

Office for National Statistics

ONS Manufacturing Sources

What can existing ONS sources tell us about manufacturing?

Contents

Summary - What can existing ONS sources tell us about manufacturing?	3
Detailed Sources	5
Annual Business Survey (ABS).....	5
Supply and Use Tables	6
Input-Output Analysis Tables	7
Index of Production	8
Inter-Departmental Business Register (IDBR).....	9
Business Demography	9
UK Business: Activity, Size and Location.....	10
UK Manufacturers' Sales by Product (PRODCOM).....	11
International Trade in Services	12
UK Trade in Goods	13
UK Trade in Services.....	14
Business Register and Employment Survey (BRES)	15
Annual Survey of Hours and Earnings (ASHE)	16
Labour Productivity	18
Further Sources.....	20
Business Enterprise Research & Development (BERD).....	20
Foreign Direct Investment (FDI).....	21
E-commerce Survey	22
Outward Foreign Affiliates Statistics Survey	23
Labour Disputes Survey	24
Monthly/Quarterly Vacancy Survey	25
Quarterly Acquisitions and Disposals of Capital Assets.....	26
Monthly Survey for Index Numbers of Producer Prices	27
Monthly Survey for Index Numbers of Export Prices.....	28
Monthly Wages and Salaries Survey	29
UK Innovation Survey.....	30

Summary - What can existing ONS sources tell us about manufacturing?

There are several existing sources at ONS which allow a thorough investigation of UK manufacturing. Using ONS sources, it is possible to construct an accurate picture of UK manufacturing both now and in the past, and how it is adapting to changing global markets and technological developments. In addition, international sources allow comparison between the UK and other countries, showing how UK manufacturing compares on a global scale.

The data available can help answer questions such as:

- What is the structure of the manufacturing industry?
- How much value added/ turnover has been generated by the manufacturing industry?
- Has there been a shift in activity from one industrial sector to another, and which divisions / groups / classes / subclasses are contributing to the change?
- Are any industries particularly dominant in specific regions or counties of the UK?
- How does value added vary by business size for different industries?
- How much turnover is converted in to value added?
- What are the short/long term changes in the manufacturing sector/sub-industries?
- Which manufacturing sub-industry contributes most to overall manufacturing GVA?
- What proportion of overall production industry GVA is contributed by manufacturing?
- How many manufacturing enterprises were born last year? How has this changed over time?
- Which manufacturing sub-industry experienced the most deaths/births/survivals?
- How many active manufacturing enterprises are there, and how has this changed over time?
- How many local manufacturing sites are there in the UK?
- How does the number of manufacturing enterprises/local units change depending on region/turnover/employment/manufacturing sub-industry?
- Which products are contributing to manufacturing industry growth?
- What is industry turnover composed of?
- How does the UK manufacturing sector compare with other EU countries?
- What are the top selling by UK manufacturers' products?
- Which region/5-digit SIC has the highest manufacturing employment?
- How do earnings in manufacturing compare in different regions?
- What is the average hourly wage/average yearly wage/average weekly wage in the manufacturing industry/industries?
- Which manufacturing product group saw the most R&D?
- How has expenditure on manufacturing R&D changed overtime?
- How many working days were lost in the manufacturing industry? How does this compare with other industry groups?
- In which country/continent was the most manufacturing turnover generated by UK controlled companies?
- What proportion of manufacturing businesses use social media?
- How does manufacturers' use of e-commerce compare with other industries/countries?

This document provides an overview of the main data sources that exist that provide information on all or part of the manufacturing industry.

Detailed Sources

Annual Business Survey (ABS)

Source	Annual Business Survey
Coverage	<ul style="list-style-type: none"> • UK
Exclusions	<ul style="list-style-type: none"> • Farming; most of the financial sector; publicly provided healthcare and education; public administration and defence
Variables	<ul style="list-style-type: none"> • Turnover • Purchases • Approximate Gross Value Added (aGVA) • Employment costs (inc. breakdowns) • Capital expenditure (acquisitions, disposals, net) • Stocks and work-in-progress (start, end, change) • Number of reporting units • % of importers/ exports (GB only)
Breakdowns available	<ul style="list-style-type: none"> • National manufacturing down to 5-digit Standard Industrial Classification (SIC) level • Employment sizebands (national and only down as far as total manufacturing) • Regions down to NUTS3 level (only down as far as 2-digit SIC level)
Frequency	<ul style="list-style-type: none"> • Annual
Data periods available	<ul style="list-style-type: none"> • 2008-2013 on a consistent basis SIC07 basis; 1998-2008 on SIC03 basis
Timeliness	<ul style="list-style-type: none"> • First published t+11 (e.g. 2012 first published in Nov 2013)
Type of questions it can help answer	<ul style="list-style-type: none"> • What is the structure of the manufacturing industry? • How much value added/ turnover has been generated by the manufacturing industry? • Has there been a shift in activity from one industrial sector to another, and which divisions / groups / classes / subclasses are contributing most to the change? • Are any industries particularly dominant in specific regions or countries of the UK? • How does value added vary by business size for different industries? • How much turnover is converted in to value added?
Strengths	<ul style="list-style-type: none"> • Hundreds of variables • Down to 5-digit SIC (UK's implementation of ISIC) • Measure of GVA that can be assessed in relation to turnover & purchases etc
Limitations	<ul style="list-style-type: none"> • Excludes businesses not registered for VAT or PAYE • Designed for cross-sectional rather than time series analysis (e.g. values only available in current prices) • Survey data (such as turnover and purchases), which is used to produce national estimates, is collected for the business as a whole. Whilst a business could undertake several activities, the industry classification given to the business is based on their main activity. This may result in some industries being over allocated and others under allocated • Regional data takes into account the different activities undertaken by the business as the data collected at a national level is allocated to each of the individual sites, which each have their own main activity identified. Data at this site level are apportioned (based on factors such

	<p>as employment) from the overall data supplied for the business However, this still does not take account of businesses where more than one activity takes place at the same site</p> <ul style="list-style-type: none"> • Employment level is from different source
Internationally comparable	<ul style="list-style-type: none"> • Yes
Possible improvements	<ul style="list-style-type: none"> • Link HMRC trade in goods data to understand total amount of purchases imported and total amount of turnover in relation to exports.

