015](#) was introduced to improve the social, economic, environmental and cultural well-being of Wales. The Act puts in place seven well-being goals for Wales. These are for a more equal, prosperous, resilient, healthier and globally responsible Wales, with cohesive communities and a vibrant culture and thriving Welsh language.

One of the indicators used to monitor progress is GDHI per head. As an indicator under the Act it must be referred to in the analyses of local well-being produced by public services boards when they are analysing the state of economic, social, environmental and cultural well-being in their areas. In addition, GDHI and primary income are also indicators used in [Welsh economy](#) in numbers, a publication on the Welsh Government website, which monitors main indicators of the Welsh economy.

The Northern Ireland Executive uses these statistics in conjunction with other economic measures and surveys to give an overall picture of the economy.

Local authorities use these statistics to facilitate evidence-based policy-making. These statistics inform the general public and provide insight into the relative socio-economic picture of the UK and issues such as the "north-south divide". They are used in the House of Commons library to answer enquiries from MPs about regional differences in the income of households.

The European Union uses these estimates to inform regional policy and analysis, monitoring the development of regional disposable income of households in conjunction with final consumption expenditure (the individual consumption of households) and savings in order to identify disparities in regional welfare.

Reviews and changes

In keeping with the UK National Accounts' commitment to meeting the European Commission definition of [gross national income](#) and the new [European System of Accounts: ESA 2010](#), there have been changes made to the UK National Accounts measure of gross disposable household income (GDHI). These impact upon the regional GDHI estimates in the form of different national totals for the various components of income, even where no explicit changes to the regional allocation have been needed.

One of the changes is the separate measurement of the households, and non-profit institutions serving households (NPISH) sectors. Prior to Blue Book 2017, Blue Book estimates were produced for the combined households and NPISH sectors. As such, our previous estimates of GDHI were produced for the combined households and NPISH sectors. In the UK National Accounts, estimates for the households, and NPISH sectors were presented separately for the first time in Blue Book 2017. In line with Blue Book 2017, our regional estimates for GDHI have been produced for the households sector only.

During the improvements to separate the measurements of the sectors in the UK National Accounts, [the opportunity was taken to improve the measurement of both sectors](#). In Blue Book 2017, a new data source and method was incorporated for the production of an overall dividends estimate for the households sector. As a result, the dividends estimates for the households sector are much larger than the estimates previously published for the combined sector.

Another change that was incorporated in Blue Book 2017, which resulted in a change to our methods, is a new approach for the treatment of private actual rentals, which brings consistency with [the methods for imputed rentals introduced in Blue Book 2016](#). It also removes the discontinuity in the current price data at 2010, which was due to an interim solution in place since Blue Book 2014. A change was also made to the allocation of rent on rent-free dwellings.

Our GDHI publication has also been affected by changes to [Nomenclature of Units for Territorial Statistics \(NUTS\)](#) boundaries. In January 2018, there were changes to the NUTS boundaries in Scotland and Northern Ireland. In Scotland, a fifth NUTS2 area, Southern Scotland, was created. In Northern Ireland, changes were made to the NUTS3 areas due to local government reorganisation, with the new NUTS3 areas now matching the 11 local authorities. Our GDHI estimates have been produced in accordance with the January 2018 [NUTS regions](#).

Previous published estimates of regional GDHI included headline data that had been smoothed to remove volatility, with raw (unsmoothed) estimates also provided. Some users commented that they found raw estimates more useful and, following on from the ONS methodological review of smoothing and commuting adjustments in regional accounts, only raw data are published from 2013 onwards.

The UK, along with all other European Union member states, has a programme of work to introduce the changes to data and methods required by the new European System of Accounts: ESA 2010. There was one [ESA 2010 change in Blue Book 2015](#) that affected GDHI. The change was to reflect cross-border property income (CBPI) relating to the ownership of second homes, including those in the UK owned by foreign nationals and those owned by UK residents but located in other countries. The activity has two components: property income (import and export) and housing services (import and export), which feature in both regional gross value added (GVA) and gross disposable household income (GDHI) as a part of rental income. Regional GDHI is only affected by the element of second homes abroad by UK residents. For the regional allocation of this, data from Council Tax records and the 2001 and 2011 Censuses have been used, with gaps in coverage filled by modelling using overall housing stock. This is consistent with the method used to regionalise CBPI in regional GVA.

