

Regional Skills Assessments

Oxford Economics Forecasts – Technical Note

October 2023

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Introduction

In producing Regional Skills Assessments (RSAs) and their accompanying data matrix, Skills Development Scotland (SDS) draws on four key types of evidence:

- Published data;
- Real time data;
- Qualitative evidence; and
- Forecast data.

This technical note refers to the fourth of these sources – forecast data.

SDS has a long-standing partnership with Oxford Economics who produce economic and labour market forecasts to inform a range of SDS products and services including RSAs and the Data Matrix.

The forecasts used in 2023/24 RSAs were produced by Oxford Economics in March 2023, using their Local Authority District Forecasting Model. The model builds evidence from local authority level and then aggregates this up to:

- Regional Outcome Agreement areas (ROAs);
- City Region and Growth Deal areas; and
- Nationally - Scotland and the UK.

Appendix A provides further detail on the spatial cuts of data.

This note is intended to provide information on the coverage, methodology and data sources underpinning the forecasts. The note is structured as follows:

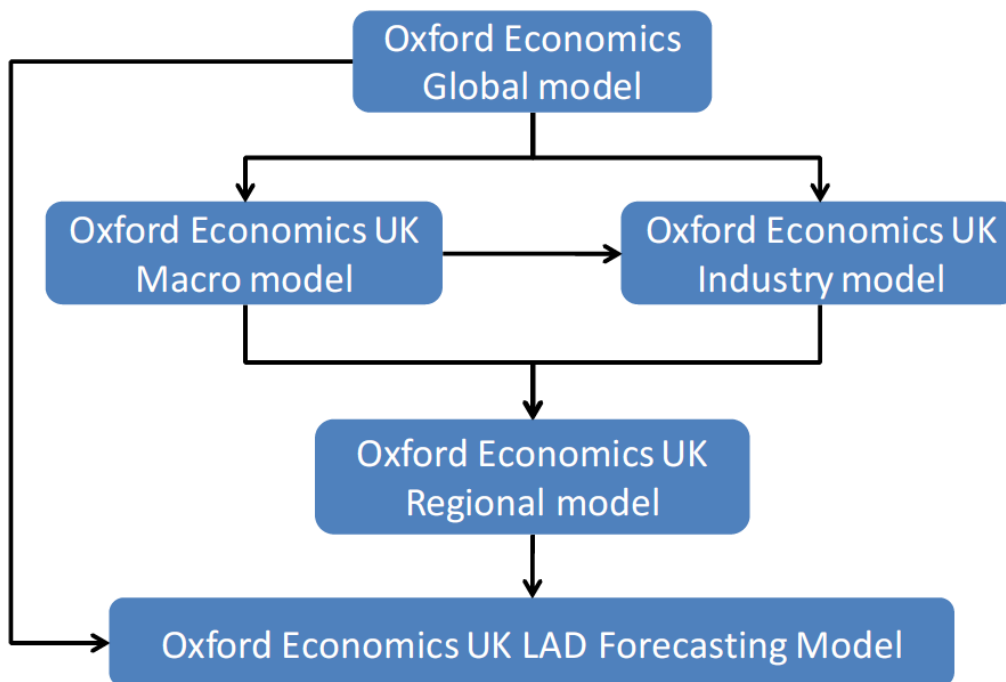
- An overview of the model;
- RSA Reports – explanatory notes on forecast data included in the RSAs; and
- Appendices:
 - Appendix A provides an overview of the geographic cuts of data;
 - Appendix B provides definitions for Scotland's key sectors; and
 - Appendix C provides more detailed information on the Office for National Statistics Occupational Classification grouping.

Model Overview

Local Authority Forecasting Model

Oxford Economics's Local Authority District (LAD) Forecasting Model sits within the Oxford suite of forecasting models. This structure is unique as it ensures global and national factors (such as developments in the Eurozone, Government fiscal policy and Brexit) have an appropriate impact on the forecasts for a local authority. This empirical framework (or set of 'controls') is critical in ensuring the local area forecasts are much more than just an extrapolation of historical trends and reflect external economic conditions. Rather, the trends in our global, national and sectoral forecasts have an impact on the local area forecasts.

Fig. 1. Hierarchical structure of Oxford Economics' suite of models



The Oxford Economics local forecasting model depends essentially upon three factors:

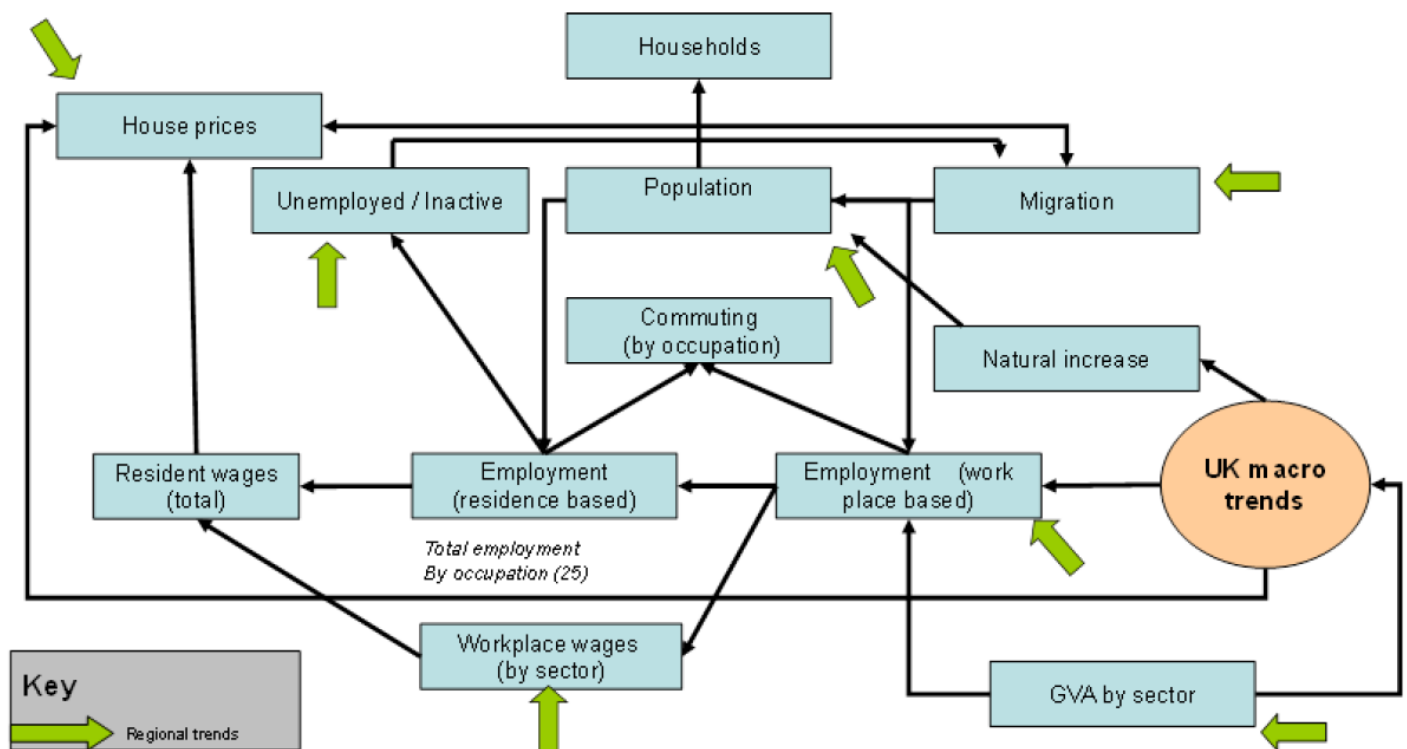
- **International, national and regional outlooks** - all the local area forecasts produced by Oxford Economics are fully consistent with broader regional, national and international models and forecasts. This ensures global events that impact on the performance of UK local economies, such as the strength of global trade, are fully captured in the forecasts for a local area. So too are national level growth and policies, whether that be the impact of monetary policy on consumer spending or government spending on locally provided public services;
- **Historical trends in an area**, which implicitly factor in supply side factors affecting demand, combined with Oxford Economics's staff knowledge of local areas and the patterns of local economic development. This ensures for example, that we recognise and factor into the forecasts any evidence of particularly high/low levels of competitiveness that local economies have in particular activities. It also means national policy programmes that have a particular local impact and that are very likely to happen are appropriately reflected in the forecasts; and

- **Fundamental economic relationships** which interlink the various elements of the outlook. Oxford Economics’s models ensure full consistency between variables in a local area. For example, employment, commuting, migration and population are all affected by one another.

All Oxford Economics models are economically driven, with all aspects of the economy interlinked as they believe that this is the best way to estimate the future outlook for the area. Given changes in economic conditions drive labour market performance, which in turn affects migration patterns and housing demand/make-up, economic based forecasts are essential. For example, if employment or productivity changes in one sector, there are implications for all sectors of the economy through indirect (supply chain) and induced impacts. The employment creation will then put downward pressure on unemployment, while encouraging increased commuting into the economy, and making it a more attractive location for migrants. This would effectively drive up population and housing demand (and put more demand on public services).

The main internal relationships between variables are summarised in Figure 2. Each variable is related to others within the models. Key variables are also related to variables in the other Oxford Economics models.

Fig. 2. Main Relationships between variables



Time Periods

The model is usually constructed on an annual basis. Historic data for most variables has been collected for 20 or more years to provide a basis for estimating inter-relationships between variables and future trends. Forecasts are currently set up for the period up to 2032 consistent with existing available global, national and regional forecasts.

Using the Model

The model provides projections on a 'policy neutral' basis. Unconfirmed, aspirational or policies at planning/development stage are not included. Though forecasts are built primarily around the economic relationships above, the use of local knowledge and published material on local development is required to augment the results of the formal modelling process.

According to Oxford Economics, although the UK and EU struck a basic free trade agreement, the switch from EU membership to the new relationship introduced significant new frictions on UK-EU trade. They believe this will result in some degree of trade destruction, limiting improvements in total factor productivity, and will reduce the attractiveness of the UK as a destination for Foreign Direct Investment (FDI). Scarring from the pandemic will exert a further drag, albeit smaller than Brexit, with long-term unemployment set to rise and low levels of business investment reducing the degree of capital deepening.

As with all forms of forecasting, there are margins of error associated with the results which get larger over time. Furthermore, the quality of data decreases as geographies get smaller. Models of this form under current data quality levels are most helpful for identifying trends, growth rates and relativities either across or within areas. The long-term trends are therefore important, and users are encouraged to use the time series information and not rely on 'point-in-time' estimates.

The remainder of this note provides detailed information on the data used within the model and the linkages between variables.

Regional Skills Assessment – variables covered

The list below provides a summary of the variables provided. Chapter 3 provides detailed information on the of the variables used within the report.