Supply and Use Tables

Source	Supply and Use tables
Coverage	<ul style="list-style-type: none"> • UK; 112 Industries, 112 products
Exclusions	
Variables	<ul style="list-style-type: none"> • Input • Output • Supply (domestic and imported) • Use (intermediate, final domestic, exports) • GVA production • Expenditure (households, government, NPISH) • Income
Breakdowns available	<ul style="list-style-type: none"> • ESA95/ESA10 (from 2014 onwards) • Integrated annual production account, by sector and industry • Annual generation of income account, by sector and industry
Frequency	<ul style="list-style-type: none"> • Annually
Data periods available	<ul style="list-style-type: none"> • 1989-1997 ESA79, 1998 onwards ESA95 • 1992-1994 SIC80, 1995-2004 SIC92 • 2005-2007 SIC03, 2008- SIC07
Timeliness	<ul style="list-style-type: none"> • First published t+18 months
Type of questions it can help answer	<ul style="list-style-type: none"> • What is the current state of the UK Economy? • What are the levels of intermediate and final demand in the UK? • How do the levels of GVA and Output compare with one another? • How much GDP is created from domestic or foreign trade in the UK? • How do the three different measures of GDP relate to one another and how are they reconciled? • What is the impact of the different sectors to the overall UK economy?
Strengths	<ul style="list-style-type: none"> • Various new analysis being developed, trade performance, concentration ratios, function based analysis • Large number of data sources allows better balancing of data • Only detailed analysis of UK goods and services account, and UK production account
Limitations	<ul style="list-style-type: none"> • Limited information on use of imports – more given in Input-Output Analytical tables (five yearly publication to date but will be annual from 2015 onwards)
Internationally comparable	<ul style="list-style-type: none"> • Yes – UK tables, along with those from other EU Member States, are converted to A64 level (64 by 64) and are on an ESA95/ESA2010 basis
Possible improvements	<ul style="list-style-type: none"> • Reintroduction of a Purchases survey to better inform estimates of intermediate consumption by product (currently in development)

	<ul style="list-style-type: none"> • Implementation of ESA10 (from 2014 onwards) • PYP/CVM Supply and Use balanced estimates of annual GVA/GDP from 2017 onwards
--	--

Input-Output Analysis Tables

Source	Input Output analytical tables
Coverage	<ul style="list-style-type: none"> • UK; 138 Industry/product
Exclusions	
Variables	<ul style="list-style-type: none"> • Input • Output • GVA • Expenditure • Income
Breakdowns available	<ul style="list-style-type: none"> • ESA95 categories • Industry by product • Domestic use table and import use table at basic prices • Product by product tables for the domestic use table and imports use table at basic prices • Industry by industry tables for the domestic use table and imports use table at basic prices • Leontief Inverse • Multiplier analyses • Primary input content of final demand and links to GDP • Industrial analyses in terms of primary inputs
Frequency	<ul style="list-style-type: none"> • 5 years
Data periods available	<ul style="list-style-type: none"> • 1954, 1963, 1968, 1970, 1971, 1972, 1974, 1979, 1984, 1990, 1995, 2005, 2010
Timeliness	<ul style="list-style-type: none"> • First published t+7 years (e.g. 1995 tables were submitted in 2002)
Type of questions it can help answer	<ul style="list-style-type: none"> • What is the structure of economy? • What is the consumption of UK-produced goods and services and imported goods and services? • What is the composition and the effect of changes in final demand on the economy? • What are the direct and indirect changes to economy? • What is the demand for certain products and how has this changed over time?
Strengths	<ul style="list-style-type: none"> • Can model a range of economic change
Limitations	<ul style="list-style-type: none"> • Infrequent
Internationally comparable	<ul style="list-style-type: none"> • Yes
Possible improvements	<ul style="list-style-type: none"> • Planned annual publication as part of re-engineering project. The aim is to publish data for reference period 2011 by the end of 2015.

Index of Production

Source	Index of Production
Coverage	<ul style="list-style-type: none"> • UK
Exclusions	<ul style="list-style-type: none"> • Agriculture, forestry, fishing, electricity and gas suppliers
Variables	<ul style="list-style-type: none"> • Chain volume indices of gross value added • Percentage change in GVA: <ul style="list-style-type: none"> - latest year on previous year - latest month on same month a year ago - latest month on previous month - latest 3 months on same 3 months a year ago
Breakdowns available	<ul style="list-style-type: none"> • Broad Manufacturing industry group (C) • National manufacturing down to 3-digit SIC level
Frequency	<ul style="list-style-type: none"> • Monthly
Data periods available	<ul style="list-style-type: none"> • Quarterly and yearly data between 1948-2014, and monthly data between 1968-2014, on broad industry group basis • 1997-2014 on a consistent SIC07 basis
Timeliness	<ul style="list-style-type: none"> • First published approximately t + 26 working days
Type of questions it can help answer	<ul style="list-style-type: none"> • What are the short term changes in the manufacturing industry/sub-industries? • What are the longer term trends in the manufacturing industry/sub-industries? • Which manufacturing sub-industry contributes most to overall manufacturing GVA? • What proportion of overall production industry GVA is contributed by manufacturing?
Strengths	<ul style="list-style-type: none"> • One of the earliest short term measures of economic activity • Provided in chained volume terms • Seasonally adjusted • Has the same industry coverage as the corresponding quarterly series within UK gross domestic product • Sample size and coverage is one of the largest if it is not the largest within this industry.
Limitations	<ul style="list-style-type: none"> • Early estimates are based on incomplete data • Expectations of accuracy and reliability in early estimates are often too high • Due to its construction from a variety of data sources, it has not yet been possible to measure the sampling error
Internationally comparable	<ul style="list-style-type: none"> • Yes – comparable for all 28 EU Member States
Possible improvements	<ul style="list-style-type: none"> • IoP manufacturing data could benefit from some admin data to benchmark current data against, and to improve exports proportions. • Current methodologies could be improved, and work is currently underway. For example improving the imputation methods, the register updates, improve respondents feedback and briefing on their T/O responses • It may be possible to improve the outside body data, currently received from DECC, such as oil, gas and electricity and ISSB, such as steel data. Possibly by linking data from National grids for example, with regards to electricity. This will be addressed as part of ONS's industry review programme

Inter-Departmental Business Register (IDBR)

