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North Wales Labour Market Review 2024

Exploring key labour market changes



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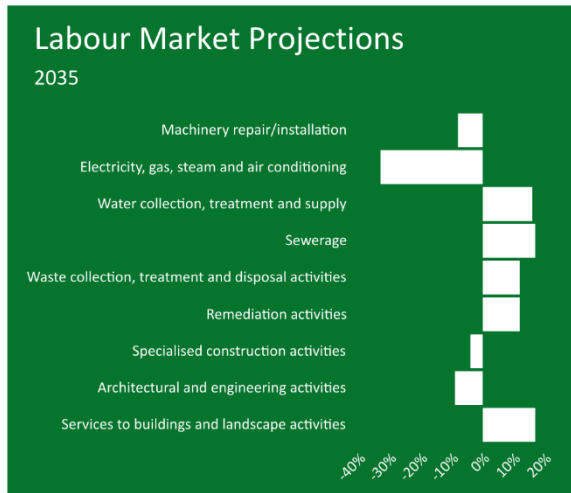
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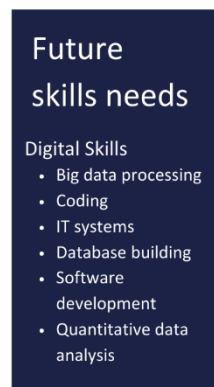
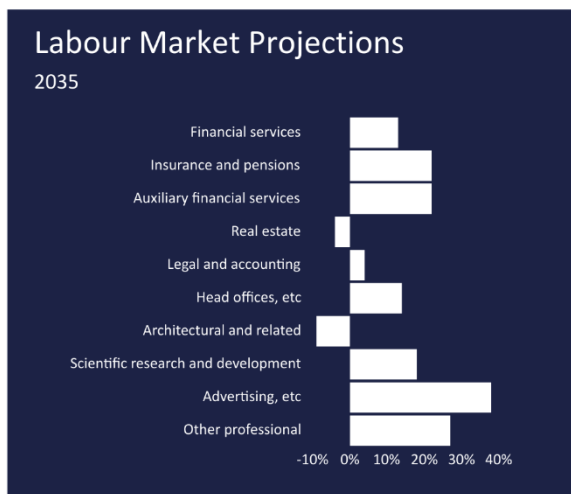
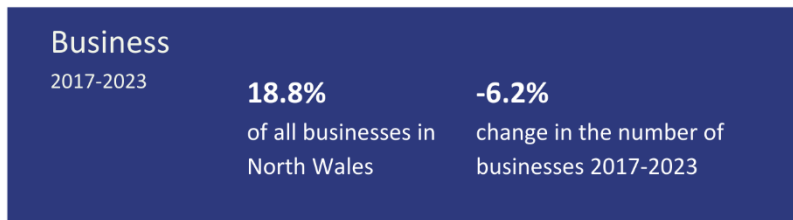
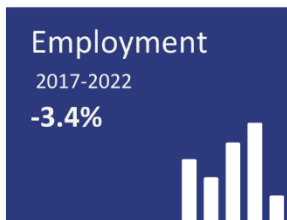
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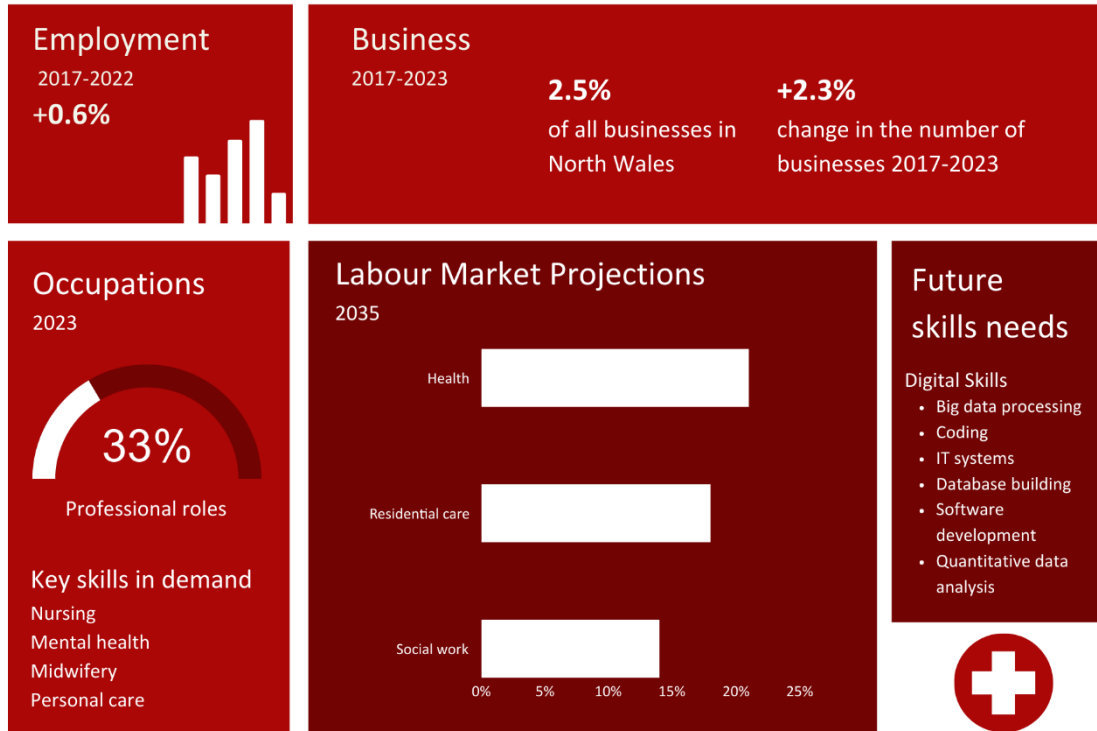