Gross Value Added (GVA)/Output

GVA data by sector is published on a nominal basis by the Office for National Statistics for Scotland and the local authorities. These are converted to real prices using the chain linked volume measures which are available for Scotland, NUTS2 regions, NUTS3 regions and local authority districts. The GVA forecast is driven by sectoral employment in each area and Scottish productivity forecast adjusted by relative earnings. At the Scotland level, GVA is driven by sectoral employment and sectoral productivity relative to UK. GVA forecasts by key sector are driven by key sector employment and local estimates of productivity adjusted by relative detailed sectoral earnings.

Productivity

Productivity is calculated as GVA per job.

Total Employment (People)

The RSAs include a calculation of current employment of people i.e. workforce size based on Oxford Economics analysis of the Annual Population Survey (APS) that provides data on employment by occupation for Scotland and its local authorities.

Information is also included for terms of employment or 'status' (i.e. full time / part time). The APS provides data on employment by status for Scotland and its local authority districts. The series are projected in line with the jobs-based employment forecasts by status and gender.

Data on employment by gender is published for Scotland as part of the ONS Workforce Jobs (WFJ) release. Shares of female employment (which are trend forecasts linked to national projections) are applied to the workplace employment estimates. Male total employment is simply the total of employment less female employment. Locally, employment by gender data is

not published. Rather, we have applied the gender shares for Scotland adjusted to reflect the Census of Population to the employment forecast for each area.

Employment by Industry (People)

To produce a people-based employment forecast, Oxford Economics use APS data which is available by sector (on a workplace basis). It is driven by the numbers of full-time and part-time employees by sector in each area. Individuals are assumed to hold only one full-time job each. Part-time jobs are assumed to account for half a full-time job. The self-employed people are added to the full-time employees plus half of the part-time employees to arrive at an estimate of workplace-based employment.

Please note, the Employment by Key Sector (people) is also available through Data Matrix (page 33). Key Sectors (details of the definitions used are set out in Appendix B).

- Chemical Sciences
- Creative Industries
- Construction
- Energy
- Engineering
- Food and Drink
- Financial Service
- Professional Services
- Health Care
- Social Care
- Childcare
- Digital Technology
- Life sciences
- Tourism

The results for the key sectors are calculated using shares from the Business Register and Employment Survey (BRES) of each component of key sector to broad sector. These shares are applied to the broad sector results, to produce an estimate of the occupations within each of the key sectors.

Employment by Occupation (People)

The APS provides data on employment by occupation for Scotland and its local authorities. The forecasts are derived using a SIC/SOC (Standard Industrial Classification/Standard Occupational Classification) matrix. The ratio of occupations within each sector for 2001 and 2011 is calculated from the Census. For all other years, Oxford Economics use the Labour Force Survey for Scotland. The share of each occupation by sector is forecast based upon trends and are applied to the sectoral employment data for each local area, to give an estimate of occupations within each sector. The results are adjusted to reflect the APS data for each local area. The occupations by sector are then aggregated to give occupations by 25 minor occupation groupings. Therefore, the overall economy occupational structure is heavily dependent upon sectoral composition and future trends can be largely explained by sectoral trends.

Total Requirement – Expansion and Replacement Demand (People)

Expansion demand refers to the net change in total employment over the forecast period and thus the results can be positive or negative.

Replacement demand represents how many more people will be required due to people leaving the workforce. There are many reasons why people leave the labour market - with retirement

perhaps the prime example – and need to be replaced. Whilst replacing the vacant position creates additional labour demand, it has no net effect on total employment. Reasons for leaving employment include:

- Unemployment;
- Inactivity;
- Out migration;
- Retirement;
- Death; and
- Leaving for another job in a different occupational group or sector.

This ‘replacement’ category is much larger than expansion demand and explains why even declining sectors still require new staff/advertise vacancies.

Replacement demand and expansion demand are summed to produce total requirement.

Total Requirement by Qualification (People)

Expansion demand refers to the net change in total employment by qualification over the forecast period and thus the results can be positive or negative. The results are presented for each of the 6 SCQF qualification groupings.

For replacement demand, the net occupation demand figures are applied to an occupation by highest level of qualification matrix to produce an estimate of the likely skills requirements over the forecast period. The matrix is generated using the Labour Force Survey. The data is filtered to select only those people who were in employment one year ago and who changed their job. A cross-tabulation is run on this sample for each of the last three years and taking a three-year average. Rather than use the current qualification structure of all employed people, the qualification structure of ‘inflows’ is used to try and capture the fact that entry requirements to occupations have increased over time. In other words, it is entirely possible that current corporate managers who are approaching retirement may have climbed up the career ladder without having any formal qualifications whereas, to become a corporate manager now will most likely require a degree or similar formal qualification.

Replacement demand by qualification and expansion demand by qualification are summed to produce total requirement.

Total Requirement by Industry (People)

Expansion demand refers to the net change in total employment by industry over the forecast period and thus the results can be positive or negative. The results presented are jobs based for each of the 1-digit industries.

For replacement demand, leaver rates by industry are calculated from the Labour Force Survey for Scotland. These rates are forecast and applied across all geographies. The number of leavers by 1-digit industry are apportioned to key sectors using employment shares from BRES. Replacement demand and expansion demand are summed to produce total requirement.

Total Requirement by Occupation (People)

Replacement demand and expansion demand are summed to produce total occupation demand (people-based).

Appendix A: Spatial Cuts of Data

Oxford Economics forecasts have been developed using Local Authorities as building blocks and then aggregating this into various spatial levels:

The results have been provided for Regional Outcome Areas (ROAs), City Regions, Growth Deals and at national level – Scotland and UK.

