

Glossary

A

ABI (Annual Business Enquiry) – which since 1997 has collected over 50,000 records per year from most industries with information on employment, turnover and stocks for all industries, as well as more specific variables for individual sectors.

AFDI (Annual Foreign Direct Investment) – conducted in two parts: an inward inquiry and an outward inquiry. The inward inquiry concerns the subsidiaries/ associates of foreign firms operating in the UK, while the outward inquiry covers the investment made by UK firms in their overseas operations.

Allsopp Review – refers to the ‘Review of Statistics for Economic Policymaking’ led by Christopher Allsopp in 2004, which examined the statistical requirements for regional economic policy. Its recommendations provided a strategic direction for the development of economic statistics.

ANA (Annual National Accounts) – a set of accounts produced by the Organisation for Economic Co-operation and Development (OECD) based on the replies to OECD’s annual national accounts questionnaire for OECD member countries.

ARD (Annual Respondents Database – known as ARD since 2000 and ARD2 since 2006) – a micro database that combines a number of ONS business surveys and reference numbers taken from the Inter-Departmental Business Register. ((IDBR), see below) Together they form a longitudinal database of firm information.

ASHE (Annual Survey of Hours and Earnings) – a business survey conducted by ONS that is sent to a representative sample of employers to measure earnings and hours worked by employees.

Atkinson Review – an investigation, led by Sir Tony Atkinson in 2005, into the measurement of output and productivity in the public sector. It produced a final report *Measurement of Government Output and Productivity for the National Accounts*.

B

Blue Book (National Accounts Blue Book) – comprises the annual UK National Accounts in published form. (See National Accounts, below).

BoE (Bank of England) – the central bank of the UK. Since 1997 it has been independent and has had the statutory power to set UK interest rates.

BSD (Business Structure Database) – a longitudinal version of the IDBR for research use, which takes full account of changes in ownership and restructuring of businesses.

C

Capital deepening – an increase in capital stock.

Capital input – in terms of input to productivity measures, this is the flow of productive capital services.

Capital services – the measure of capital input that is suitable for analysing and modelling productivity. Being a direct measure of the flow of productive

services from capital assets rather than a measure of the stock of those assets, capital services essentially measures the actual contribution of the capital stock of assets to the production process in a given year. For example, capital services from computers refer to the service they provide rather than the value of the computers themselves.

Capital stock – a measure of the value of the capital stock of assets. Known either as wealth capital stock or net capital stock, on a national scale it is the current market valuation of a country or industry’s productive capital.

Capital productivity – a measure of the amount produced per unit of capital input. It is a volume, or physical, partial productivity measure that is produced by comparing output with capital input. While ONS does not publish figures on capital productivity, it can be seen as an input to multi-factor productivity.

CEPS (Communal Establishments Pilot Survey) – a one-off survey, similar to the Labour Force Survey (LFS) and specifically for people living in communal establishments, that was done in conjunction with the LFS for the autumn quarter of 2000.

Chain Index – an index constructed by linking two or more index series of different base periods or different weights.

Chained value measures (CVM) – index numbers from a chain index of quantity. The index number for the reference period of the index may be set equal to 100 or to the estimated monetary value of the item in the reference period.

CoE (Compensation of Employees)

– refers to wages, salary and other monies or benefits paid to employees.

Complementarity – a principle described in *The Atkinson Review* which proposes that there are links between the private and public sector that need to be accounted for in the measurement of the public sector output. *The Atkinson Review* identifies that for different public services the channel of influence of the complementarity principle may differ.

CPI (Consumer Prices Index) – the headline measure of UK inflation for macroeconomic purposes and the rate on which the government's inflation target is based. It is an internationally comparable measure of inflation – CPI inflation measures (as opposed to RPI measures) are analysed by the European Central Bank when setting interest rates in the Euro zone.

CSPI (Corporate Services Price Index)

– the former name of the Services Producer Price Index (SPPI).

Current Value – the actual or estimated value of a monetary amount for the period and location of interest.

D

DASA (Defence Analytical Services Agency) – a UK government department which provides professional analytical, economic and statistical services and advice to the Ministry of Defence (MoD), and defence-related statistics to Parliament, other Government Departments and the public.

Defra (Department of Environment, Food and Rural Affairs) – a UK government department which brings together the interests of farmers and the countryside, the environment and the rural economy, food, air and water to champion sustainable development.

