Office for National Statistics

Compendium

An introduction to the UK national accounts

Contact:
Emma Howley
blue.book.coordination@ons.gov.uk
+44 (0)1633 45 5190

Release date:
31 October 2019

Next release:
To be announced

Table of contents

1 . What is the Blue Book?

The Blue Book was first published in August 1952 and presents a full set of economic accounts (national accounts) for the UK. These accounts are compiled by the Office for National Statistics (ONS). They record and describe economic activity in the UK and are used to support the formulation and monitoring of economic and social policies.

The UK National Accounts: The Blue Book, 2019 is available as a PDF by request only. To request a copy, please email blue.book.coordination@ons.gov.uk.

Chapter 1

Chapter 1 of the Blue Book provides a summary of the UK National Accounts, including explanations and tables covering the main national and domestic aggregates, for example:

- gross domestic product (GDP) at current market prices and chained volume measures
- GDP deflator
- gross value added (GVA) at basic prices
- gross national income (GNI)
- gross national disposable income (GNDI)
- population estimates
- employment estimates
- GDP per head
- the UK Summary Accounts (the goods and services account, production accounts, distribution and use of income accounts, and accumulation accounts)

Chapter 1 also includes details of revisions to data since the Blue Book 2018.

Chapter 2

Chapter 2 includes:

- input-output supply and use tables
- analyses of GVA at current market prices and chained volume measures
- capital formation
- workforce jobs by industry

Chapters 3 to 7

Chapters 3, 4, 5, 6 and 7 provide:

- a description of the institutional sectors
- the sequence of the accounts and balance sheets
- an explanation of the statistical adjustment items needed to reconcile the accounts
- the fullest available set of accounts providing transactions by sectors and appropriate subsectors of the economy (including the rest of the world)

Chapters 8 to 11

Chapters 8, 9, 10 and 11 cover additional analysis and include:

- supplementary tables for gross fixed capital formation (GFCF), national balance sheet and public sector
- statistics for European Union purposes

Chapter 12

Chapter 12 covers:

- UK Environmental Accounts

Chapter 13

Chapter 13 covers:

- flow of funds

2 . Overview of the UK National Accounts and sector accounts

In the UK, priority is given to the production of a single gross domestic product (GDP) estimate using income, production and expenditure data. Further analysis is available on the following:

- income analysis at current prices
- expenditure analysis at both current prices and chained volume measures
- value added analysis compiled on a quarterly basis in chained volume measures only

Income, capital and financial accounts are produced for non-financial corporations, financial corporations, general government, households, and non-profit institutions serving households.

The accounts are fully integrated but with a statistical discrepancy (known as the statistical adjustment), shown for each sector account. This reflects the difference between the sector net borrowing or lending from the capital account and the identified borrowing or lending in the financial accounts, which should theoretically be equal.

Financial transactions and balance sheets are produced for the rest of the world sector in respect of its dealings with the UK.

An introduction to sector accounts

The sector accounts summarise the transactions of particular groups of institutions within the economy, showing how the income from production is distributed and redistributed, and how savings are used to add wealth through investment in physical or financial assets.

Institutional sectors

The accounting framework identifies two kinds of institutions:

- consuming units (mainly households)
- production units (mainly corporations, non-profit institutions or government)

Units can own goods and assets, incur liabilities and engage in economic activities and transactions with other units. All units are classified into one of five sectors:

- non-financial corporations
- financial corporations
- general government
- households, and non-profit institutions serving households (NPISH)
- rest of the world

Types of transactions

There are three main types of transactions:

1. **Transactions in products**

   Transactions in products are related to goods and services. They include output, intermediate and final consumption, gross capital formation, and exports and imports.

2. **Distributive transactions**

   Distributive transactions transfer income or wealth between units of the economy. They include property income, taxes and subsidies, social contributions and benefits, and other current or capital transfers.