Details of the local authorities used for ROAs, City Regions and Growth Deals are outlined below:

	Area	Local Authorities
ROAs	Aberdeen City and Shire	Aberdeen City, Aberdeenshire
	Ayrshire	East Ayrshire, North Ayrshire, South Ayrshire
	Borders	Scottish Borders
	Dumfries and Galloway	Dumfries and Galloway
	Edinburgh and Lothians	East Lothian, Edinburgh, Midlothian
	Fife	Fife
	Forth Valley	Clackmannanshire, Falkirk, Stirling
	Glasgow College Region	East Dunbartonshire, East Renfrewshire, Glasgow
	Highlands and Islands	Argyll and Bute, Na h-Eileanan Siar, Highland, Moray, Orkney Islands, Shetland Islands
	Lanarkshire	East Dunbartonshire, North Lanarkshire, South Lanarkshire
	Tayside	Angus, Dundee, Perth and Kinross
	West	East Renfrewshire, Inverclyde, Renfrewshire, West Dunbartonshire
	West Lothian	West Lothian
South of Scotland	South of Scotland	Dumfries and Galloway, Scottish Borders
Rural Scotland	Rural Scotland	Rural Scotland is based on the Scottish Government's Rural and Environment Science and Analytical Services (RESAS) classification of rural areas. The 15 local authorities included are those classified as either 'mainly rural' or 'islands and remote rural': Aberdeenshire, Angus, Argyll and Bute, Clackmannanshire, Dumfries and Galloway, East Ayrshire, East Lothian, Na h-Eileanan Siar, Highland, Moray, Orkney Islands, Perth and Kinross, Scottish Borders, Shetland Islands, and South Ayrshire
City Regions	Edinburgh and South East Scotland City Region Deal	Edinburgh, Midlothian, East Lothian, West Lothian, Fife, Scottish Borders
	Glasgow City Region	Glasgow, East Dunbartonshire, East Renfrewshire, Inverclyde, North Lanarkshire, Renfrewshire, South Lanarkshire, West Dunbartonshire
	Inverness and Highland City Region Deal	Highland
	Stirling and Clackmannanshire City Region Deal	Clackmannanshire, Stirling
Growth Deals	Argyll and Bute	Argyll and Bute
	Falkirk	Falkirk
	Islands	Na h-Eileanan Siar, Orkney Islands, Shetland Islands
	Moray	Moray

Appendix B: SIC Definitions for Scotland's Key Sectors

The Office for National Statistics Standard Industrial Classifications can be found [here](#). The SIC definitions for the SDS Key Sectors are as follows:

Construction

SIC Code	Description	Attributable Activity
02.2	Logging	20%
08.11	Quarrying of ornamental and building stone, limestone, gypsum, chalk and slate	70%
08.12	Operation of gravel and sand pits; mining of clays and kaolin	70%
16.23	Manufacture of other builders' carpentry and joinery	40%
20.30/1	Manufacture of paints, varnishes and similar coatings, mastics and sealants	25%
20.30/2		25%
22.11	Manufacture of printing ink	20%
	Manufacture of rubber tyres and tubes; retreading and rebuilding of rubber tyres	20%
22.19		20%
22.23	Manufacture of other rubber products	35%
23.32	Manufacture of builders' ware of plastic	85%
23.41	Manufacture of bricks, tiles and construction products, in baked clay	60%
23.42	Manufacture of ceramic household and ornamental articles	60%
23.43	Manufacture of ceramic sanitary fixtures	60%
23.44	Manufacture of ceramic insulators and insulating fittings	60%
23.49	Manufacture of other technical ceramic products	60%
23.51	Manufacture of other ceramic products	25%
23.52	Manufacture of cement	25%
23.61	Manufacture of lime and plaster	90%
23.62	Manufacture of concrete products for construction purposes	90%
23.63	Manufacture of plaster products for construction purposes	90%
23.64	Manufacture of ready-mixed concrete	90%
23.65	Manufacture of mortars	90%
23.69	Manufacture of fibre cement	90%
25.11	Manufacture of other articles of concrete, plaster and cement	60%
25.12	Manufacture of metal structures and parts of structures	60%
25.21	Manufacture of doors and windows of metal	40%
25.29	Manufacture of central heating radiators and boilers	40%
25.3	Manufacture of other tanks, reservoirs and containers of metal	40%
26.11	Manufacture of steam generators, except central heating hot water boilers	35%
41.10		100%
41.20/1	Manufacture of electronic components	100%
41.20/2	Development of building projects	100%
42.11	Construction of commercial buildings	100%
42.12	Construction of domestic buildings	100%
42.13	Construction of roads and motorways	100%
42.21	Construction of railways and underground railways	100%
42.22	Construction of bridges and tunnels	100%
42.91	Construction of utility projects for fluids	100%
42.99	Construction of utility projects for electricity and telecommunications	100%
43.11	Construction of water projects	100%
43.12	Construction of other civil engineering projects n.e.c.	100%
43.13	Demolition	100%
43.21	Site preparation	100%
43.22	Test drilling and boring	100%
43.29	Electrical installation	100%
43.31	Plumbing, heat and air-conditioning installation	100%
43.32	Other construction installation	100%