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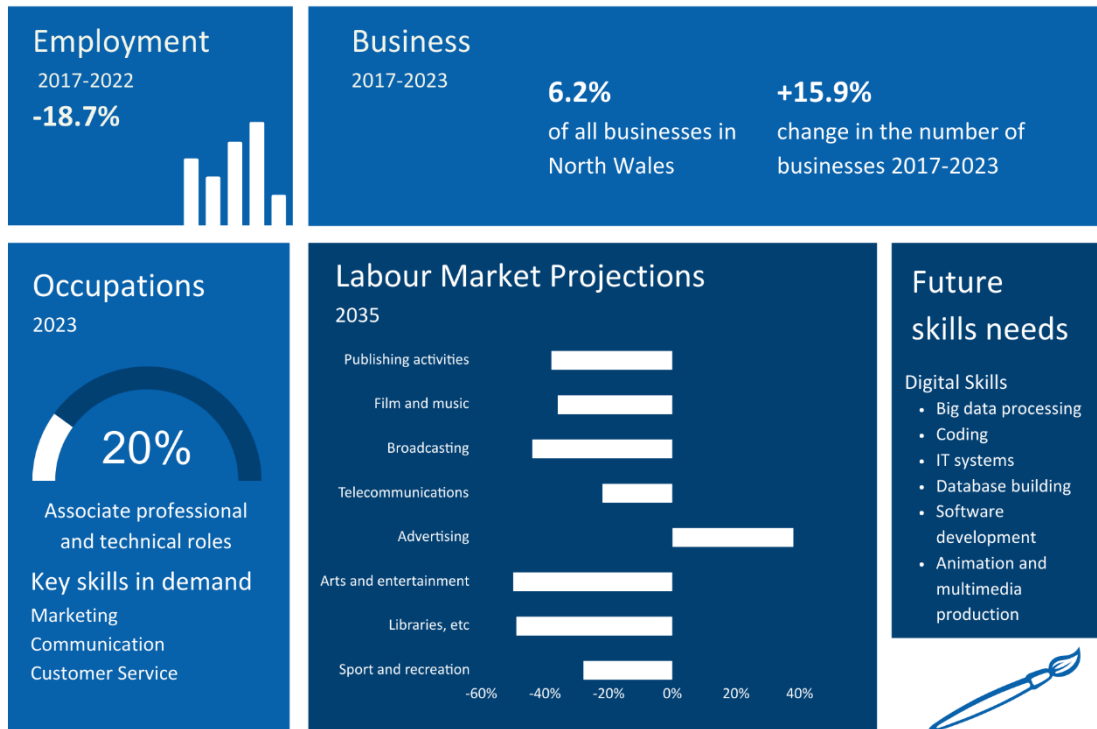
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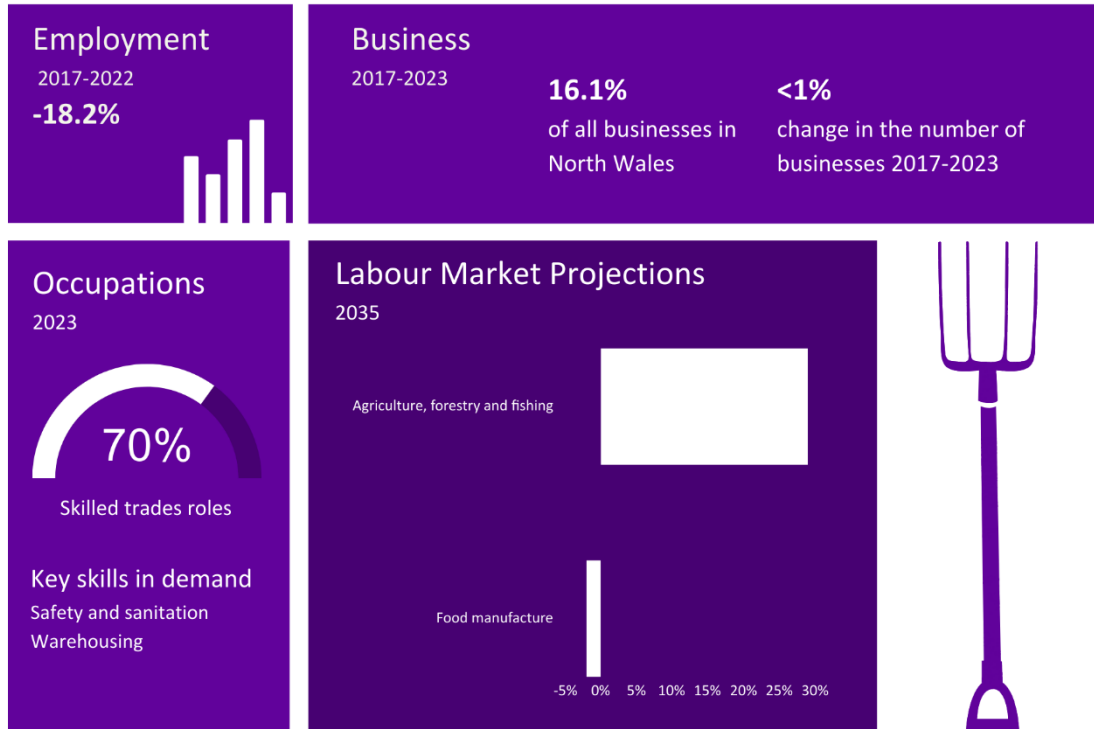
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