Main data sources

Numerous data sources are used in the production of regional GDHI to estimate the distribution of income across the UK. These comprise both survey and administrative data, which conform as far as possible to those recommended in the manual on regional accounts methods, a guideline document published by [Eurostat](#) and represent the most appropriate data sources available.

The main data sources for GDHI are:

- HM Revenue and Customs (HMRC) administrative data (Pay As You Earn (PAYE)) – used to allocate wages and salaries, employers’ social contributions and Income Tax
- HMRC administrative data (self-assessment) – used to allocate profits of partnerships and self-employed individuals
- Survey of Personal Incomes (SPI) – used to allocate income and pensions
- benefits administrative data from the Department for Work and Pensions (DWP) and the Department for Social Development in Northern Ireland (DSDNI) – used to allocate benefits income, for example, Claimant Count – used to allocate Jobseeker’s Allowance
- a variety of other administrative sources, both from within government and externally sourced

The UK GDHI estimates are constrained to the UK National Accounts, The Blue Book in Table 6.2.4 of the Blue Book.

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.)

Regional GDHI estimates are constrained to national totals and are published 7 to 10 months after the [UK National Accounts, The Blue Book](#). The availability of the main datasets in the production process is a factor in the publication timetable, for example, HMRC SPI data become available 14 months after the reference period. Regional GDHI estimates have never missed publication deadlines due to data availability or any other factors.

Provisional estimates of regional GDHI at NUTS1, NUTS2, NUTS3 and LAU1 levels are published around 17 months after the end of the reference period.

For more details on related releases, the [Office for National Statistics release calendar](#) provides 12 months’ advance notice of release dates. 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](#).

6 . How the output is created

The production of regional NUTS2 regional net disposable household income (NDHI) is a legal requirement of the European Commission.

Data are collated from both external and internal sources. These estimates are then constrained to the UK gross disposable household income (GDHI) total, as given in Table 6.2.4 of the [Blue Book](#) to calculate regional GDHI.

A “top down” approach is used to calculate regional figures, whereby the national aggregate is allocated to regions using the most appropriate indicator available. This is done at NUTS3 level because much of the data are supplied at this level. These NUTS3 estimates are then aggregated up to obtain NUTS2- and NUTS1-level estimates. These estimates are on a residence basis, that is, incomes of individuals are allocated to the region in which they live.

As GDHI utilises data from different external sources, each individual dataset is formatted. This includes reorganising data tables to match the statistical analysis system (SAS) format (calendar year values, in £ millions), so that data match published UK totals. Liaison with data providers is essential to clarify the format of delivered data, as well as explaining genuine movements in data, match external outputs from sub-national administrations and improve the methodology of outputs.

Once collated and formatted, the data are analysed and quality assured. This includes data validation, creating and refining analysis tools and analysis. To ensure optimum quality of analysis each dataset is checked by members of the production team and any further tool creation for example, growth proportions, validation or analysis is conducted.

The objective of the validation of data process is to improve the quality of input data. It includes the calculation of outlier criteria for individual datasets. This often requires analysis tools to be calculated, such as growth rates or standard deviations. Once suitable criteria have been identified the outliers are identified and adjusted when appropriate.

National aggregates (national control totals) are split and allocated to regions using appropriate regional indicators. The control totals are consistent with those in the latest published [UK National Accounts, The Blue Book](#).

7 . Validation and quality assurance

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

Accuracy

As the regional gross disposable household income (GDHI) estimates are constrained to the [Blue Book](#) totals, the accuracy of the regional GDHI estimates is dependent on the quality of the [Blue Book](#) UK GDHI estimates. Below the UK level, NUTS1, NUTS2, NUTS3 and LAU1 estimates are also constrained to the UK totals.

As stated in the previous section, liaison with data suppliers ensures unusual movements in datasets are queried. This allows us to maintain accuracy standards within the source data and improve the quality of our finalised outputs.

Once received, the datasets are formatted. The various data providers each present the data in different formats; as discussed in the previous section, these are standardised before validation or analysis. Errors may arise from formatting issues, errors in data transfers or communication, or human error within the formatting process. As with all stages of analysis and quality assurance, consistent checking by production staff is essential and is the main form of error identification.