43.33	Plastering	100%
43.34/1	Joinery installation	100%
43.34/2	Floor and wall covering	100%
43.39	Painting	100%
43.91	Glazing	100%
43.99/1	Other building completion and finishing	100%
43.99/9	Roofing activities	100%
46.13	Scaffold erection	50%
46.63	Specialised construction activities (other than scaffold erection) n.e.c.	50%
46.73	Agents involved in the sale of timber and building materials	50%
71.11/1	Wholesale of mining, construction and civil engineering machinery	100%
71.11/2	Wholesale of wood, construction materials and sanitary equipment	50%
71.12/1	Architectural activities	50%
71.12/2	Urban planning and landscape architectural activities	50%
71.12/9	Engineering design activities for industrial process and production Engineering related scientific and technical consulting activities Other engineering activities (not including engineering design for industrial process and production or engineering related scientific and technical consulting activities)	50%
74.90/2	Quantity surveying activities	100%

Creative Industries

SIC Code	Description	Attributable Activity
31.09	Manufacture of other furniture	100%
16.29	Manufacture of other wood products	100%
32.12	Manufacture of jewellery and related products	100%
32.13	Manufacture of imitation jewellery and related articles	70%
23.41	Manufacture of ceramic household and ornamental articles	100%
23.49	Manufacture of other ceramic products	100%
23.13	Manufacture of hollow glass	30%
23.19	Manufacture of other glass	100%
13	Manufacture of textiles	100%
14	Manufacture of wearing apparel	35%
15	Manufacture of leather and related products	35%
18.20/1	Reproduction of sound recording	15%
32.2	Manufacture of musical instruments	15%
18.20/2	Reproduction of video recording	100%
18.11	Printing of newspapers	100%
18.129	Other printing (not labels)	25%
18.13	Pre press and media services	20%
47.78/1	Retail sale in commercial art galleries	20%
47.79/1	Retail sale of antiques and antique books	25%
59.2	Sound recording and music publishing activities	100%
59.11/1	Motion picture production activities	75%
59.11/2	Video production activities	100%
59.12	Motion picture, video and television programme post-production activities	100%
59.13/1	Motion picture distribution activities	100%
59.13/2	Video distribution activities	100%
59.14	Motion picture projection activities	100%
58.21	Publishing of computer games	100%
62.01/1	Ready-made interactive leisure and entertainment software development	100%
59.11/3	Television programme production activities	100%
59.13/3	Television programme distribution activities	100%
59.12	Motion picture, video and television programme post-production activities	100%
60.1	Radio broadcasting	100%
60.2	Television programming and broadcasting activities	100%

58.11	Book publishing	100%
58.13	Publishing of newspapers	25%
58.14	Publishing of journals and periodicals	100%
58.19	Other publishing activities	100%
63.91	News agency activities	100%
58.29	Other software publishing	100%
62.01/2	Business and domestic software development	100%
62.02	Computer consultancy activities	100%
73.11	Advertising agencies	100%
73.12	Media representation	75%
71.11	Architectural activities	100%
74.1	Specialised design activities	100%
71.12/1	Engineering design activities for industrial process and production	30%
74.1	Specialised design activities	100%
74.20/1	Portrait photographic activities	100%
74.20/2	Other specialist photography (not including portrait photography)	100%
74.20/9	Other photographic activities (not including portrait and other specialist photography and film processing) n.e.c.	100%
78.10/1	Motion picture, television and other theatrical casting	100%
85.52	Cultural Education	100%
90.03	Artistic creation	100%
90.01	Performing arts	100%
90.02	Support activities to performing arts	100%
90.04	Operation of arts facilities	100%
90.03	Artistic creation	100%
91.01	Libraries and archive activities	100%
95.24	Repair of furniture and home furnishings	100%

Digital Technologies

SIC Code	Description	Attributable Activity
18.20/3	Reproduction of computer media	100%
26.11	Manufacture of electronic components	100%
26.12	Manufacture of loaded electronic boards	100%
26.20	Manufacture of computers and peripheral equipment	100%
26.30	Manufacture of communication equipment	100%
26.40	Manufacture of consumer electronics	100%
26.8	Manufacture of magnetic and optical media	100%
27.31	Manufacture of fibre optic cables	100%
58.21	Publishing of computer games	100%
58.29	Other software publishing	100%
61.1	Wired telecommunications activities	100%
61.2	Wireless telecommunications activities	100%
61.3	Satellite telecommunications activities	100%
61.9	Other telecommunications activities	100%
62.01	Computer programming activities	100%
62.02	Computer consultancy activities	100%
62.03	Computer facilities management activities	100%
62.09	Other information technology and computer service activities	100%
63.11	Data processing, hosting and related activities	100%
63.12	Web portals	100%
63.99	Other information service activities n.e.c.	100%
95.11	Repair of computers and peripheral equipment	100%
95.12	Repair of communication equipment	100%

Childcare

SIC Code	Description	Attributable Activity
85.1	Pre-primary education	100%
88.91	Child day-care activities	100%

Energy

SIC Code	Description	Attributable Activity
05	Mining of coal and lignite	100%
06	Extraction of crude petroleum and natural gas	100%
09	Mining support service activities	100%
19	Manufacture of coke and refined petroleum products	100%
20.14	Manufacture of other organic basic chemicals	100%
35	Electricity, gas, steam and air conditioning supply	100%
36	Water collection, treatment and supply	100%
38.22	Treatment and disposal of hazardous waste	100%
71.12/2	Engineering related scientific and technical consulting activities	100%
74.90/1	Environmental consulting activities	100%