3. **Financial transactions**

   Financial transactions differ from distributive transactions in that they relate to transactions in financial claims, whereas distributive transactions are unrequited. The main categories in the classification of financial instruments are:

   - monetary gold and special drawing rights
   - currency and deposits
   - debt securities
   - loans
   - equity and investment fund shares or units
   - insurance, pension and standardised guarantee schemes
   - financial derivatives and employee stock options
   - other accounts receivable or payable

3 . Summary of changes

Considerable progress has been made in improving how we compile estimates of gross domestic product (GDP), where we have used the [foundations of the "H-Approach"] to inform headline GDP estimates in this Blue Book. This progress includes:

- a wider set of more appropriate product deflators for each transaction
- full integration of institutional sectors into the balancing process of the supply and use tables (SUTs) framework
- improvements to data sources to give information on the diversification of the services economy and the costs incurred by businesses through the introduction of the Annual Survey of Goods and Services and the reintroduction of the Annual Purchases Survey

New, improved data sources

The Annual Survey of Goods and Services, which estimates the goods and services produced by each industry, providing a more complete picture of output by product.

The Annual Purchases Survey, which identifies the purchasing patterns of businesses through the collection of information about their expenditure on energy, services, goods and materials that are used up or transformed by the business activity.

Methods improvements

Capital stocks

Improvements have been introduced to the estimation of capital stocks and therefore the consumption of fixed capital (CFC), which include:

- a review of the life length of fixed assets, delivering improved consistency with the approach taken in other countries
- improvements to the classification of stocks by asset, industry and the institutional sector
- implementation of hyperbolic age-efficiency, where an asset loses little of its productive value in the early years of its life but loses much more of this value as it nears the end of its life length

Change in inventories

This is now calculated on an industry by product basis allowing for a more accurate estimate to be produced. Deflation is now carried out on a product by asset basis for the first time, rather than at industry level. Comparisons between estimates produced from inventories against output measured from other sources have been made resulting in mismatches being identified and addressed, such as the removal of inventories work-in-progress from the services industries.

Research and development

Expenditure on research and development (R&D) is capitalised as a fixed asset in the UK National Accounts. More up-to-date survey returns, mostly affecting 2013 onwards, have been taken on in this Blue Book to better align the measures across the national accounts so that R&D is treated as a fully balanced concept. More consistent treatment across all components when calculating the sum-of-costs for non-market sectors has also been applied.

Value Added Tax

We have collaborated with HMRC and HM Treasury to review the recording of estimates of Value Added Tax (VAT) refunds within the national accounts. This has improved the recording of refunds associated with the NHS, academies, the BBC and police commissioners; resulting in an increase in the value of government final and intermediate consumption and the sum-of-costs output of government. As this tax is recorded as income and expenditure for both local government and central government respectively, any updates to VAT refunds data have no impact on general government net borrowing.

Trade

Improvements implemented in the Blue Book 2019 have led to revisions to current price and volume estimates of gross trade flows. These include the following areas:

- Estimates of the handling of intragroup transactions between resident and non-resident companies, which are part of the same group entity. Intragroup fees include those that relate to investment banking, advisory, brokerage, underwriting, insurance, loans and advances, while intragroup cost recharges are applied when the costs of a centrally managed service are allocated and charged to each group entity. Whilst transactions between UK institutions have been captured in the income and output measures of GDP, transactions between residents and non-residents will now be captured accordingly within trade in services for the first time.

- Improvements to the adjustments applied so that trade in goods estimates are consistent with the balance of payments. HM Revenue and Customs (HMRC) records the physical movement of goods in and out of the UK. However, for the purposes of the balance of payments, adjustments need to be applied so that they are on a change of economic ownership basis.

- Updating the method to produce the price index used to deflate fuel for trade, to incorporate more comprehensive granular information and so provide a more accurate estimate of the volumes of each commodity traded on an import and export basis.

- Improvements to how deflation is carried out for trade in services, which will better capture the currency mix of those transactions that are carried out in a foreign currency.

A new framework for gross domestic product

Historically, in the UK National Accounts, volume estimates of GDP have been produced using the expenditure approach to deflate nominal GDP. As part of our wider transformational programme, a new framework will be fully implemented over the coming years with the improvements made in the Blue Book 2019 being the first major step in our journey to inform how real GDP estimates are produced. These improvements will deliver several benefits, which include:

- more emphasis on data confrontation in the balancing of current price and volume estimates through the SUTs framework

- identifying the best deflator at a product level for each transaction in the UK National Accounts from those deflators that are currently available

- introduction of institutional sector accounts into the SUTs framework, allowing this information to feed into the balancing process

- the provision of an integrated framework for identifying the main areas for further development

4 . The basic accounting framework

The accounting framework provides a systematic and detailed description of the UK economy, including sector accounts and the input-output framework.