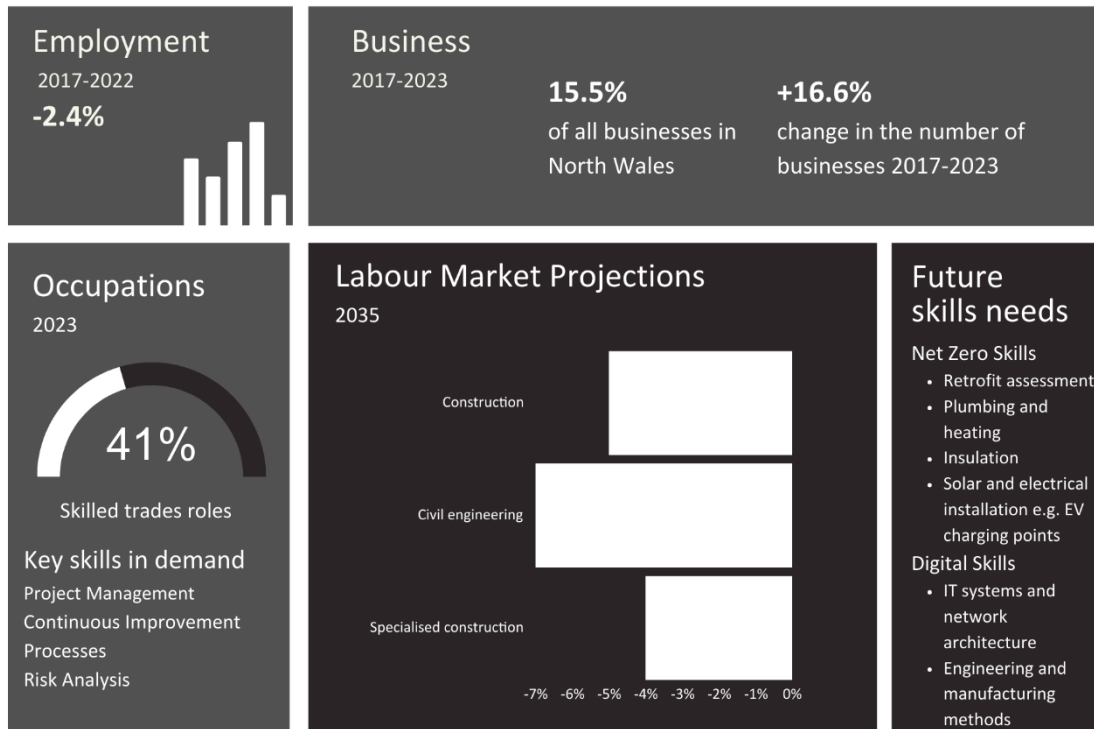
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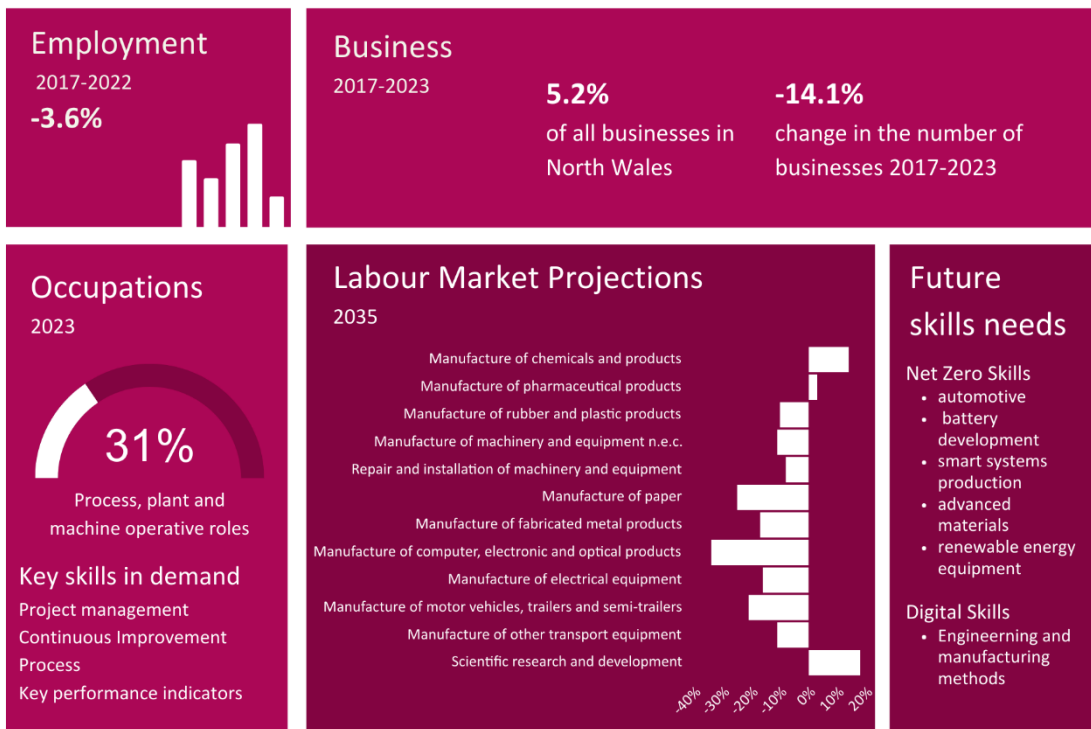
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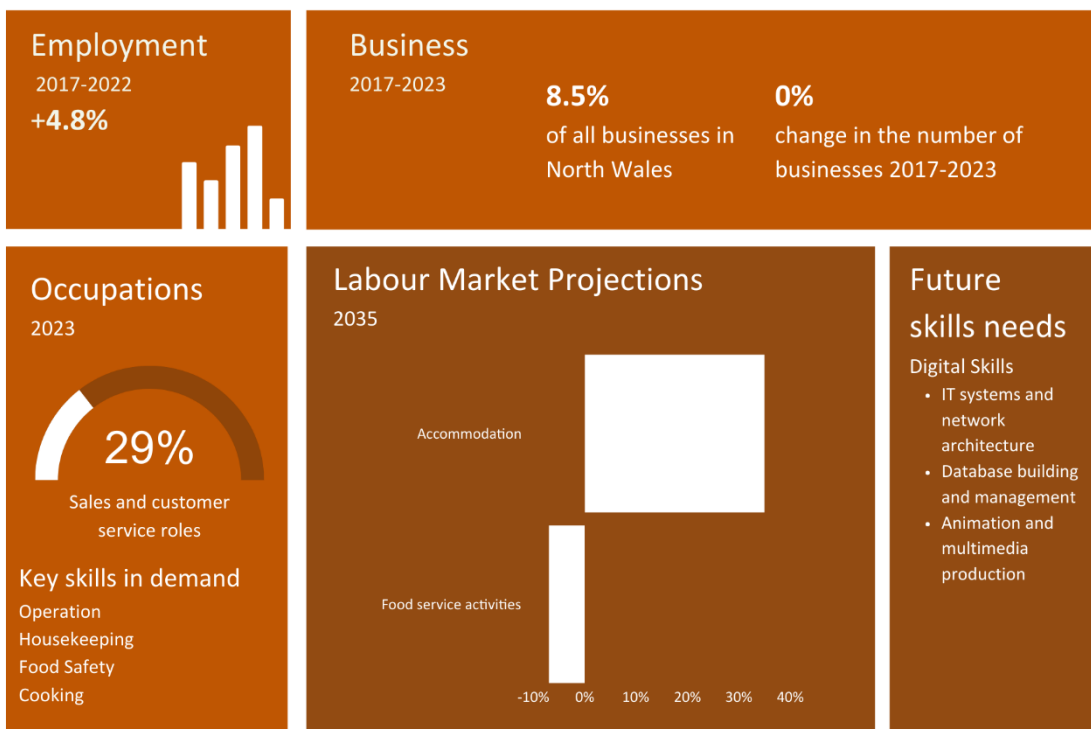
Construction