Engineering

SIC Code	Description	Attributable Activity
24	Manufacture of basic metals	100%
25	Manufacture of fabricated metal products, except machinery and equipment	100%
26	Manufacture of fabricated metal products, except machinery and equipment	100%
27	Manufacture of computer, electronic and optical products	100%
28	Manufacture of electrical equipment	100%
29	Manufacture of machinery and equipment n.e.c.	100%
30	Manufacture of motor vehicles, trailers and semi-trailers	100%
33	Manufacture of other transport equipment	100%
71	Repair and installation of machinery and equipment	100%
72.19	Architectural and engineering activities; technical testing and analysis Other research and experimental development on natural sciences and engineering	100%
13.94	engineering	100%
38.31	Manufacture of cordage, rope, twine and netting Dismantling of wrecks	100%

Financial Services

SIC Code	Description	Attributable Activity
64.1	Monetary intermediation	100%
64.3	Trusts, funds and similar financial entities	100%
64.9	Other financial service activities, except insurance and pension funding	100%
65	Insurance, reinsurance and pension funding, except compulsory social security	100%
66	Activities auxiliary to financial services and insurance activities	100%

Food and Drink

SIC Code	Description	Attributable Activity
01	Crop and animal production, hunting and related service activities	100%
03	Fishing and aquaculture	100%
10	Manufacture of food products	100%
11	Manufacture of beverages	100%

Health Care

SIC Code	Description	Attributable Activity
86.1	Hospital activities	100%
86.21	General medical practice activities	100%
86.22	Specialist medical practice activities	100%
86.23	Dental practice activities	100%
86.9	Other human health activities	100%

Life Sciences

SIC Code	Description	Attributable Activity
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	100%
26.6	Manufacture of irradiation, electromedical and electrotherapeutic equipment	100%
32.5	Manufacture of medical and dental instruments and supplies	100%
72.11	Research and experimental development on biotechnology	100%
72.19	Other research and experimental development on natural sciences and engineering	100%

Chemical Sciences

SIC Code	Description	Attributable Activity
20.11	Manufacture of industrial gases	100%
20.12	Manufacture of dyes and pigments	100%
20.13	Manufacture of other inorganic basic chemicals	100%
20.14	Manufacture of other organic basic chemicals	100%
20.15	Manufacture of fertilisers and nitrogen compounds	100%
20.16	Manufacture of plastics in primary forms	100%
20.17	Manufacture of synthetic rubber in primary forms	100%
20.20	Manufacture of pesticides and other agrochemical products	100%
20.30/1	Manufacture of paints, varnishes and similar coatings, mastics and sealants	100%
20.30/2	Manufacture of printing ink	100%
20.41/1	Manufacture of soap and detergents	100%
20.41/2	Manufacture of cleaning and polishing preparations	100%
20.51	Manufacture of explosives	100%
20.52	Manufacture of glues	100%
20.53	Manufacture of essential oils	100%
20.59	Manufacture of other chemical products n.e.c.	100%
20.60	Manufacture of man-made fibres	100%
21.1	Manufacture of basic pharmaceutical products	100%
21.2	Manufacture of pharmaceutical preparations	100%

Professional Services

SIC Code	Description	Attributable Activity
69	Legal activities and accounting activities	100%
70.2	Management consultancy activities	100%
82.91	Activities of collection agencies and credit bureaus	100%

Social Care

SIC Code	Description	Attributable Activity
87.1	Residential nursing care activities	100%
87.2	Residential care activities for learning disabilities, mental health and substance abuse	100%
87.3	Residential care activities for the elderly and disabled	100%
87.9	Other residential care activities	100%
88.1	Social work activities without accommodation for the elderly and disabled	100%
88.91	Child day-care activities	100%
88.99	Other social work activities without accommodation n.e.c.	100%

Tourism

SIC Code	Description	Attributable Activity
55.1	Hotels and similar accommodation	100%
55.2	Holiday and other short-stay accommodation	100%
55.3	Camping grounds, recreational vehicle parks and trailer parks	100%
56.1	Restaurants and mobile food service activities	100%
56.3	Beverage serving activities	100%
79.12	Tour operator activities	100%
79.9	Other reservation service and related activities	100%
91.02	Museum activities	100%
91.03	Operation of historical sites and buildings and similar visitor attractions	100%
91.04	Botanical and zoological gardens and nature reserve activities	100%
93.11	Operation of sports facilities	100%
93.19/9	Other sports activities (not including activities of racehorse owners) n.e.c.	100%
93.21	Activities of amusement parks and theme parks	100%
93.29	Other amusement and recreation activities	100%

Appendix C: Occupational Groupings

The Office for National Statistics Standard Occupational Classifications can be found [here](#).