Depreciation – loss in value of an asset because of ageing.

DfES (The Department for Education and Skills) – a UK government department responsible for education and training

for people from school age through retirement.

Direct inputs – also called primary inputs (or primary factor inputs), are resources that go into producing something but are treated as outside (or sometimes described as exogenous to) the production process. This includes labour and capital.

Disembodied technical change

– advances in technology not embodied in capital. Examples of such a change are increased knowledge through research and development (R&D) or improvements in organisational structure or management.

Domar aggregation – a good measure of underlying productivity growth at the aggregate level because it traces aggregate MFP growth rates to their industries of origin. It also allows changes in aggregate MFP to be assigned either to changes in the underlying industry rates or to structural change (changes in the Domar weights).

Domar weights – weights to combine industry-level, gross-output based MFP (KLEMS) to higher-level aggregates. Domar weights are special in that they do not normally add up to one. This reflects the combined effects of integration and aggregation.

Deflation – the technique used to change figures from nominal terms (current prices) into real terms (constant prices or volume terms), expressing the production (or consumption) of goods and services in the prices of a common year.

Double deflation – a method for deriving GVA for each industry by deducting the volume of inputs from the volume of outputs. This means that an industry's output is deflated by the price of its output, while each input is deflated by its own price index.

DTI (Department of Trade and Industry) – a UK government department responsible for trade, business, employees, consumers, science and energy. This includes creating conditions and policy for business success both within the UK and internationally.

DWP (Department for Work and Pensions)

– a UK government department responsible for helping people find and continue in employment. It also provides benefits and other support for those out of work, children and disabled people as well as helping retired people access their pensions and other entitlements.

E

Embodied technical change – advances in the quality of capital or other inputs that is captured when calculating the contribution of the inputs. An example of this is the rapid improvement in the quality of Information and Communication Technology (ICT) over the last 20 years.

Employee jobs – the total number of jobs in an economy or industry. They are measured using surveys of employers that are then summed and weighted across all firms. Because of the possibility that employees can work more than one job, they may be picked up more than once in these surveys. This is why it is a measure of jobs rather than employees.

Energy productivity – output per unit of energy used. Although a measure rarely used in macroeconomics, it is used at firm level and can be seen as an intermediate input to multi-factor productivity.

European System of Accounts 1995 (ESA95) – the integrated system of national and regional accounts used by members of the European Union. It was most recently updated in 1995 and is broadly consistent with the United Nations System of National Accounts (SNA93) in definitions, accounting rules and classifications. However, it incorporates certain differences, particularly in its presentation, that are more in line with use within the European Union. The United Kingdom National Accounts have been based on ESA95 since September 1998, while the previous 1979 ESA is still used for compiling gross national product.

EPI (Exported Price Indices) – a series of economic indicators that measure change

in the prices of goods manufactured in the UK but destined for export markets.

Eurostat – the statistical office of the European Community. As an institution of the Commission of the European Union, member states are required under various EU laws to provide it with statistics.

F

FISIM (Financial Intermediation Services Indirectly Measured) – the output of many financial intermediation services is paid for not by charges but by an interest rate differential. FISIM imputes charges for these services and corresponding offsets in property income. FISIM, an innovation of the 1993 System of National Accounts, is soon to be incorporated into the UK National Accounts.

Five Driver Framework – a government productivity model that identifies five drivers that interact to underlie long-term productivity performance: investment, innovation, skills, enterprise and competition.

G

GDHI (Gross Disposable Household Income) – the total income available to a household. GDHI can also be measured per capita.

GDP (gross domestic product) per capita – the total output of an economy relative to its population. It is sometimes considered an indicator of prosperity.

GDP(P) (Production gross domestic product) – a measure of GDP as the sum of all the value added by all producers in the economy.

GDP(I) (Income gross domestic product) – a measure of GDP as the total of the income generated through this productive activity.

GDP(E) (Expenditure gross domestic product) – a measure of GDP as the expenditure on goods and services produced.

Growth Accounting – a specific, useful way of observing the changing structure of the economy, and assessing the contribution of each sector or industry to the whole. It also provides a very useful framework for the collection of economic statistics. This approach might be called ‘joined up statistics’ because it links various economic growth and labour measures together to provide a more detailed picture of the economy.