Business Demography

Source	Business Demography
Coverage	<ul style="list-style-type: none"> UK businesses active at any point during the year
Exclusions	<ul style="list-style-type: none"> Agriculture, public administration, composite management service companies; businesses not VAT or PAYE registered (those with low turnover and without employees)
Variables	<ul style="list-style-type: none"> Enterprise birth rate Enterprise death rate Enterprise survival rate Number of active enterprises
Breakdowns available	<ul style="list-style-type: none"> National manufacturing down to 4-digit SIC level
Frequency	<ul style="list-style-type: none"> Annual
Data periods available	<ul style="list-style-type: none"> All variables available 2008-2013 on an SIC07 basis Births, deaths and number of active enterprises available 2004-2007 on an SIC03 basis
Timeliness	<ul style="list-style-type: none"> First published t+11 (eg. 2013 published in Nov 2014)
Type of questions it can help answer	<ul style="list-style-type: none"> How many manufacturing enterprises were born in 2013? Which manufacturing sub-industry experienced the most deaths/births/survivals? Which manufacturing sub-industry has grown/decreased the most over the past 5 years? How many active manufacturing enterprises are there, and how has this changed over time?
Strengths	<ul style="list-style-type: none"> Allows detailed investigation of the change in the business population, rather than just the size
Limitations	<ul style="list-style-type: none"> Excludes the smallest, non-employing businesses that are not VAT- or PAYE-registered
Internationally comparable	<ul style="list-style-type: none"> Yes
Possible improvements	<ul style="list-style-type: none"> As Demography is taken straight from the IDBR any improvements would be fundamental ones to the register (such as changes in definitions of legal units or coverage) as opposed to any kind of change in what is compiled for the publication

UK Business: Activity, Size and Location

Source	UK Business: Activity, Size and Location
Coverage	<ul style="list-style-type: none"> UK businesses active at the end of the financial year (30 March)
Exclusions	<ul style="list-style-type: none"> Composite management service companies where address does not match the location of activities; businesses not active on 30 March; businesses not VAT or PAYE registered (those with low turnover and without employees)
Variables	<ul style="list-style-type: none"> Enterprise population at end financial year Local unit population at end financial year
Breakdowns available	<ul style="list-style-type: none"> Enterprise/local units by broad manufacturing industry group, employment size band and legal status Enterprise/local units by broad manufacturing industry group and parliamentary constituency Enterprise/local units by 2-digit SIC, employment size band and region Enterprise by 2-digit SIC, turnover size band and region Enterprise by 4-digit SIC and employment size band Enterprise by broad manufacturing industry group, turnover size band and legal status
Frequency	<ul style="list-style-type: none"> Annual
Data periods available	<ul style="list-style-type: none"> 2009-2014 on SIC07 basis 2003-2008 on SIC03 basis 1998-2002 on SIC92 basis 1971-1997 (not available online)
Timeliness	<ul style="list-style-type: none"> First published t+6
Type of questions it can help answer	<ul style="list-style-type: none"> How many local manufacturing sites are there in the UK? How does the number of manufacturing enterprises/local units change depending on region/turnover/employment/manufacturing sub-industry? How has the structure of the manufacturing industry changed over time?
Strengths	<ul style="list-style-type: none"> Comprehensive, around 97% of UK economic activity Timely
Limitations	<ul style="list-style-type: none"> Provides information on the size of the registered business population and so will not include the smallest, non-employing businesses Only collects information on businesses which are active on a single date in the year, and so has narrower coverage than Business Demography Several breaks in the series due to methodology and SIC changes eg. 2005-2007 differ to 2004 in terms of geography used, and 2008 data first to include businesses based on PAYE employers that are not also registered for VAT It is possible to get multiple business registrations at a single address and this can distort data for smaller geographical areas Some data on IDBR can be up to 4 years old
Internationally comparable	<ul style="list-style-type: none"> No
Possible improvements	<ul style="list-style-type: none"> As UK Business is taken straight from the IDBR any improvements would be fundamental ones to the register (such as changes in definitions of legal units or coverage) as opposed to any kind of change

	in what we do to compile the publication.
--	---

UK Manufacturers' Sales by Product (PRODCOM)

Source	UK Manufacturers' Sales by Product (PRODCOM)
Coverage	<ul style="list-style-type: none"> • UK
Exclusions	<ul style="list-style-type: none"> • Manufacturers classified outside divisions 8-33
Variables	<ul style="list-style-type: none"> • Product sales, volume and unit value • Turnover • Merchant goods • Non-production income • Waste products • Work done • Net carry in/carry out
Breakdowns available	<ul style="list-style-type: none"> • National manufacturing down to 4-digit SIC level • Manufacturing products down to 8-digit level
Frequency	<ul style="list-style-type: none"> • Annual
Data periods available	<ul style="list-style-type: none"> • 2008-2013 on a consistent SIC07 basis; 1993-2008 on SIC03 basis
Timeliness	<ul style="list-style-type: none"> • First published t+6 (e.g. 2013 first published in June 2014)
Type of questions it can help answer	<ul style="list-style-type: none"> • Which product is driving/restricting industry growth? • What is industry turnover composed of? • How does the UK manufacturing sector compare with other EU countries? • What are the top selling UK manufacturers' product sales? • Which manufacturing division contributed most to product sale growth?
Strengths	<ul style="list-style-type: none"> • Comprehensive – many variables • Down to 8-digit product code level • Understanding what industry turnover is composed of • Can show which product is driving industry growth
Limitations	<ul style="list-style-type: none"> • Volume difficult to collect and is often largely constructed • Volatility and large estimation for small strata • Small sample for such a detailed analysis – not always robust • Approximately 20% of the product headings are suppressed • Businesses who manufacture but are classified outside divisions 8-33 (are not included) • Designed for cross-sectional rather than time series analysis (e.g. values only available in current prices)
Internationally comparable	<ul style="list-style-type: none"> • Yes
Possible improvements	<ul style="list-style-type: none"> • Improve the comparability between HMRC imports and exports data to understand UK net supply and import penetration ratios • Reduce the amount of suppression by reviewing disclosure methods • Provide values in constant prices