Occupational Group	Job Description	Occupations within group include
Corporate Managers and Directors	Job holders in this sub-major group formulate government policy; direct the operations of major organisations, local government, government departments and special interest organisations; organise and direct production, processing, maintenance and construction operations in industry; formulate, implement and advise on specialist functional activities within organisations; direct the operations of branches of financial institutions; organise and co-ordinate the transportation of passengers, the storage and distribution of freight, and the sale of goods; direct the operations of the emergency services, revenue and customs, the prison service and the armed forces; and co-ordinate the provision of health and social services.	<ul style="list-style-type: none"> • Chief Executives and Senior Officials • Production Managers and Directors • Functional Managers and Directors • Financial Institution Managers and Directors • Managers and Directors in Transport and Logistics • Senior Officers in Protective Services • Health and Social Services Managers and Directors • Managers and Directors in Retail and Wholesale
Other Managers and Proprietors	Job holders in this sub-major group, either as employees or proprietors, manage agriculture related services; manage and co-ordinate the operations of health service general practices, residential and day care establishments and domiciliary care services; co-ordinate and direct the activities of businesses such as restaurants, hotels, entertainment establishments, sports and leisure facilities, travel and property agencies, independent shops, garages, waste disposal and environmental services, hairdressing establishments, and agencies providing services outsourced by other organisations.	<ul style="list-style-type: none"> • Managers and Proprietors in Agriculture Related Services • Managers and Proprietors in Hospitality and Leisure Services • Managers and Proprietors in Health and Care Services • Managers and Proprietors in Other Services
Science, Research, Engineering and Technology Professionals	Professionals in this sub-major group undertake research and consultancy activities within the physical and social sciences and in the humanities; technically supervise the development, installation and maintenance of mechanical, chemical, structural and electrical systems; advise upon and direct the technical aspects of production programmes; provide consultancy and development services in the provision and utilisation of information technology and telecommunications; direct and advise upon the conservation and protection of the environment; and direct and advise upon the research and development operations of an organisation.	<ul style="list-style-type: none"> • Natural and Social Science Professionals • Engineering Professionals • Information Technology and Telecommunications Professionals • Conservation and Environment Professionals • Research and Development Managers
Health Professionals	Health professionals provide medical treatments and diagnosis for people and animals, conduct research into treatment and drugs, dispense pharmaceutical compounds, provide therapeutical treatments for medical conditions, and administer nursing and midwifery care.	<ul style="list-style-type: none"> • Health Professionals • Therapy Professionals • Nursing and Midwifery Professionals

Teaching and Educational Professionals	Teaching and educational professionals plan, organise and undertake teaching and research activities within educational establishments; plan, organise, direct and co-ordinate the administrative work and financial resources of these establishments; and inspect and advise schools and training establishments.	<ul style="list-style-type: none"> Teaching and Educational Professionals
Business, Media and Public Service Professionals	Jobholders in this sub-major group advise and act on behalf of clients in legal matters, preside over judicial proceedings, collect and analyse financial information, perform accounting duties, advise on business and management matters, and perform a variety of other professional occupations within the public, welfare, regulatory and voluntary sectors, and within the media.	<ul style="list-style-type: none"> Legal Professionals Business, Research and Administrative Professionals Business and Financial Project Management Professionals Architects, Town Planners and Surveyors Welfare Professionals Librarians and Related Professionals Quality and Regulatory Professionals Media Professionals
Science, Engineering and Technology Associate Professionals	Science, engineering and technology associate professionals perform a variety of technical support functions to scientists, technologists, engineers and architects, prepare technical drawings, undertake building inspections, provide technical support for IT operations and users.	<ul style="list-style-type: none"> Science, Engineering and Production Technicians Draughtspersons and Related Architectural Technicians Information Technology Technicians
Health and Social Care Associate Professionals	Health and social care associate professionals provide a variety of technical support functions and services for health professionals in the treatment of patients to assist physical and psychological recovery, and provide social care and related community services.	<ul style="list-style-type: none"> Health Associate Professionals Welfare and Housing Associate Professionals
Protective Service Occupations	Workers in protective service occupations serve in the armed forces, the police force, fire service, prison service and perform other protective service roles.	<ul style="list-style-type: none"> Protective Service Occupations
Culture, Media and Sports Occupations	Workers in this sub-major group create and restore artistic works; write, edit and evaluate literary material; perform in acts of entertainment; arrange and perform musical compositions; produce television, film and stage presentations; present television and radio broadcasts; operate camera, sound and lighting equipment; design commercial and industrial products; compete in sporting events for financial reward; and provide training and instruction for sporting and recreational activities.	<ul style="list-style-type: none"> Artistic, Literary and Media Occupations Design Occupations Sports and Fitness Occupations
Business and Public Service Associate Professionals	Business and public service associate professionals command and control the movement of air and sea traffic; organise the administrative work of legal practices; perform specialist financial tasks; purchase goods and materials; provide technical sales advice to clients; undertake market research; arrange for the trading and leasing of property on behalf of clients; organise conferences and related	<ul style="list-style-type: none"> Transport Associate Professionals Legal Associate Professionals Business, Finance and Related Associate Professionals

	events; undertake recruitment, training and industrial relations activities; promote and maintain areas of the environment; perform administrative functions in government; and undertake statutory inspections of health and safety.	<ul style="list-style-type: none"> • Sales, Marketing and Related Associate Professionals • Public Services and Other Associate Professionals
Administrative Occupations	Workers in this sub-major group undertake administrative and clerical work in national and local government departments and non-governmental organisations; perform specialist clerical tasks in relation to financial records and transactions, the administration of pension and insurance policies, the storage and transportation of freight, the activities of libraries and of human resources operations; and perform other general administrative tasks. They also coordinate and oversee the day-to-day running of offices and supervise office staff.	<ul style="list-style-type: none"> • Administrative Occupations: Government and Related Occupations • Administrative Occupations: Finance • Administrative Occupations: Records • Other Administrative Occupations • Administrative Occupations: Office Managers and Supervisors
Secretarial and Related Occupations	Secretarial occupations perform general secretarial, clerical and organisational duties in support of management and other workers, and provide specialist secretarial support for medical and legal activities.	<ul style="list-style-type: none"> • Secretarial and Related Occupations
Customer Service Occupations	Customer service occupations receive and respond to enquiries regarding products or services, deal with customer complaints and perform a variety of tasks in the provision of additional services to customers after the point of sale; operate switchboards and receive and direct calls in a variety of establishments; operate telecommunications equipment to transmit and receive messages; conduct market research interviews; and perform other customer service tasks.	<ul style="list-style-type: none"> • Customer Service Occupations • Customers Service Managers and Supervisors
Process, Plant and Machine Operatives	Process, plant and machine operatives operate and attend machinery to manufacture, process or otherwise treat foodstuffs, beverages, textiles, chemicals, glass, ceramics, rubber, plastic, metal, synthetic and other products, operate plant and machinery to produce paper, wood and related products, extract coal and other minerals from the earth, attend and operate power generation and water treatment systems, perform routine operations in the manufacture of motor vehicles, metal goods, electrical and electronic products, clothing and other goods, and perform a variety of tasks in relation to the construction and repair of buildings, public highways, underground piping systems, railway tracks and other structures.	<ul style="list-style-type: none"> • Process Operatives • Plant and Machine Operatives • Assemblers and Routine Operatives • Construction Operatives
Transport and Mobile Machine Drivers and Operatives	Transport and mobile machine drivers and operatives drive motor vehicles to transport goods and people; drive trains and guide and monitor the movement of rail traffic; operate mechanical equipment on board boats, ships and other marine vessels; assist in the boarding, fuelling and movement of aircraft at airports; operate lifting, earth moving and earth surfacing equipment, agricultural equipment and other mobile machinery.	<ul style="list-style-type: none"> • Road Transport Drivers • Mobile Machine Drivers and Operatives • Other Drivers and Transport Operatives