Advanced Manufacturing



Tourism and Hospitality



Public Sector



1. Introduction

Wavehill have conducted this research into the North Wales labour market on behalf of the North Wales Regional Skills Partnership. The study looks at the latest available data and combines this with future trends and forecasts to help highlight the labour market needs for the region in the medium to long term. This paper has been prepared to present the findings of this research and offer context and evidence to support policy and activities.

1.1 Methodology

This research compiles data from a range of public sources, including the Office for National Statistics (ONS), and commercial sources, such as Lightcast¹ and the Data City². The full data dashboard is presented as an accompanying document to this report.

For some levels of employment by sector and future estimates, there are multiple sources available for the same information. To ensure data fidelity, both sets of data have been presented to provide the ability to read across from the current situation to future forecasts without mixing data sources.

The research combines the public data with literature evidence from institutions working on labour markets and economies, including forward projections. Future estimates of the labour market in North Wales are then modelled by scaling any UK figures to the North Wales geographies based on the relative importance of certain sectors and activities. For example, the future growth of Health and Social Care nationwide at 19% is expected would create an employment increase in North Wales by 38k Full Time Equivalent (FTE) jobs.

The data presented in Section 2 covers the current position of the North Wales labour market overall and through the 9 key sectors:

- Energy and environment
- Construction
- Advanced manufacturing
- Creative and digital
- Tourism and hospitality
- Food and farming
- Public sector
- Financial and professional
- Health and social care

¹ Lightcast provides estimates of the latest job vacancies within an area based on job adverts

² The Data City platform provides an alternative to using Standard Industrial Classification codes matched with ONS data by identifying businesses by their sector based on how the business themselves describes their activity online. By building from the ground up a list of businesses within a specific geography and identified sector, composite data can be created which includes estimates of total employment numbers, GVA and business counts. Trend data over time is not available, but latest figures (October 2024) have been used to provide comparisons with the SIC data from ONS sources.

Section 3 then looks at the future situation before Section 4 presents some high level conclusions.

1.1.1 Caveats

There are numerous challenges with the data used and need to be considered when drawing any conclusions.

Confidence Intervals

Much of the data from ONS sources draws on large sample national surveys with scaled results to lower-level geographies. This results in wider confidence intervals (the accuracy of the estimates) and variation between each data publication (especially the most recent data which is categorised by ONS as “provisional”³). For instance, data given at a local authority level may have a confidence interval of $\pm 7\%$ compared to Wales at $\pm 3\%$.

Source Robustness

Longitudinal surveys used by the ONS have asked the same question over time for consistency despite the interpretation of these questions potentially changing with the context. For instance, the concept of ‘work’ and ‘self-employment’ has shifted over the last decade with the gig economy which can change the way that a survey respondent would answer a question on the number of hours they work per week. In other cases, surveys have been adjusted to need, which leads to breaks in the data consistency which may affect the data captured.

Other data source used, such as Lightcast, rely on capturing information from third party information, in this case job postings from sites like indeed.com. While attempts are made to mitigate duplications, such data should be read as indicative in terms of changes rather than absolute numbers. Information from the Data City also estimates GVA figures by applying average GVA per job multipliers to companies’ employee numbers based on sectors.

Standard Industrial Classifications

Standard Industrial Classifications (SIC) Codes are used by ONS and other statistical services to provide the breakdown of the economy by sectors. They can be built up from multiple sub levels to generate composite sector definitions and data then matched from public sources such as the Business Register and Employment Survey (BRES) to calculate variables such as employment by industry.

SIC codes face two key challenge; firstly the assignment of businesses and activity to each SIC which is often unreliable, and secondly, as above the data is scaled to each SIC breakdown with less reliability at lower geographies. Levels of disclosure (<5 units) mean numbers within local authority geographies and at detailed SIC level are often suppressed.

³ Recent data can change following subsequent collection periods as future iterations confirm trends and revise figures.

The result is that within subsectors SIC codes can add to the level of variations and unreliability of the published data.

Data on future projections was derived from Department of Education Labour Market and Skills Projections 2020 to 2035.⁴ This data was only available to the 3 digit SIC code level and therefore 'best fit' was applied to try and approximate the nine key sectors identified above. The projections provided an estimate of employees in each sub-sector for the years 2019, 2020 and 2035. The evaluation determined the percentage change in the relevant sectors between the years 2019 and 2035 (in order to negate the impacts of COVID -19 on employee numbers and date reporting). This percentage change was applied to a 4 year average of employees in this sector derived from BRES data for the years 2017-2021 (to mitigate against short term data fluctuations and the pandemic impacts noted above).

1.2 The Economic Context

The economic landscape of the United Kingdom has faced several key changes since the Covid-19 pandemic. Gross Domestic Product (GDP) provides an indicator of economic health and over the last three years has remained low at <0.7% growth each quarter. Challenges of supply chain disruptions, inflationary pressures, geopolitical tensions, and weak investment, have all contributed to this flatlining.

Inflation has been a central issue for the UK economy over the last three years rising from 3.1% in 2021 to a peak of 9.4% in the spring of 2022, driven by surging energy costs and food prices. Interest rate increases rates have helped to reduce inflation to 5.8% by mid-2024, however, the higher rates have also raised borrowing costs, affecting both consumers and businesses.

Despite the monetary policy pressure on unemployment, employment levels recovered significantly from the pandemic, with the unemployment rate falling from 5.4% in 2020 to 4.1% in July 2024. However, the job market has faced challenges such as labour shortages in key sectors like hospitality, healthcare, and logistics, partly due to Brexit-related changes in immigration policies.