GVA (gross value added) – the difference between total output and intermediate consumption for any given sector or industry. That is the difference between the value of goods and services produced and the cost of raw materials and other inputs which are used up in production.

H

Hedonic regression – A quality adjustment based on a multiple regression of prices against product characteristics.

HMRC (Her Majesty’s Revenue & Customs) – a UK government department formed in 2005 following the merger of the Inland Revenue and HM Customs and Excise Departments. It works in three areas: collecting direct and indirect taxes, distributing benefits to those entitled to them and protecting borders and frontiers.

HMT (HM Treasury) – the UK’s economics and finance ministry. It is responsible for formulating and implementing the Government’s financial and economic policy. Its aim is to raise the rate of sustainable growth, and achieve rising prosperity and a better quality of life with economic and employment opportunities for all.

I

ICP (International Comparisons of Productivity) – an ONS measure that compares the productivity performance of the UK relative to the G7 group of countries, both individually and as an aggregate. Versions of the ICP are also produced by the OECD, the US Bureau of Labour Statistics and others.

ILO (International Labour Organization) – a UN specialised agency that promotes internationally recognised human and labour rights. The ILO formulates international labour standards in the form of Conventions and Recommendations across the spectrum of work related issues. It also provides technical assistance and promotes and supports and the development and strengthening of independent employers’ and workers’ organisations. Workers, employers and governments all participate in ILO governance through a unique tripartite system.

Impute – to ascribe, charge or attribute value to a transaction in which, although no money has changed hands, there has been a flow of goods or services. It is confined to a very small number of cases where a reasonably satisfactory basis for the assumed valuation is available. In a more general sense, it is a procedure for entering a value for a specific variable where the response is missing or unusable.

Index Number – a measure of the average level of prices, quantities or other quantifiable characteristics relative to their level for a defined *reference period* or location. It is usually expressed as relative to 100 (for example, 105 would be an increase of 5 per cent) where 100 is the value for the reference period or location.

Input-Output Supply and Use Tables framework – now used to establish the level of GDP at current prices. The framework is built on a robust process of balancing demand and supply for 123 separate products and inputs and outputs for 123 industries, to deliver a single measure of GDP derived simultaneously from the production, income and expenditure approaches to GDP.

Intangible asset – an asset that does not have a physical, material existence. Examples of intangible assets are software, brand equity, firm-specific human capital, organisational capital, organisational structure and non-scientific research and development.

Inter-Departmental Business Register (IDBR) – a register of legal units, which is the most comprehensive list of UK businesses available. There are approximately 2.1 million businesses on this register and it covers almost 99 per cent of economic activity within the UK. It holds a wide range of information on business units, including the industry classification of each of these firms.

Intermediate consumption in GVA – the cost of raw materials and other inputs that are consumed in the production process.

Intermediate inputs – resources that are used up by the production process such as materials, energy and business services.

IPI (Import Price Indices) – a series of economic indicators that measure change in the prices of goods and raw materials imported into the UK.

IoS (Index of Services) – a constant price (Laspeyres) index providing a monthly indicator of gross value added in the service sector of the economy.

K

KLEMS – an approach to calculating multi-factor productivity (MFP), where the growth of real total output is accounted for by the growth of capital (K), labour (L), energy (E), materials (M) and business services (S).

L

Labour input – in terms of input to productivity measures, this is the flow of productive labour.

Labour Market Statistics (LMS) – a measure of many different aspects of the labour market that provide an insight into the economy. They are also very much about people, including:

- their participation in the labour force
- the types of work they do
- earnings and benefits they receive
- their educational qualifications and
- their working patterns

Labour productivity – output per unit of labour input. It effectively shows changes in productivity over time for the same value or amount of labour input. It does not distinguish between productivity changes owing to new equipment, new technology advances, organisational changes (for example, a new management structure) or increased efficiency.

Laspeyres Index – a fixed-base index in which index numbers are weighted arithmetic means of price (or other) relatives, using value (or equivalent) weights.

LFS (Labour Force Survey) – an ONS survey of households in Great Britain and Northern Ireland that provides information about people's employment status and conditions. It asks individuals about their current and previous jobs including which industries they work in, which jobs they hold within the industry and how many hours they work. It also enquires about related topics such as training, qualifications, income and disability.

Longitudinal study or database

– associates all the data about one person or firm from as many different surveys as possible.