Elementary Trades and Related Occupations	Occupations in this sub-major group perform agricultural, fishing and forestry related tasks, undertake general labouring duties, assist building and construction trades workers, and perform a variety of duties in foundry, engineering and other process plant related trades.	<ul style="list-style-type: none"> • Elementary Agricultural Occupations • Elementary Construction Occupations • Elementary Process Plant Occupations
Elementary Administration and Service Occupations	Workers in this sub-major group collect, sort and deliver written correspondence, undertake elementary clerical tasks within offices, undertake elementary cleaning tasks, protect and supervise people and property, perform elementary sales related tasks, assist in the storage and transportation of goods, and perform a variety of carrying, preparation and serving tasks within hospitals, catering, domestic and other establishments.	<ul style="list-style-type: none"> • Elementary Administration Occupations • Elementary Cleaning Occupations • Elementary Security Occupations • Elementary Sales Occupations • Elementary Storage Occupations • Other Elementary Services Occupations
Skilled Agricultural and Related Trades	Skilled agricultural and related trades cultivate crops, raise animals and catch fish for consumption, grow plants and trees for sale, tend gardens, parks, sports pitches and other recreational areas, and maintain areas of forestry.	<ul style="list-style-type: none"> • Agricultural and Related Trades
Skilled Metal, Electrical and Electronic Trades	Workers in this sub-major group shape and join metal, erect and maintain metal structures and fixtures; set up and operate metal working machinery and install and repair industrial plant and machinery; assemble parts in the manufacture of metal goods; make and calibrate precision instruments; install, test and repair air conditioning systems; maintain and repair motor vehicles; and install, test and repair industrial, domestic and commercial electrical and electronic equipment.	<ul style="list-style-type: none"> • Metal Forming, Welding and Related Trades • Metal Machining, Fitting and Instrument Making Trades • Vehicle Trades • Electrical and Electronic Trades • Skilled Metal, Electrical and Electronic Trades Supervisors
Skilled Construction and Building Trades	Skilled construction and building trades erect steel frames, lay stone, brick and similar materials, construct and repair roofs, install heating, plumbing and ventilating systems, fit windows, doors and other fixtures, and apply coverings and decorative material to walls, floors and ceilings.	<ul style="list-style-type: none"> • Construction and Building Trades • Building Finishing Trades • Construction and Building Trades Supervisors
Textiles, Printing and Other Skilled Trades	Workers in this sub-major group weave fabrics, make articles of clothing, soft furnishings and leather goods, upholster vehicle interiors, set and operate printing machines, prepare meat, poultry and fish, bake bread and flour-based confectionery products, prepare food and manage catering and bar operations within hotels, restaurants and other establishments, and perform a variety of other skilled trades.	<ul style="list-style-type: none"> • Textiles and Garments Trades • Printing Trades • Food Preparation and Hospitality Trades • Other Skilled Trades
Caring Personal Service Occupations	Workers in this sub-major group assist health professionals in the care of patients; undertake caring personal services within the community; supervise the activities of pre-school age children and assist teachers with non-teaching duties; provide technical assistance to veterinarians and provide other services in the care of animals;	<ul style="list-style-type: none"> • Childcare and Related Personal Services • Animal Care and Control Services • Caring Personal Services

	provide funeral services; and control pests hazardous to public health.	
Leisure, Travel and Related Personal Service Occupations	Workers within Leisure, Travel and Related Personal Service Occupations provide services and facilities for sporting and recreational activities; make travel arrangements for clients and provide ancillary services for travellers; provide hairdressing and beauty services; undertake domestic and care-taking duties in private households, public buildings and other establishments.	<ul style="list-style-type: none"> • Leisure and Travel Services • Hairdressers and Related Services • Housekeeping and Related Services • Cleaning and Housekeeping Managers and Supervisors
Sales Occupations	Workers in this sub-major group sell goods and services in retail and wholesale establishments, accept payment in respect of sales, obtain orders and collect payments for goods and services from private households, replenish stocks of goods in stores, create displays of merchandise and perform other sales related occupations.	<ul style="list-style-type: none"> • Sales Assistants and Retail Cashiers • Sales Related Occupations • Sales Supervisors