Wage growth has been notable, driven by the tight labour market and rising living costs. Average earnings increased by 6.2% in 2022 and continued to rise into 2023. However, real wage growth has been modest due to high inflation eroding purchasing power.

The shifts over the last three years have not been consistent across sectors of the economy. The service sector, particularly digital services, has been a strong performer, driven by the shift towards online platforms and remote working. The manufacturing sector has faced challenges due to supply chain issues but has shown resilience, particularly in advanced manufacturing and pharmaceuticals. The construction sector has been mixed with areas of high demand and performance while facing material shortages and cost increases. The retail sector has continued to see significant shift towards e-commerce and having to navigate

⁴ <https://www.gov.uk/government/publications/labour-market-and-skills-projections-2020-to-2035>

changing consumer behaviours. Hospitality continued to be negatively affected by a lack of available staff alongside rising costs. Agriculture is facing various challenges from shifts in policy and an ageing workforce to rising costs and the effects of climate change.

2. Current Situation

This section covers the latest position of the labour market in North Wales and recent changes.

2.1 Demographics

The population of North Wales is estimated to be 691k in 2023, 21.9% of the Welsh population.⁵ Census data from 2021 puts the population of North Wales at 686,905, a reduction of 0.15% on the 2011 Census. This compares to an increase of 1.44% in Wales and 6.28% in the UK over the same period.

In North Wales, the population is ageing with the over 65s accounting for 23.5% of the population in 2021, up from 20.1% of the population in 2011. The demographic breakdown follows a similar pattern to both England and Wales but North Wales is ~2 percentage points above the national figures.

The composition of employment by age, defined as those either in full or part time work, tracks expected trends with 25-49 year olds representing the largest share of the working population in 2023 (56%), a marginal increase on 2020 (55%). There has been a reduction in the proportion of the 50+ age bracket in employment in North Wales over the last three years, from 39% in 2020 to 38.4% in 2023. This is similar to the proportions of those in employment across Wales while there are proportionately more individuals between 25 and 49 in work in the UK (59%).

The total number of individuals of working age (16-64) in employment in North Wales increased by 2.7 percentage points from 74.3% in 2020 to 77% in 2023, greater than the change in the whole of Wales for the same period (1.4%). For the UK, employment for those of working age rose by 0.6%.

2.1.1 Education and 'Brain Drain'

Access to education, higher paying job opportunities and the amenities to attract young families is essential to ensuring a retention of young people in the economy. While the proportion of residents under the age of 35 in North Wales has reduced between 2011 and 2021 Census (from 40% to 37.9%) the actual numbers have declined in real terms too. Total under 35s in North Wales in 2011 were 273k and this had fallen to 260k by 2021. This demonstrates the extent of the outward migration of young people in North Wales (as well as ageing) often referred to as 'brain drain'.

Higher Education Statistics Authority (HESA) data also shows that a higher percentage of graduates in five of the six North Wales local authorities moved out of the country to study and did not return for work than the overall percentage for North Wales.

⁵ Population Estimates, ONS, 2024

Table 2:1: The geographical mobility of Welsh graduates by local authority 2018/19⁶

Local authority	Stayed in Wales for study and work (%)	Returned to Wales for work after leaving for study (%)	Studied in Wales, but left the country for work (%)	Moved for study and did not return to Wales for work (%)
Flintshire	20.3	21.1	8.5	50.2
Wrexham	26.6	20.1	9.2	44.1
Denbighshire	24.6	28.1	6.8	40.5
Conwy	32.0	21.7	5.9	40.4
Isle of Anglesey	44.4	15.9	8.5	31.1
Gwynedd	51.7	17.3	6.6	24.4
Wales (overall)	48.6	16.4	8.5	26.6

2.2 Qualification levels

In 2023 42.2% of those aged 16-64 in North Wales hold qualifications at RQF4+ level.⁷ This reflects a steady increase of 8.2 percentage points between 2017 and 2023.⁸ The figures for North Wales are slightly below those of Wales as a whole (43.2%) and 5 percentage points below the UK (47.1%). The increase between 2017 and 2023 in Wales and the UK was similar to North Wales at 8.2 and 8.7 percentage points respectively, though the gap with the UK is widening.

Approximately 21% of those aged 16-64 hold qualifications at RQF level 3 and above in North Wales, with similar proportions of individuals in Wales and UK also holding level 3 qualifications. Those holding just RQF level 1 qualifications fell by -6.8 percentage points between 2017 and 2023 by in North Wales.

8.7% of those aged 16-64 in North Wales hold no RQF level qualifications, an increase of 0.8 percentage points since 2017. Wales have similar proportions of those with no RQF level qualifications (8.6%) and above the UK (6.6%).

Within North Wales, there are differences between authority areas, with a greater proportion of the working age population in Gwynedd (45.2%) and Wrexham (45.2%) qualified to Level 4 and above than in Denbighshire (37.1%).