LU (Local Unit) – a local unit represents one site within a larger firm that has its headquarters somewhere else. The site might be a factory or shop, for example.

M

Market sector – a portion of the overall economy formed by the following institutional sectors: private non-financial corporations, private financial corporations, households and public corporations (financial and non-financial). The remaining institutional sectors form the non-market sector, including central government, local government and NPISHs. Market sector activity is undertaken at prices that are economically significant and its output is disposed of or intended for sale through the market.

Materials productivity – the relationship between output of saleable products and the volumes of raw materials and energy required to produce them.

MFP (Multi-factor productivity) – the residual contribution to output growth of an industry or economy after calculating the contribution from all of its factor inputs. It is also sometimes called Total Factor Productivity (TFP) but is referred to a multi-factor productivity in this guide. MFP can also be viewed as the unexplained difference between the growth in cost of inputs and the growth in cost of output.

MFP (Multi-factor productivity) – sometimes called total-factor productivity (TFP) or growth accounting, apportions growth in output to growth in the factor inputs, capital and labour, and growth in a residual that represents disembodied technical change. Examples of such change are increased knowledge through research and development (R&D) or improvements in organisational structure or management.

Microdata – the variables such as names, addresses, statuses, quantities and periods referring to a statistical unit and entered on a statistical record.

Mixed income – income that accrues to both capital and labour.

N

National Accounts (NA) – a set of current values, volume measures and volume indices which, together, summarise all the economic activity of a nation. In the UK the National Accounts is a central framework for the presentation and measurement of the stocks and flows within the economy.

NDP (Net Domestic Product) – the gross domestic product (GDP) minus depreciation on a country's capital goods. This is an estimate of how much the country has to spend to maintain the current GDP. If the country is not able to replace the capital stock lost through depreciation, then GDP will fall. In

addition, a growing gap between GDP and NDP indicates increasing obsolescence of capital goods, while a narrowing gap would mean that the condition of capital stock in the country is improving.

NPISH (Non-Profit Institutions Serving Households) – charities that provide services to older people or children are an example of this.

NSI (National Statistical Institute) – the statistical office, agency or bureau that represents its country. ONS is the NSI for the UK.

NUTS (Nomenclature of Units for Territorial Statistics) – a code used to identify areas within and for the European Union. NUTS levels are coded with two alphanumeric digits per level, from level 1 to level 5. The full level 5 code consists of ten digits that can be truncated to give the code of every NUTS level within it. NUTS level 1 has 12 areas – Scotland, Wales, Northern Ireland and the nine Government Office Regions in England. NUTS level 2 covers 37 areas within the UK, generally groups of unitary authorities and counties. NUTS level 3 has 133 areas, generally individual counties and groups of unitary authorities or districts, also known as local areas.

O

OECD (Organisation for Economic Co-operation and Development) – made up of 30 member countries sharing a commitment to democratic government and the market economy. With active relationships with some 70 other countries and economies, non-governmental organisations and civil society, it has a global reach. Best known for its publications and statistics, its work covers economic and social issues from macroeconomics to trade, education, development and science and innovation. The OECD plays a prominent role in fostering good governance in public services and corporate activity.

P

Paasche index – an index whose index numbers are weighted harmonic means of price (or other) relatives, using current value (or equivalent) weights such as the current unit cost or price. *The Eurostat Handbook* recommends using the Paasche index for price measures.

PIM (Perpetual Inventory Method) – a method used to convert time-series data for the volume of purchases of assets (constant price investment) into a net capital stock measure.

Pink Book – the annual UK Financial Accounts published in one volume.

PPI (Producer Price Index) – there are four individual Producer Price Index enquiries dealing with UK made or sold manufactured goods, UK exports of manufactured goods, imports of commodities and manufactured goods and UK sold corporate services.

PPI (Producer Price Indicators) – a series of economic indicators that measure the price movements of goods bought and sold by manufacturers using a wide collection of representative products. The sets are fixed and the figures collected monthly.

Primary inputs (or primary factor inputs) – resources that go into producing something but are treated as outside (or sometimes described as exogenous to) the production process. This includes labour and capital. They are also referred to as direct inputs.

Productivity – the ratio between what is obtained (output) and what was put in to obtain it (input).

Productivity jobs – a measure of jobs created by apportioning employee jobs as defined in the ONS Labour Force Survey (LFS) to industries using employer sources. The number of people who are defined as self-employed in the LFS (using the LFS industry categorisation) is then added.