International Trade in Services

Source	International trade in services (ITIS)
Coverage	<ul style="list-style-type: none"> • UK; 52 Service products as of 2013
Exclusions	<ul style="list-style-type: none"> • Travel and transport, Banking and other financial institutions, Higher education, most activities in legal professions and charities
Variables	<ul style="list-style-type: none"> • Import / Export totals
Breakdowns available	<ul style="list-style-type: none"> • Annual international trade in services estimates • Data by product, industry and country • Weighted flows
Frequency	<ul style="list-style-type: none"> • Quarterly and annual surveys
Data periods available	<ul style="list-style-type: none"> • 1996 onwards
Timeliness	<ul style="list-style-type: none"> • T + 13 for annual
Type of questions it can help answer	<ul style="list-style-type: none"> • Who are the UK's main service export and import partners, and how has this changed over time? • Which industry sectors contribute the most to international trade in service imports and exports? • What are the total import and exports values at service product level? • Where are UK service exports destined for within the European Union?
Strengths	<ul style="list-style-type: none"> • Product level detail available and by country of origin / destination
Limitations	<ul style="list-style-type: none"> • Estimates not representative of whole UK economy
Internationally comparable	<ul style="list-style-type: none"> • This data feeds into UK Trade in Services and the international comparison is available on that basis (see UK Trade in Services)
Possible improvements	<ul style="list-style-type: none"> • Questionnaire has recently been updated to implement recommendations made in the latest Balance of Payments manual version 6 (BPM6) so no improvements currently planned • A National Statistics Quality Review of ITIS is currently being conducted to evaluate the quality and effectiveness of current methodology and systems. The review is expected to be finalised and published by the end of 2015

UK Trade in Goods

Source	UK Trade in goods
Coverage	<ul style="list-style-type: none"> • Trade to/from the UK
Exclusions	<ul style="list-style-type: none"> • Data are available on a change of ownership basis from resident to non-resident therefore exclude goods physically crossing the UK border, but with no change of ownership.
Variables	<ul style="list-style-type: none"> • Commodity • Country (note: commodity by country not available) • Direction (Exports, Imports or Balance) • Price • Seasonal adjustment
Breakdowns available	<ul style="list-style-type: none"> • SITC (commodity) • CPA (Product)
Frequency	<ul style="list-style-type: none"> • Monthly
Data periods available	<ul style="list-style-type: none"> • 1998-2014
Timeliness	<ul style="list-style-type: none"> • T+2months (e.g. October 2014 published December 2014)
Type of questions it can help answer	<ul style="list-style-type: none"> • What is the value of UK trade in manufactures? • Does the UK export more manufactures to the EU or rest of the world? • How has UK manufactures trade changed over time?
Strengths	<ul style="list-style-type: none"> • HMRC source data very strong (v. High coverage) • Large country breakdown • Large commodity breakdown
Limitations	<ul style="list-style-type: none"> • Cannot provide country data by commodity
Internationally comparable	<ul style="list-style-type: none"> • Yes - Eurostat
Possible improvements	<ul style="list-style-type: none"> • Improvements to commentary of the statistical release • Provide more information to users on the collation of data.

UK Trade in Services

Source	UK Trade in services
Coverage	<ul style="list-style-type: none"> • Trade to/from the UK;
Exclusions	
Variables	<ul style="list-style-type: none"> • Products; manufacturing on physical inputs owned by others, maintenance and repair not identified elsewhere, travel, transport, construction, insurance, financial, intellectual property, other business, personal, cultural & recreational services and government. • Country (note: limited product by country estimates available) • Direction (Export, Imports and Balance) • Price
Breakdowns available	<ul style="list-style-type: none"> • By product • Extended Balance of Payments Classification for Trade in Services (EBOPS)
Frequency	<ul style="list-style-type: none"> • Annual pink book
Data periods available	<ul style="list-style-type: none"> • 1997-2014 Product not industry basis
Timeliness	<ul style="list-style-type: none"> • T+9 months
Type of questions it can help answer	<ul style="list-style-type: none"> • What is the value of UK trade in services? • Does the UK export more services to the EU or rest of the world? • How have UK services trade changed over time?
Strengths	<ul style="list-style-type: none"> • Harmonised with rest of National Accounts • Same structure as rest of NA • Some volume and value data
Limitations	<ul style="list-style-type: none"> • Those products obtained from IT IS survey would have the same limitations • Lack of timely country breakdowns (only available 9 months after reference period) • Complex concepts which can be hard to measure
Internationally comparable	<ul style="list-style-type: none"> • Yes - Eurostat
Possible improvements	<ul style="list-style-type: none"> • Data linking to inter-departmental business register (IDBR) • Trade in services by enterprise characteristics • Improved commentary in statistical release

Business Register and Employment Survey (BRES)

Source	Business Register and Employment Survey
Coverage	<ul style="list-style-type: none"> • GB; combined with independently collected Northern Ireland data to produce UK estimates
Exclusions	<ul style="list-style-type: none"> • Agriculture and Northern Ireland data is not collected by ONS, and are separately supplied; any agency workers paid directly from the agency pay roll, voluntary workers, former employees only receiving a pension; HM Forces
Variables	<ul style="list-style-type: none"> • Employees: <ul style="list-style-type: none"> - Part time - Full time - Private sector - Public sector
Breakdowns available	<ul style="list-style-type: none"> • Regional estimates at the broad manufacturing group level • National estimates down to 5-digit SIC level
Frequency	<ul style="list-style-type: none"> • Annual
Data periods available	<ul style="list-style-type: none"> • 2009 onwards
Timeliness	<ul style="list-style-type: none"> • Provisional results published t+12 • Revised results published t+24
Type of questions it can help answer	<ul style="list-style-type: none"> • How has manufacturing employment changed overtime? • What is the split between full and part time employment in the manufacturing sector/ manufacturing 5-digit sub-industries? • Which manufacturing industry has the highest full-time/part-time employment? • Which region has the highest manufacturing employment? • Which 5-digit SIC has the highest manufacturing employment?
Strengths	<ul style="list-style-type: none"> • Estimates are provided at detailed geographical and industrial levels, down to a lower super output geography at a 5-digit SIC level • Can be combined with ABS to calculate turnover per person employed • Gives a more reliable industry breakdown than Labour Force Survey (LFS) as employees do not self-classify themselves to an industry
Limitations	<ul style="list-style-type: none"> • The quality of the estimates deteriorates as the geographies get smaller as with all sample surveys. However, the quality of the estimates are generally considered to be very good at detailed levels of industry and geography • Only provide a point-in-time snapshot of the GB/UK economy and are not designed to be used as a time series • Estimates are subject to discontinuities caused by the SIC change, reference data change and source data changes • BRES replaced the Annual Business Inquiry/1 (ABI/1), representing a new methodology and change in data source, therefore caution must be taken when comparing ABI/1 estimates to BRES • Regional estimates are on a work-place basis, and do not reflect where the person lives
Internationally comparable	<ul style="list-style-type: none"> • No
Possible	

improvements	
--------------	--

Annual Survey of Hours and Earnings (ASHE)