All elements required to compile aggregate measures, such as gross domestic product (GDP), gross national income (GNI), saving and the current external balance (the balance of payments) are included.

The economic accounts provide the framework for a system of volume and price indices, to allow chained volume measures of aggregates such as GDP to be produced. In this system, value added, from the production approach, is measured at basic prices (including other taxes less subsidies on production but not on products) rather than at factor cost (which excludes all taxes less subsidies on production).

The whole economy is subdivided into institutional sectors with current price accounts running in sequence from the production account through to the balance sheet.

The accounts for the whole UK economy and its counterpart, the rest of the world, follow a similar structure to the UK sectors, although several of the rest of the world accounts are collapsed into a single account as they can never be complete when viewed from a UK perspective.

5 . Table numbering system

The table numbering system is designed to show relationships between the UK, its sectors and the rest of the world. For accounts drawn directly from the European System of Accounts 2010: ESA 2010, a three-part numbering system is used; the first two digits denote the sector and the third digit denotes the ESA account. Not all sectors can have all types of account, so the numbering is not necessarily consecutive within each sector's chapter.

The rest of the world's identified components of accounts two to six are given in a single account numbered 2. UK whole economy accounts consistent with ESA 2010 are given in Section 1.6 as a time series and in Section 1.7 in a detailed matrix identifying all sectors, the rest of the world and the UK total.

The ESA 2010 code for each series is shown in the left-hand column, using the following prefixes:

- S for the classification of institutional sectors
- P for transactions in products
- D for distributive transactions
- F for transactions in financial assets and liabilities
- K for other changes in assets
- B for balancing items and net worth

Within the financial balance sheets, the following prefixes are used:

- AF for financial assets and liabilities
- AN for non-financial assets and liabilities

6 . The purpose of an account

An account records and displays all flows and stocks for a given aspect of economic life. The sum of resources is equal to the sum of uses, with a balancing item to ensure this equality.

The system of economic accounts allows the buildup of accounts for different areas of the economy, highlighting, for example, production, income and financial transactions.

Accounts may be elaborated and set out for different institutional units or sectors (groups of units).

Usually a balancing item has to be introduced between the total resources and total uses of these units or sectors. When summed across the whole economy these balancing items constitute significant aggregates.

Table I.1 provides the structure of the accounts and shows how gross domestic product (GDP) estimates are derived as the balancing items.

7 . The integrated economic accounts

The integrated economic accounts of the UK provide an overall view of the economy. Table I.1 presents a summary view of the accounts, balancing items and main aggregates and shows how they are expressed. The accounts are grouped into four main categories:

- goods and services accounts
- current accounts
- accumulation accounts
- balance sheets

8 . The goods and services account (Account 0)

The integrated economic accounts of the UK provide an overall view of the economy. Table I.1 presents a summary view of the accounts, balancing items and main aggregates, and shows how they are expressed. The accounts are grouped into four main categories:

- goods and services accounts
- current accounts
- accumulation accounts
- balance sheets

9 . Current accounts: the production and distribution of income accounts

The production account (Account I)

This account displays transactions involved in the generation of income by the activity of producing goods and services. The balancing item is value added (B.1). For the nation's accounts, the balancing items (the sum of value added for all industries) are, after the addition of taxes less subsidies on products, gross domestic product (GDP) at market prices or net domestic product when measured net of capital consumption. The production accounts are also shown for each industrial sector.

The distribution and use of income account (Account II)

This account shows the distribution of current income (value added) carried forward from the production account and has saving as its balancing item (B.8). Saving is the difference between income (disposable income) and expenditure (or final consumption).