Sample sizes can vary from 100% (HM Revenue and Customs (HMRC) self-assessment data) to 1% (HMRC Pay As You Earn data). These variations are unavoidable in the collation of reliable time series data for the calculation of GDHI. Improvements in the GDHI methodology or changes in administrative source data allow for reviewing the available sources for higher-quality datasets or more timely publications. This is an ad hoc and continuous process, which does not include major revisions to the methodology of GDHI.

The vast majority of source data are updated annually; however, some datasets are published biennially, or on an ad hoc basis. These missing values are imputed as stated in the validation of data process. As with sample size, potential improvements to the methodology are reviewed whenever new data become available or when significant changes to the source data affect the final values. Where no recent estimate is available, the previous year's data may be used (for imputation of missing data points please see the How the output is created section). It is important to note, however, that these issues are rare due to the completeness of the main source data.

The peer review process

The output variables for publication are subject to rigorous scrutiny, including looking at growth and shares, graphical depictions and comparisons with previous data. These data are then sent for peer review. The role of the peer reviewer is to quality-assure provisional outputs of near final data based on their specific knowledge of regional activity.

The Regional Accounts Team has developed links with the peer reviewer network. This includes the devolved administrations of Northern Ireland, Scotland and Wales, HM Treasury, the Greater Manchester Combined Authority, the West Midlands Combined Authority, the Office for National Statistics (ONS) London regional presence at the Greater London Authority and an ONS economist. Regular dialogue has resulted in significant refinements to the peer review process. Resulting queries from peer reviewers are investigated and rectified where necessary. Feedback from this process is documented and any actions implemented within the results. Regional intelligence is shared and we are able to keep peer reviewers informed of any significant developments.

Revisions

As with the national accounts, regional, sub-regional and local GDHI estimates are calculated as reliably as possible. There is no easy way to measure the reliability of the estimates but we carry out consistency checks on data inputs, apply methods consistently and make use of local knowledge about each region. The estimates are based partly on sample surveys and the quality of the results varies according to sample size. This means that the results for smaller regions are subject to a greater degree of uncertainty than those for larger regions. A detailed explanation of revisions to the 2015 published estimates can be found in the “Quality and methodology” section of the statistical bulletin.

Figure 1 shows revisions to the 2015 NUTS1 estimates in May 2017 and May 2018 publications. The chart shows both revisions made due to changes in national totals and revisions due to changes in the underlying data used to apportion the UK estimates.

Figure 1: Total revisions to gross disposable household income 2015 data published in May 2017 and May 2018, UK

Figure 1: Total revisions to GDHI 2015 data published in May 2017 and May 2018

Figure 1: Total revisions to GDHI 2015 data published in May 2017 and May 2018



Source: Office for National Statistics

Notes:

1. May not sum due to rounding.

The Regional Accounts Revisions Policy mirrors that of the National Accounts Revisions Policy where national totals are subject to revision in “open” years. The whole time series is open to revisions from the [Blue Book](#). In addition, revisions to the regional indicator datasets will impact upon the regional GDHI estimates.

The households and non-profit institutions serving households (NPISH) have split into separate sectors where previously they were combined into one. Due to this split, the GDHI data no longer includes NPISH from the regional GDHI release published on 24 May 2018. Further details related to the household and NPISH split are available on the What's changed in this release? section of the [statistical bulletin](#).

It is important to note that there are other aspects of accuracy, which revisions analysis cannot attempt to measure. A value can be reliable (as in not revised) without being accurate.

8 . 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.)

Department for Work and Pensions produces two data sources, which are similar to the gross disposable household income (GDHI) release. [One is the Family Resources Survey \(FRS\)](#), which collects information on the incomes and circumstances of private households in the UK. [The Households below average income \(HBAI\)](#) release, is used to indicate living standards as determined by disposable income, changes in income patterns over time and income mobility. [HBAI](#) uses household disposable incomes, adjusted for household size and composition, as a proxy for the material living standards of individuals or, more precisely, for the level of consumption of goods and services that people could attain given the disposable income of the household in which they live. Neither the [FRS](#) nor the [HBAI](#) release are [European System of Accounts: ESA 2010](#) compliant. They also do not show information below NUTS1 level.