Source	Annual Survey of Hours and Earnings
Coverage	<ul style="list-style-type: none"> • UK
Exclusions	<ul style="list-style-type: none"> • Self-employed, employees not paid during the reference period; jobs not registered on PAYE schemes; Armed forces
Variables	<ul style="list-style-type: none"> • Paid hours worked – basic • Paid hours worked – overtime • Paid hours worked – total • Weekly pay – gross • Weekly pay – excluding overtime • Basic pay • Overtime pay • Hourly pay – gross • Hourly pay – excluding overtime • Annual pay – gross • Annual pay – incentives
Breakdowns available	<ul style="list-style-type: none"> • 4-digit SIC basis totals and broken down by gender and full-time/part-time • 2-digit SIC basis totals and broken down by gender, full-time/part-time, region and age group
Frequency	<ul style="list-style-type: none"> • Annual
Data periods available	<ul style="list-style-type: none"> • Breakdowns above on a SIC92 basis from 1997-2002 • Breakdowns above on a SIC03 basis from 2003-2008 • Breakdowns above on a SIC07 basis from 2008-2014
Timeliness	<ul style="list-style-type: none"> • The survey reference date for ASHE is April of each year. Provisional results are published t+7 in November and revised t+19 in the following November
Type of questions it can help answer	<ul style="list-style-type: none"> • How do earnings in manufacturing compare in different regions? • How do earnings in manufacturing compare between genders? • How much overtime is paid in the manufacturing industry/industries? • What is the average hourly wage/average annual wage/average weekly wage in the manufacturing industry/industries?
Strengths	<ul style="list-style-type: none"> • Large sample size covering all industries, occupations and regions, making it the most comprehensive source of earnings information in the UK • High quality due to use of information from employers' administrative systems • Many of the same individuals are included year to year allowing longitudinal analysis
Limitations	<ul style="list-style-type: none"> • Care should be taken when comparing estimates from 2011 onwards with data pre-2011 due to the change from SOC 2000 to SOC 2010 • Methodological changes in 2004, 2006 and 2011 resulted in discontinuities in the ASHE time series • There are known differences between the ASHE samples and the target population as jobs not registered on PAYE schemes are not sampled. These jobs typically have lower levels of pay therefore ASHE estimates are likely to be biased upwards • The quality of estimates at low levels of disaggregation can be poor

	<ul style="list-style-type: none"> • ASHE results tables do not account for differences in the composition of different 'slices' of the employee workforce eg. differences in age, qualifications or seniority, which may affect how much employees earn
Internationally comparable	<ul style="list-style-type: none"> • Yes – EU Structure of Earnings Survey (SES)
Possible improvements	<ul style="list-style-type: none"> • The survey is reviewed on an annual basis. Possible enhancements this year include improved access to data and user guidance

Labour Productivity

Source	Labour Productivity
Coverage	<ul style="list-style-type: none"> • UK
Exclusions	<ul style="list-style-type: none"> • Mining & quarrying; electricity, gas, steam & air conditioning supply; water supply, sewage, waste management & remediation activities and construction industries are not published due to volatility between periods
Variables	<ul style="list-style-type: none"> • Output per hour • Output per job • Productivity jobs • Productivity hours • Sectional Unit Labour Costs • Mixed Income for Sectional Unit Labour Costs • Unit Wage Costs
Breakdowns available	<ul style="list-style-type: none"> • National manufacturing down to sub-sector level (eg. CA, CB...) • Region
Frequency	<ul style="list-style-type: none"> • Quarterly and Annually
Data periods available	<ul style="list-style-type: none"> • Productivity jobs from 1978-2014 and Productivity hours from 1994-2014 on a sub-sector SIC07 basis • Manufacturing (SIC07 Section C) output per hour and output per job from 1948-2014 • Unit Wage Costs from 1948-2014 • Sectional Unit Labour Costs and Mixed Income data from 1997-2014 on a sub-sector SIC07 basis
Timeliness	<ul style="list-style-type: none"> • Quarterly results: t+3 • Annual results: t+3 • Regional results: t+12
Type of questions it can help answer	<ul style="list-style-type: none"> • Which manufacturing sub-sector has the highest output per hour/per job? • How much does manufacturing contribute to productivity of the whole economy? • How has manufacturing productivity changed over time? • How does manufacturing productivity vary between regions? • Is manufacturing more skill intensive or capital intensive than other industries? • How does manufacturing productivity growth compare with services growth?
Strengths	<ul style="list-style-type: none"> • Timely • Long consistent time series available • New and improved methods have recently been developed which provide an industry breakdown of employment (i.e. on a headcount basis rather than a job basis), and provide a split between employees and the self-employed
Limitations	<ul style="list-style-type: none"> • Quarter on quarter changes in Labour Productivity should be interpreted with caution, not least due to difficulties in ensuring consistency of seasonal adjustment between the numerator and denominator • ONS produces real (inflation-adjusted) regional GVA measures, but because these are still experimental and undergoing development the regional productivity estimates only use nominal GVA and may therefore be subject to unmeasured differences in regional prices

	<ul style="list-style-type: none"> • Labour Productivity statistics are presented in an index form. As such, inferences cannot be made about changes to the underlying level measures from which the statistics are produced
Internationally comparable	<ul style="list-style-type: none"> • Yes – from ONS international comparisons, OECD, Eurostat and the Conference Board . However, there are a number of issues with regard to measurement and comparability. The main problem lies in the difference in concepts and measurement practice across countries
Possible improvements	<ul style="list-style-type: none"> • Use of double-deflated GVA as the output measure (as using the path of real turnover assumes no substitution between intermediate consumption and labour input, which is widely accepted in the literature to not be an optimal assumption), this is likely to be possible when PYP Supply Use Tables become available (possibly 2017) • Current work to improve headline productivity statistics includes the method of seasonal adjustment (adjusting productivity derived as NSA output/ NSA input, whereas SA outputs are currently divided by SA input). This also involves some technical work with LFS (the source of total hours/jobs and average hours by industry numbers) to put it into a perfect calendar basis