The distribution of income compromises four sub-accounts:

- primary distribution of income account
- secondary distribution of income
- redistribution of income in kind
- use of income account

The allocation of primary income account (Account II.2.1)

Primary incomes are accrued to institutional units because of their involvement in production or their ownership of productive assets. They include the following:

- property income (from lending or renting assets)
- taxes on production and imports

The following are excluded:

- taxes on income or wealth
- social contributions or benefits
- other current transfers

The primary distribution of income shows the way these are distributed among institutional units and sectors. The primary distribution account is divided into two sub-accounts: the generation and the allocation of primary incomes.

The secondary distribution of income account (Account II.2)

This account describes how the balance of primary income for each institutional sector is allocated by redistribution; through transfers such as taxes on income, wealth and so on, social contributions and benefits, and other current transfers. It excludes social transfers in kind.

The balancing item of this account is gross disposable income (B.6g), which reflects current transactions and explicitly excludes capital transfers, real holding gains and losses, and the consequences of events such as natural disasters.

The redistribution of income in kind account (Account II.3)

This account shows how gross disposable income of households and non-profit institutions serving households (NPISH) and government are transformed by the receipt and payment of transfers in kind. The balancing item for this account is adjusted gross disposable income (B.7g).

The use of income account (Account II.4)

The use of income account shows how disposable income is divided between final consumption expenditure and saving. In addition, the use of income account includes, for households and for pensions, an adjustment item (D. 8: adjustment for the change in pension entitlements), which relates to the way that transactions between households and pension funds are recorded.

The accumulation accounts (Account III)

These accounts cover all changes in assets, liabilities and net worth. The accounts are structured into two groups.

The first group covers transactions that would correspond to all changes in assets, liabilities and net worth that result from transactions and are known as the capital account and the financial account. They are distinguished to show the balancing item net lending or borrowing.

The second group relates to all changes in assets, liabilities and net worth owing to other factors, for example, the discovery or re-evaluation of mineral reserves, or the reclassification of a body from one sector to another.

The capital account (Account III.1)

The capital account is presented in two parts.

The first part shows that saving (B.8g), the balance between national disposable income and final consumption expenditure from the production and distribution and use of income accounts, is reduced or increased by the balance of capital transfers (D.9) to provide an amount available for financing investment (in both non-financial and financial assets).

The second part shows total investment in non-financial assets. This is the sum of gross fixed capital formation (P. 51g), changes in inventories (P.52), acquisitions less disposals of valuables (P.53) and acquisitions less disposals of non-financial non-produced assets (NP). The balance on the capital account is known as net lending or borrowing. Conceptually, net lending or borrowing for all the domestic sectors represents net lending or borrowing to the rest of the world sector.

If actual investment is lower than the amount available for investment, the balance will be positive – representing net lending. Similarly, when the balance is negative, borrowing is represented. Where the capital accounts relate to the individual institutional sectors, the net lending or borrowing of a particular sector represents the amounts available for lending or borrowing to other sectors. The value of net lending or net borrowing is the same irrespective of whether the accounts are shown before or after deducting consumption of fixed capital (P.51c), provided a consistent approach is adopted throughout.

The financial account (Account III.2)

This account shows how net lending and borrowing are achieved by transactions in financial instruments. The net acquisitions of financial assets are shown separately from the net incurrence of liabilities. The balancing item is net lending or borrowing.

In principle, net lending or borrowing should be identical for both the capital account and the financial account. In practice, however, because of errors and omissions this identity is very difficult to achieve for the sectors and the economy as a whole. The difference is known as a statistical adjustment.

The other changes in assets account (Account III.3)

The other changes in assets account is concerned with the recording of changes in the values of assets and liabilities, and thus of the changes in net worth, between opening and closing balance sheets that result from flows that are not transactions, referred to as “other flows”.

This account is further subdivided into:

- other changes in the volume of assets account, III.3.1
- revaluation account, III.3.2

The other changes in the volume of assets account records the changes in assets, liabilities and net worth between opening and closing balance sheets that are neither because of transactions between institutional units, as recorded in the capital and financial accounts, nor holding gains and losses as recorded in the revaluation account. Examples include reclassifications and write-offs. The balancing item for this account is other changes in volume (B.102).

The revaluation account records holding gains or losses accruing during the accounting period to the owners of financial and non-financial assets and liabilities. The balancing item for this account is nominal holding gains and losses (B.103).