⁶ <https://committees.parliament.uk/writtenevidence/123347/html/>

⁷ Annual Population Survey, ONS, 2024

⁸ This compares NVQ qualification levels in 2017 to RQF qualification levels in 2023.

Table 2.2: Qualification levels within North Wales

	Conwy	Denbighs hire	Flintshire	Gwynedd	Isle of Anglesey	Wrexham
RFQ4+ 2023	43.4%	37.1%	40.3%	45.2%	39.8%	45.2%
RFQ3+ 2023	63.5%	58.4%	63.0%	69.4%	64.6%	58.4%
RFQ2+ 2023	82.8%	77.6%	81.0%	89.8%	88.4%	83.8%
RFQ1+ 2023	84.7%	80.9%	86.7%	92.3%	92.1%	87.7%
No qualifications 2023	14.1%	13.6%	8.8%	4.7%	3.4%	7.2%

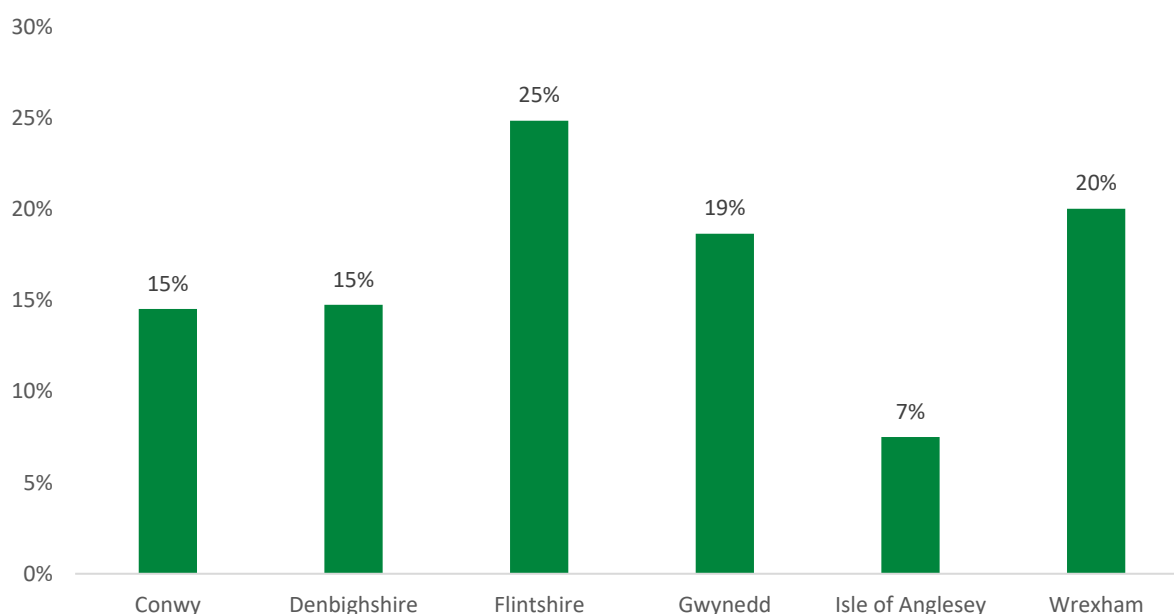
2.3 Sector Employment

The employment structure in North Wales shows substantial variation across sectors, reflecting the distinct regional dynamics. Several industries, such as advanced manufacturing, health and social care, and tourism and hospitality, play a vital role in the regional economy.

The majority of jobs in North Wales are located in micro and small enterprises (83.6% and 13.8%, respectively), which corresponds to Wales figures (83.3% and 13.7%). This is a significantly higher proportion than across the UK, where small and micro enterprises account only for 48% of employment jobs.

North Wales accounts for 22% of jobs in Wales with the highest proportion of jobs in the region located in Flintshire (25%) and Wrexham (20%).

Figure 2.1: Job proportions in North Wales by local authority



2.3.1 Finance and Professional Services

Employment in the finance and professional services sector in North Wales has declined over the last five years by 3.4%. This compares to a greater decline in the sector in Wales of 19.2% suggesting a lesser relative decline for the North Wales region.

Much of the jobs in this sector in North Wales have come from accounting, bookkeeping, and auditing activities (adding 890 jobs) as well as real estate (535 jobs) while other subsectors have fluctuated. Architectural and engineering jobs are down several thousand roles compared to 2017 in North Wales, following a broader trend in Wales.

In North Wales looking at trends in the sub sectors of Financial and insurance activities, Real estate activities and Professional, scientific and technical activities, the Financial and Professional sector shrank by 3% resulting in approximately 600 fewer employees. This reduction is largely driven by Financial and insurance activities which shrank by 600 employees (-20%), whilst Real estate activities grew by nearly 100 employees (3%). By contrast, the Financial and Professional services sector grew by 7% across Wales largely down to growth in the Financial and insurance activities subsector (11%).