Further Sources

Business Enterprise Research & Development (BERD)

Source	Business Enterprise Research & Development
Coverage	<ul style="list-style-type: none"> • UK
Exclusions	<ul style="list-style-type: none"> • Potentially businesses who carry out R&D but are not part of the ABS sample; businesses not known to engage in R&D
Variables	<ul style="list-style-type: none"> • Current and constant price expenditure • Current and capital expenditure • R&D Intensity • Employment in R&D
Breakdowns available	<ul style="list-style-type: none"> • Regional by broad product group • Broad manufacturing product groups • Detailed manufacturing product groups • Civil vs defence spending • Types of R&D Employment • Sources of Funds • UK or Overseas ownership • 2-digit SIC
Frequency	<ul style="list-style-type: none"> • Annual
Data periods available	<ul style="list-style-type: none"> • 2002-2013 • 2010-2013 on an 2-digit SIC07 basis
Timeliness	<ul style="list-style-type: none"> • First published t+11
Type of questions it can help answer	<ul style="list-style-type: none"> • Which manufacturing product group received the most R&D? • How has expenditure on manufacturing R&D changed since 2002? • What is the R&D intensity for manufacturing products? • How does R&D expenditure on manufacturing compare with other product groups?
Strengths	<ul style="list-style-type: none"> • Detailed breakdowns are available • A key determinant of UK growth
Limitations	<ul style="list-style-type: none"> • There are potential sources of under-coverage arising from the design of the sampling frame which lists only businesses known to engage in R&D • Businesses' sampling probability on BERD is in part conditional on their sampling probability in the ABS. ABS omits some businesses including those in the financial services and agriculture sectors. Over £448 million of R&D in these sectors was recorded by BERD in 2010
Internationally comparable	<ul style="list-style-type: none"> • Yes
Possible improvements	<ul style="list-style-type: none"> • Administrative data held by HMRC on R&D tax credit registrants could provide some insight into the value of under-coverage provided the information can be matched to BERD data and the IDBR

Foreign Direct Investment (FDI)

Source	Foreign Direct Investment
Coverage	<ul style="list-style-type: none"> • UK
Exclusions	<ul style="list-style-type: none"> • Any deals or parts of deals, funded by locally raised funds (either in the UK for Inward FDI or abroad for Outward FDI)
Variables	<ul style="list-style-type: none"> • Direct investment earnings • Direct investment position (stocks) • Inward flow of direct investment • Net flow of direct investment • Outward flow of direct investment
Breakdowns available	<ul style="list-style-type: none"> • Industrial activity of UK, Foreign and Overseas affiliates at the broad industry group level (eg. Food products, beverages and tobacco products)
Frequency	<ul style="list-style-type: none"> • Annual
Data periods available	<ul style="list-style-type: none"> • 1972-2013 with industrial activity breakdown
Timeliness	<ul style="list-style-type: none"> • First published t+11
Type of questions it can help answer	<ul style="list-style-type: none"> • How does the UK's international investment in manufacturing compare with other countries? • Is there more inward or outward manufacturing investment? • Which manufacturing sub-industry receives the most investment from foreign affiliates?
Strengths	<ul style="list-style-type: none"> • Includes all large size band companies • Annual data is based on audited accounts that are highly accurate and used in publications • Covers the whole of the UK economy • MA4 Business Monitor includes detailed breakdowns
Limitations	<ul style="list-style-type: none"> • The FDI sample is stratified by Net book value which is not held on the IDBR. As a result, the population and sample are maintained outside of the IDBR • Response and clearance target can be difficult to achieve • Respondent error in the larger size band companies increases the size of potential revisions • In-line with disclosure methodology large amounts of data are suppressed
Internationally comparable	<ul style="list-style-type: none"> • Yes
Possible improvements	<ul style="list-style-type: none"> • Currently assessing the feasibility of publishing quarterly FDI estimates • User engagement • Assessing asymmetries with other countries • Analysis of financial havens • A National Statistics Quality Review of the FDI survey is currently being conducted to evaluate the quality and effectiveness of current methodology and systems. The review is expected to be finalised and published by the end of 2015

E-commerce Survey

Source	E-commerce and ICT Activity of UK Businesses
Coverage	<ul style="list-style-type: none"> • UK
Exclusions	<ul style="list-style-type: none"> • Very small businesses (self-employed and those without employees and low turnover), businesses with fewer than 10 employees and some non-profit making organisations; Agriculture, Forestry and Fishing; Mining and Quarrying; Veterinary Activities; Public Administration and Defence, Social Security; Education; Health and Social Work; Arts, Entertainment and Recreation; and Other Service Activities except SIC 95.1, Repair of computers
Variables	<ul style="list-style-type: none"> • E-commerce sales • Number of employees with computers and internet access • Proportion of businesses making e-commerce sales • Proportion of businesses making e-commerce purchases • Proportion of businesses using social media • Proportion of businesses buying cloud computing services over the Internet • Limitations to using cloud computing
Breakdowns available	<ul style="list-style-type: none"> • Broad manufacturing group
Frequency	<ul style="list-style-type: none"> • Annual
Data periods available	<ul style="list-style-type: none"> • 2008-2013 for e-commerce variables • 2013 for social media and cloud computing variables
Timeliness	<ul style="list-style-type: none"> • First published t+11
Type of questions it can help answer	<ul style="list-style-type: none"> • How much does the manufacturing industry make from e-commerce sales? • What proportion do manufacturing e-commerce sales make up e-commerce sales? • What proportion of manufacturing businesses use social media? • How does manufacturing's use of e-commerce compare with other industries/countries?
Strengths	<ul style="list-style-type: none"> • The variables change each year to measure new technology • Results are comparable across EU member states and use internationally agreed definitions
Limitations	<ul style="list-style-type: none"> • No regional results – all at UK level • Changes in questions mean that the time series are limited for some variables • Changes to how e-commerce was measured mean the time series for e-commerce sales only starts at 2008 • Coverage of businesses with less than 10 employment was dropped from 2005 so estimates for “all businesses” since then are based on those with 10+ employment
Internationally comparable	<ul style="list-style-type: none"> • Yes
Possible improvements	<ul style="list-style-type: none"> • The coverage of the survey is expanding to cover registered businesses with fewer than 10 employees