Productivity hours – a data series created by multiplying the productivity jobs series at industry level by the actual hours worked for the industry recorded in the LFS. The resulting data series consists of the number of hours worked at the industry level.

PPP (Purchasing power parities) – a type of exchange rate that equalises the purchasing power of currencies for a representative basket of goods. It takes the form of a ratio of prices created by taking the prices of goods that make up GDP in one country and expressing them relative to another country's currency (usually the US dollar). The weights used to aggregate PPPs up to a whole economy basis are the shares of products that make up final expenditure GDP.

Q

QALI (Quality-adjusted labour input) – measures not only headcount or hours as labour's input into production but also an approximate quantification of their marginal productivity, using the characteristics of workers to adjust hours worked.

R

RU (Reporting Unit) – a measure on which National Accounts data are based, the reporting unit level corresponds with either the entire enterprise or the major activity within a business. This can be thought of as the head office of the organisation. Each reporting unit consists of one or more local units, each of which has its own industry associated with it. The local unit corresponds to a site such as a factory or shop.

RPI (Retail Prices Index) – an important domestic indicator of inflation in the UK. It measures the average change from month to month in the prices of goods and services purchased in the UK.

S

SIC or UK SIC (Standard Industrial Classification) – the basis that is used in the National Accounts to produce any industry level estimates of data, including the estimates of GVA that are used for productivity. The UK SIC classifies business establishments and other statistical units by the type of economic activity in which the establishment is engaged.

Solow Residual – what remains after the growth accounting framework breaks down the sources of economic growth from increases in capital and labour. This remainder is usually attributed to technology and, in theory, if all the factors contributing towards productivity were identified and measured correctly in the decomposition then this residual would be zero. It was named after the person who identified it, Robert Solow, in 1957.

SPPI (Services Producer Price Index) – this was formerly called the Corporate Services Price Index (CSPI).

Superlative Index – an index that uses more information in its construction than a base index and is more flexible, for example the Tornqvist Index is a superlative index. The OECD definition is as follows: ‘Superlative indices are price or quantity indices that are ‘exact’ for a flexible aggregator. A flexible aggregator is a second-order approximation to an arbitrary production, cost, utility or distance function. Exactness implies that a particular index number can be directly derived from a specific flexible aggregator.’

SNA93 (The System of National Accounts 1993) – is an internationally agreed method for creating national accounts. It was published under the auspices of the European Community (EC), International Monetary Fund (IMF), Organisation for Economic Co-operation and Development (OECD), United Nations (UN) and World Bank.

T

TFP (Total Factor Productivity) – see MFP.

Total output (sometimes called output) – the value of the goods and services together with the work-in-progress. It is equal to the value of the sales plus any increase (and less any decrease) in the value of the inventory of finished products and work in progress.

Tornqvist Index – a form of index where the weight is constructed using an average of the relevant variable in the current and base period. The Tornqvist is widely used in the construction of Quality Adjusted Labour Measures and is recommended in the OECD methodology (2001), making it the preferred measure.

U

UKCeMGA (United Kingdom Centre for the Measurement of Government Activity) – This is a division of ONS that co-ordinates and drives forward development programmes to produce better measures of government output and productivity.

V

VICS (Volume Index of Capital Services) – a measure that captures the flow of services that stem from physical capital stock and are used in the production process.

VML (Virtual microdata laboratory) – a facility within ONS that provides secure access to confidential microdata for statistical research. A technically secure solution, it allows common access to ONS business data across all ONS sites allied to a range of procedural restrictions and access agreements to ensure that the trust placed in the researchers using the data is justified. The VML now houses numerous data sets that are available for productivity research in many areas.

Volume measure – a quantity describing the number of units produced. A more technical definition is: an index number from an index of quantity. The index number for the reference period may be set equal to 100 or to the estimated monetary value of the item in the reference period.

W

Weight or weighting – a number used to indicate the relative importance of each item in a group. The term is used in many contexts, including sample/population weighting, index weighting, non-response weighting.

Workforce jobs – a data series that measures the total number of jobs at both economy and industry level. It is the sum of employee jobs, self-employment, HM Forces and Government Supported Trainee Schemes. Although workforce jobs is not used to produce estimates of GVA per jobs, it is still used as a leading measure of the total number of jobs.