The balance sheet (Account IV)

The second group of accumulation accounts complete the sequence of accounts. These include the balance sheets and a reconciliation of the changes that have brought about the change in net worth between the beginning and end of the accounting period.

The opening and closing balance sheets show how total holdings of assets by the UK or its sectors match total liabilities and net worth (the balancing item). Various types of assets and liabilities can be shown in detailed presentations of the balance sheets. Changes between the opening and closing balance sheets for each group of assets and liabilities result from transactions and other flows recorded in the accumulation accounts, or reclassifications and revaluations.

Net worth equals changes in assets less changes in liabilities.

The rest of the world account (Account V)

This account covers the transactions between resident and non-resident institutional units and the related stocks of assets and liabilities. Written from the point of view of the rest of the world, its role is similar to an institutional sector.

10 . Satellite accounts

Satellite accounts cover areas or activities not included in the central framework because they either add additional detail to an already complex system or conflict with the conceptual framework. The UK Environmental Accounts are satellite accounts linking environmental and economic data to show the interactions between the economy and the environment.

See UK Environmental Accounts for further information.

11 . The limits of the national economy: economic territory, residence and centre of economic interest

Economic territory and residence of economic interest

The economy of the UK is made up of institutional units that have a centre of economic interest in the UK economic territory. These units are known as resident units and it is their transactions that are recorded in the UK National Accounts.

UK economic territory

The UK economic territory includes:

- Great Britain and Northern Ireland (the geographic territory administered by the UK Government within which persons, goods, services and capital move freely)
- any free zones, including bonded warehouses and factories under UK customs control
- the national airspace, UK territorial waters and the UK sector of the continental shelf

The UK economic territory excludes Crown dependencies (Channel Islands and the Isle of Man).

ESA 2010 economic territory

Within the European System of Accounts 2010: ESA 2010, the definition of economic territory also includes:

- territorial enclaves in the rest of the world (embassies, military bases, scientific stations, information or immigration offices and aid agencies used by the British Government with the formal political agreement of the governments in which these units are located)

But it excludes:

- any extra territorial enclaves (that is, parts of the UK geographic territory like embassies and US military bases used by general government agencies of other countries, by the institutions of the European Union or by international organisations under treaties or by agreement)

Centre of economic interest

When an institutional unit engages and intends to continue engaging (normally for one year or more) in economic activities on a significant scale from a location (dwelling or place of production) within the UK economic territory, it is defined as having a centre of economic interest and is a resident of the UK.

If a unit conducts transactions on the economic territory of several countries, it has a centre of economic interest in each of them.

Ownership of land and structures in the UK is enough to qualify the owner to have a centre of interest in the UK.

Residency

Resident units are:

- households
- legal and social entities such as corporations and quasi corporations, for example, branches of foreign investors
- non-profit institutions
- government
- so-called “notional residents”

Travellers, cross-border and seasonal workers, crews of ships and aircraft, and students studying overseas are all residents of their home countries and remain members of their households.

When an individual leaves the UK for one year or more (excluding students and patients receiving medical treatment), they cease being a member of a resident household and become a non-resident, even on home visits.

12 . Production included in economic activity

Gross domestic product (GDP) is defined as the sum of all economic activity taking place in UK territory. In practice a “production boundary” is defined, inside which are all the economic activities taken to contribute to economic performance. To decide whether to include a particular activity within the production boundary, the following factors are considered:

- Does the activity produce a useful output?
- Is the product or activity marketable and does it have a market value?
- If the product does not have a meaningful market value, can one be assigned (imputed)?
- Would exclusion (or inclusion) of the product of the activity make comparisons between countries over time more meaningful?

The following are recorded within the European System of Accounts 2010: ESA 2010 production boundary:

- production of individual and collective services by government
- own-account production of housing services by owner-occupiers
- production of goods for own final consumption, for example, agricultural products
- own-account construction, including that by households
- production of services by paid domestic staff
- breeding of fish in fish farms
- production forbidden by law; as long as all units involved in the transaction enter into it voluntarily
- production from which the revenues are not declared in full to the fiscal authorities, for example, clandestine production of textiles

The following fall outside the production boundary:

- domestic and personal services produced and consumed within the same household, for example, cleaning, the preparation of meals or the care of sick or elderly people
- volunteer services that do not lead to the production of goods, for example, caretaking and cleaning without payment
- natural breeding of fish in open seas

13 . Prices used to value the products of economic activity

In the UK, a number of different prices may be used to value inputs, outputs and purchases. The prices are different depending on the perception of the bodies engaged in the transaction, that is, the producer and user of a product will usually perceive the value of the product differently, with the result that the output prices received by producers can be distinguished from the prices paid by producers.