Outward Foreign Affiliates Statistics Survey

Source	Outward Foreign Affiliates Statistics
Coverage	<ul style="list-style-type: none"> • UK multinational companies with affiliates abroad
Exclusions	
Variables	<ul style="list-style-type: none"> • Turnover • Number of foreign affiliates • Industry sector • Country of residence • Number of employees
Breakdowns available	<ul style="list-style-type: none"> • SIC07 on a broad industry group basis (e.g. overall manufacturing)
Frequency	<ul style="list-style-type: none"> • Annual
Data periods available	<ul style="list-style-type: none"> • 2008 pilot survey, 2009-2013 • Estimates for 2010-2012 Published November 2014
Timeliness	<ul style="list-style-type: none"> • Currently t+23 months
Type of questions it can help answer	<ul style="list-style-type: none"> • How many UK controlled manufacturing companies are based abroad? • In which country/continent was the most turnover generated by the UK manufacturing controlled industry? • How many people abroad are employed in the UK manufacturing industry? • How does manufacturing turnover generated abroad by UK controlled companies compare with manufacturing turnover generated in the UK? • How does manufacturing turnover generated abroad by UK controlled companies compare with other UK industries operating abroad?
Strengths	<ul style="list-style-type: none"> • This information is becoming increasingly useful because of globalisation and the importance of overseas investment to the UK economy
Limitations	<ul style="list-style-type: none"> • Still experimental statistics • The 2009 survey was produced on SIC03 basis whereas from 2010 it has been produced on a SIC07 basis
Internationally comparable	<ul style="list-style-type: none"> • Yes
Possible improvements	<ul style="list-style-type: none"> • Convert 2009 data from SIC03 to SIC07 • Look at potential of providing more data depending on user needs

Labour Disputes Survey

Source	Labour Disputes
Coverage	<ul style="list-style-type: none"> • UK
Exclusions	<ul style="list-style-type: none"> • Measuring stoppages excludes disputes that do not result in a stoppage of work
Variables	<ul style="list-style-type: none"> • Number of working days lost • Number of stoppages • Workers involved
Breakdowns available	<ul style="list-style-type: none"> • By region and SIC07 manufacturing industry group • By main cause and SIC07 manufacturing industry group
Frequency	<ul style="list-style-type: none"> • Monthly, Annual
Data periods available	<ul style="list-style-type: none"> • 2008-2013 on an SIC07 basis • 2004-2007 on an SIC03 basis • 1995-2002 on an SIC95 basis
Timeliness	<ul style="list-style-type: none"> • First published t+7
Type of questions it can help answer	<ul style="list-style-type: none"> • How many working days were lost in the manufacturing industry? How does this compare with other industry groups? • What is the main cause of working days lost/stoppages in the manufacturing industry?
Strengths	<ul style="list-style-type: none"> • Timely
Limitations	<ul style="list-style-type: none"> • Data published on a monthly basis are provisional and are open to revisions either the following month or yearend so may not be as reliable as later estimates • On a voluntary basis so may have lower response rates than business surveys
Internationally comparable	<ul style="list-style-type: none"> • Yes – ONS also conducted a review comparing ONS methodology with 15 other countries
Possible improvements	<ul style="list-style-type: none"> • The survey is reviewed on an annual basis however no improvements are planned at present

Monthly/Quarterly Vacancy Survey

Source	Monthly/Quarterly Vacancy Survey – data published in the Labour Market Statistical Bulletin
Coverage	<ul style="list-style-type: none"> • UK
Exclusions	<ul style="list-style-type: none"> • Agriculture, forestry and fishing; employment agencies
Variables	<ul style="list-style-type: none"> • Vacancy levels • Vacancy per 100 employee jobs
Breakdowns available	<ul style="list-style-type: none"> • At broad manufacturing group level (SIC Section C)
Frequency	<ul style="list-style-type: none"> • Monthly/Quarterly
Data periods available	<ul style="list-style-type: none"> • 2001 June-2015
Timeliness	<ul style="list-style-type: none"> • First published t+1
Type of questions it can help answer	<ul style="list-style-type: none"> • How many vacancies were there in the manufacturing industry in the latest period? • How does the number of vacancies in the manufacturing industry compare with other industries? • How has the number of manufacturing vacancies changed over time? • What proportion of all UK vacancies are in manufacturing?
Strengths	<ul style="list-style-type: none"> • Accurate and comprehensive measure of total vacancies across the economy • Fills a gap in the information available regarding the demand for labour – previously information was only available from Job Centres which provided an incomplete picture
Limitations	<ul style="list-style-type: none"> • Regional data are not collected.
Internationally comparable	<ul style="list-style-type: none"> • Yes
Possible improvements	<ul style="list-style-type: none"> • No improvements are planned at present

Quarterly Acquisitions and Disposals of Capital Assets

Source	Quarterly Acquisitions and Disposals of Capital Assets Survey (QCAS). Data for this are published on an ad hoc request
Coverage	<ul style="list-style-type: none"> • UK
Exclusions	
Variables	<ul style="list-style-type: none"> • Acquisitions, disposals and net
Breakdowns available	<ul style="list-style-type: none"> • Industry, asset, size band • Current prices • Not seasonally adjusted
Frequency	<ul style="list-style-type: none"> • Quarterly
Data periods available	<ul style="list-style-type: none"> • 1997-present
Timeliness	<ul style="list-style-type: none"> • Data first available t+2
Type of questions it can help answer	<ul style="list-style-type: none"> • What is the net investment in capital assets being made by different industries, and what are the differences between industries with different employment sizes? • What acquisitions and disposals of capital assets are being made by businesses in the UK and does this change over time? • What assets are businesses investing in or disposing of?
Strengths	<ul style="list-style-type: none"> • Large sample; more detailed breakdown of assets than ABS
Limitations	<ul style="list-style-type: none"> • No regular release (but regular ad hocs are published) • Less detailed industry breakdowns available compared with ABS • Some breakdowns only available from Q1 2011 (after the move to SIC07)
Internationally comparable	<ul style="list-style-type: none"> • No
Possible improvements	<ul style="list-style-type: none"> • Regular publication using Open Data