Since international standards such as [ESA 2010](#) are used in the production of the regional accounts, the figures should be directly comparable with the regional accounts of other EU countries. However, the revisions policies of these countries should be examined before comparing data for back periods.

The GDHI estimates are benchmarked to the [Blue Book](#) totals for GDHI and are consistent with Table 6.2.4 of the [Blue Book](#).

9 . Concepts and definitions

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

Regional gross disposable household income (GDHI) is a legal requirement under EU law and supplied to [Eurostat](#) consistent with the standards set out in [European System of Accounts 2010: ESA 2010](#). GDHI estimates are produced at current prices which do not allow for inflation.

Household disposable income is defined as the sum of the balances of primary and secondary incomes (resources less uses) and represents the amount available to the household sector for spending on consumption or saving so that:

GDHI equals balance of primary income plus balance of secondary income

Primary incomes are the result of individuals' participation in the production process, for example, as employees providing labour or through the ownership of assets and/or from self-employment. Secondary incomes are received as the result of redistribution of income, for example, pensions and benefits.

Outgoings, or uses, of the household sector are also classified as either primary or secondary. Primary uses consist of property income paid, that is, rent on land and interest paid on mortgages and other borrowing. Secondary uses are mainly non-discretionary payments, that is, taxes and social contributions to National Insurance.

Deriving net disposable household income (NDHI) for Eurostat

The production of regional disposable income of households is a legal requirement under ESA 2010. Whereas gross disposable household income is compiled for UK domestic use, the estimates that are provided to [Eurostat](#) (the statistical department of the European Commission) are net of consumption of fixed capital (CFC) at the NUTS2 level. CFC is included in the operating surplus/mixed income (OS/MI) components of the primary income account. The CFC element is estimated and deducted from the regional OS/MI, to derive the net disposable household income (NDHI) estimates.

EU member states provide estimates of NDHI in their national currencies. Eurostat converts these using specific purchasing power standards for final consumption expenditure (purchasing power consumption standards). This process enables meaningful comparisons to be made between the member states. The EU uses these NDHI estimates to inform regional policy.

10 . Other information

Output quality trade-offs

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

As previously stated in the Relevance section, regional gross disposable household income (GDHI) estimates are published for the years 1997 to the year ending 17 months before the date of publication. Component level details are published at a NUTS1, NUTS2, NUTS3 and LAU1 level. This is to allow the data to be constrained to the previously published national GDHI figures.

Further information on release dates is contained in the timeliness and punctuality section of this report.

Assessment of user needs and perceptions

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

In July 2011, the UK regional accounts team met with [Eurostat](#) as part of a quality initiative aimed at encouraging harmonisation of compilation methods for regional statistics. Regional accounts have participated in a [Eurostat](#) task force of member states, to develop a [regional accounts methodology manual](#), which is now complete and published. The team regularly communicates with [Eurostat](#).

The regional accounts team has developed links with the devolved administrations of Northern Ireland, Scotland and Wales, the Office for National Statistics (ONS) London regional presence stationed at the Greater London Authority and an ONS economist. As previously mentioned, these are the main domestic users of the regional GDHI statistics. Regional accounts generally meet these users on a biannual basis to share views on methodology and ongoing developments.

A regional accounts government user group (RAGUG) is held twice a year to discuss the needs of stakeholders in the devolved administrations and other government departments. An article titled [Supporting devolution: developments in regional and local statistics](#) has been published on the ONS website, which provides details of the developments taken forward to meet users' needs.

11 . 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.)

The gross disposable household income (GDHI) [statistical bulletin](#) has datasets available for download at 9:30am on the day of publication.

The GDHI [statistical bulletin](#) conforms to the standards set out in the [Code of Practice for Statistics](#) for the protocol on release practices.

For queries on the regional GDHI series, compilation methods, quality information or if you are experiencing difficulties in finding the latest figures, contact the regional accounts team by email: regionalaccounts@ons.gov.uk or by telephone on +44 (0)1633 456878.

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 files. 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 the 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. Data are also made available via [Nomis](#), which is a service provided by Office for National Statistics to give you free access to detailed and up-to-date UK statistics from official sources.

Useful links

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, quality information relevant to each release is available in the Quality and methodology section of the relevant statistical bulletin.