Basic prices

Basic prices are the preferred method of valuing output in the accounts.

They are the amount received by the producer for a unit of goods or services
minus any taxes payable
plus
any subsidy receivable as a consequence of production or sale.

The only taxes included in the price will be taxes on the output process, for example, business rates and Vehicle Excise Duty, which are not specifically levied on the production of a unit of output. Basic prices exclude any transport charges invoiced separately by the producer. When a valuation at basic prices is not feasible, producers’ prices may be used.

Producers’ prices

Producers’ prices are basic prices
plus
those taxes paid per unit of output (other than taxes deductible by the purchaser such as Value Added Tax (VAT), invoiced for output sold)
minus
any subsidies received per unit of output.

Purchasers’ or market prices

Purchasers’ or market prices are the prices paid by the purchaser and include transport costs, trade margins and taxes (unless the taxes are deductible by the purchaser).

Purchasers’ or market prices are producers’ prices
plus
any non-deductible VAT or similar tax payable by the purchaser
plus
transport costs paid separately by the purchaser (not included in the producers’ price).

They are also referred to as “market prices”.

The rest of the world: national and domestic

Domestic product (or income) includes production (or primary incomes generated and distributed) resulting from all activities taking place “at home” or in the UK domestic territory.

This will include production by any foreign-owned company in the UK, but exclude any income earned by UK residents from production taking place outside the domestic territory.

GDP
equals
the sum of primary incomes distributed by resident producer prices.

The definition of GNI (gross national income) is gross domestic product (GDP) plus income received from other countries (notably interest and dividends), less similar payments made to other countries.

GDP
plus
net property income equals
GNI.

This can be introduced by considering the primary incomes distributed by the resident producer units. Primary incomes, generated in the production activity of resident producer units, are distributed mostly to other residents’ institutional units.

For example, when a resident producer unit is owned by a foreign company, some of the primary incomes generated by the producer unit are likely to be paid abroad. Similarly, some primary incomes generated in the rest of the world may go to resident units. It is therefore necessary to exclude that part of resident producers’ primary income paid abroad, but include the primary incomes generated abroad but paid to resident units.

GDP (or income)
less
primary incomes payable to non-resident units
plus
primary incomes receivable from the rest of the world
equals
GNI.

GNI at market prices
equals
the sum of gross primary incomes receivable by resident institutional units or sectors.

National income includes income earned by residents of the national territory, remitted (or deemed to be remitted in the case of direct investment) to the national territory, no matter where the income is earned.

Real GDP (chained volume measures)
plus
trading gain
equals
real gross domestic income (RGDI).

Real gross domestic income (RGDI)
plus
real primary incomes receivable from abroad
less
real primary incomes payable abroad
equals
real gross national income (real GNI)

Real GNI (chained volume measures)
plus
real current transfers from abroad
less
real current transfers abroad
equals
real gross national disposable income (GNDI).

Receivables and transfers of primary incomes, and transfers to and from abroad, are deflated using the gross domestic final expenditure deflator.

14 . Gross domestic product: the concept of net and gross

The term gross means that, when measuring domestic production, capital consumption or depreciation has not been allowed for.

Capital goods are different from the materials and fuels used up in the production process because they are not used up in the period of account but are instrumental in allowing that process to take place. However, over time, capital goods wear out or become obsolete and in this sense gross domestic product (GDP) does not give a true picture of value added in the economy. When calculating value added as the difference between output and costs, we should also show that part of the capital goods are used up during the production process (the depreciation of capital assets).

Net concepts are net of this capital depreciation, for example:

GDP
minus
consumption of fixed capital
equals
net domestic product.

15 . Symbols used

In general, the following symbols are used:

.. not available

– nil or less than £500,000

£ billion denotes £1,000 million