Monthly Survey for Index Numbers of Producer Prices

Source	Monthly survey for index numbers of producer prices
Coverage	<ul style="list-style-type: none"> • UK businesses collecting 6,750 quotes from 4,000 respondents
Exclusions	<ul style="list-style-type: none"> • Manufacturing businesses with fewer than 9 employees • Manufacturing businesses who export more than 80% of their products
Variables	<ul style="list-style-type: none"> • Gross sector output • Net sector output • Gross sector input • Net sector input
Breakdowns available	<ul style="list-style-type: none"> • Input and output index series • Producer price indices of materials and fuels purchased and output of manufacturing industry by broad sector • SIC07
Frequency	<ul style="list-style-type: none"> • Monthly
Data periods available	<ul style="list-style-type: none"> • 1950 onwards in current structure, wholesale price index prior to this 1871-1930, rebased in 1935 till 1950.
Timeliness	<ul style="list-style-type: none"> • First published t+10-14 days
Type of questions it can help answer	<ul style="list-style-type: none"> • How have prices of goods bought and sold by manufacturers changed over time?
Strengths	<ul style="list-style-type: none"> • Regarded by many economists as the leading price source of measuring early price measures in sectors of industry
Limitations	<ul style="list-style-type: none"> • Less reliable coverage in imports which feed into the input series
Internationally comparable	<ul style="list-style-type: none"> • Yes
Possible improvements	<ul style="list-style-type: none"> • SIC 5-digit index structure consolidation • Chain linking

Monthly Survey for Index Numbers of Export Prices

Source	Monthly Survey for index numbers of export prices
Coverage	<ul style="list-style-type: none"> • UK manufacturing companies, 2,600 price quotes from 1,800 respondents
Exclusions	<ul style="list-style-type: none"> • Manufacturing businesses with fewer than 9 employees • Products sold for export but not manufactured in the UK
Variables	<ul style="list-style-type: none"> • Monthly prices for products manufactured and exported from UK
Breakdowns available	<ul style="list-style-type: none"> • Exports of manufactured products at 4-digit level • Exports of manufactured products by total UK Manufacturing • Exports to both EU and Non EU market
Frequency	<ul style="list-style-type: none"> • Monthly
Data periods available	<ul style="list-style-type: none"> • 1993-onwards
Timeliness	<ul style="list-style-type: none"> • First published t+10-14 days
Type of questions it can help answer	<ul style="list-style-type: none"> • How have the prices of items exported by UK manufacturers changed over time?
Strengths	<ul style="list-style-type: none"> • Primary source of deflationary measures used by Balance of Payments
Limitations	<ul style="list-style-type: none"> • Sample survey uncertainty
Internationally comparable	<ul style="list-style-type: none"> • Yes, EU member states
Possible improvements	<ul style="list-style-type: none"> • Recommendations to move the Export Prices Indices (EPI) sample from a cut-off panel to a stratified random selection • SIC 5-digit index structure consolidation

Monthly Wages and Salaries Survey

Source	Monthly wages and salaries survey – forms the basis of the Average Weekly Earnings measure and is published in Labour Market Statistics
Coverage	<ul style="list-style-type: none"> • GB
Exclusions	<ul style="list-style-type: none"> • Businesses with fewer than 20 employees; businesses not registered for VAT or PAYE
Variables	<ul style="list-style-type: none"> • Average weekly earnings • Bonuses • Arrears • Growth rates including and excluding bonuses • Index figures including and excluding bonuses
Breakdowns available	<ul style="list-style-type: none"> • SIC07 on a 2-digit basis
Frequency	<ul style="list-style-type: none"> • Monthly
Data periods available	<ul style="list-style-type: none"> • 2000-2014
Timeliness	<ul style="list-style-type: none"> • First published t+1
Type of questions it can help answer	<ul style="list-style-type: none"> • How are manufacturing earnings changing in the economy? • What are the Average Weekly Earnings in the manufacturing industry and how does this compare with other industries?
Strengths	<ul style="list-style-type: none"> • Fast indicator
Limitations	<ul style="list-style-type: none"> • Estimates made for companies with under 20 employees, which are not sampled monthly • Excludes Northern Ireland
Internationally comparable	<ul style="list-style-type: none"> • EUROSTAT generally concentrates on Labour Costs indices (called ILCH in the UK) which use MWSS data supplemented with other sources
Possible improvements	<ul style="list-style-type: none"> • Sampling under 20s

UK Innovation Survey

Source	UK Innovation Survey (UKIS) Data collected by ONS and published by BIS
Coverage	<ul style="list-style-type: none"> • UK
Exclusions	<ul style="list-style-type: none"> • Businesses employing less than 10 people
Variables	<ul style="list-style-type: none"> • Geographic market • Turnover increase/decrease for mergers/closure of companies • Business strategy and practises • Active about current or future innovation • Innovation investment • Reasons for innovation • Number of employees with degree level or higher education
Breakdowns available	<ul style="list-style-type: none"> • By employment size • Region • Industrial Sectors
Frequency	<ul style="list-style-type: none"> • Every two years
Data periods available	<ul style="list-style-type: none"> • Each survey covers a three year reference period. • UK 2013 (also known as Community Innovation Survey - CIS8) was carried out in 2013 and covered 2010-2012. • Prior to 2015 it was conducted every four years: <ul style="list-style-type: none"> ○ CIS 7, took place in 2011 covering 2008-2010 ○ Prior to this CIS6 took place in 2009, CIS5 in 2007, CIS4 in 2005, CIS3 in 2001, and CIS2 in 1997
Timeliness	<ul style="list-style-type: none"> • First published 1 year after end of reference period (e.g. 2010-2012 data published in 2013)
Type of questions it can help answer	<ul style="list-style-type: none"> • What are the trends and types of innovation activity taking place within the UK? • What are the constraining factors to innovation faced by businesses across all sectors and size classification?
Strengths	<ul style="list-style-type: none"> • Detailed information
Limitations	<ul style="list-style-type: none"> • Does not cover micro businesses (those with less than 10 people in employment)
Internationally comparable	<ul style="list-style-type: none"> • Yes
Possible improvements	<ul style="list-style-type: none"> • Change data collection mode