2.3.2 Construction

The construction sector remains critical to the North Wales economy, especially in subsectors such as Building completion, Construction of residential and non-residential buildings, and Electrical, plumbing, and other construction installation activities. These subsectors account for approximately 40% of jobs in the construction industry in North Wales and 45.2% in Wales. While North Wales experience a decrease in employment in the construction sector (-2.4%) since 2017, Wales saw a marginal increase in employment of 1% across 2017 and 2022.

In North Wales, employment in Building completion and finishing increased by 1,900 jobs, between 2017 and 2022. This subsector also showed a substantial rise of 7,475 jobs in Wales over the same period, despite job losses following the pandemic, suggesting continued recovery.

Looking at the Construction sector defined by SIC sub sectors Construction of buildings, Civil engineering and Specialised construction activities using 3 year rolling averages the number of employees in this sector grew from 14.2k by 1% (180 employees). This was in contrast to the sector across Wales which shrank by 2%.

Insight from the Data City estimates that the Construction sector in North Wales currently supports 21.7k jobs in 2024.

2.3.3 Health and Social Care

The Health and social care sector has experienced steady increases in North Wales of 0.6 between 2017 and 2022, while there was a marginal decrease of -4.4% in Wales. The

subsector hospital activities accounts for most jobs in the health and social care sector in North Wales and Wales, making up approx. 40% of all the jobs in the sector in 2022. Social work activities have experienced a substantial decline in North Wales and Wales by almost 26% and 22% over the last 5 years respectively. Medical and Dental practice activities have also seen considerable decline shrinking by 42% (1,670 employees) in North Wales and a similar amount (43%) across Wales as a whole (7,500 employees).

The new Medical School at Bangor university does provide opportunities for increasing the training development for this sector within North Wales.

2.3.4 Food and Farming

The food and farming sector in North Wales experienced a decrease in employment of 18.2% between 2017 and 2022, below the 20.3% decrease in Wales (this three year moving average may be influenced by the closure of 2 Sisters plant in Anglesey in 2023). The key sectors for North Wales are the Manufacture of other food products (19.6%) and the processing and preservation of meat and production of meat products (18.7%). This is broadly similar to Wales where the Manufacture of other food products accounts for 18% of jobs in the wider sector.

Looking at the SIC sectors of Agriculture, forestry and fishing (which is a broader definition of the agricultural sector) and Food Manufacture (accounting for additional food manufacturing and excluding beverages and wholesale activities), overall these sectors grew by 6% and 5% respectively equating to an additional 670 employees overall with an estimate of circa 13k employed in this sector. This growth is similar across Wales (6%).

Using the established SIC definitions for Food and Farming, The Data City estimates that the total current employment in the Food and Farming sector in North Wales is ~10k.

2.3.5 Tourism and Hospitality

Employment in the tourism and hospitality sector has grown marginally in North Wales when comparing the average levels between the 2016-2018 and 2020-2022 periods, increasing by 4.8%. The largest subsector was restaurants and mobile food service activities, accounting for 34% of employment in the sector in 2022.

Analysis of the SIC code category Accommodation and food service activities echoes this trend of growth in the food service activities subsector of 8% over the period, whilst the accommodation subsector shrank by 8%.

2.3.6 Creative and Digital

Employment in the creative and digital industry has decreased substantially across North Wales and Wales when comparing the average levels between the 2016-2018 and 2020-2022 periods, falling by 18.7% and 11.1% respectively. The largest subsector in both regions is sports activities (accounting for 33.8% of employment in all subsectors in North Wales and

29.2% in Wales using 2022 numbers), computer programming and consultancy (16.4% in North Wales and 21.4% in Wales).

Using limited SIC sector analysis (which includes broader subsectors than those outlined above) suggests a modest growth in the sector by 3% to around 9.3k employees. This was largely driven by Film and music (96% growth), Telecommunications (32%), Sport and recreation (15%) and Libraries, archives, museums and other cultural activities (12%). Publishing activities witnessed the most notable decline of 86% resulting in approximately 800 fewer employees. Growth for this sector was larger across Wales as a whole (11%, 4.8k additional employees) largely accounted for by a 137% growth in Film and music activities throughout the period (3.7k additional employees).

The Data City estimates that the total current employment in the Creative and Digital sector in North Wales is currently ~13.6k. However, when using a tighter definition of Digital creative industries (using different definitions to SIC codes) the total employment in this industry is estimated at 242 jobs in North Wales. This large reduction is likely due to the exclusion of many activities not related to creative occupations.

2.3.7 Advanced Manufacturing

Employment in the advanced manufacturing sector has decreased by -3.6% in North Wales and -5.6% in Wales between 2017 and 2022. Air and spacecraft manufacturing in North Wales accounts for 19% of employment in the sector. In contrast, Wales shows a broader base, with engineering consultancy and the manufacture of rubber and plastic products being key areas accounting for 11% and 10% of jobs, respectively.

Using a broader SIC code definition of the sector suggests this sector has grown by 3% (350 employees) thanks to increases in employees in the Manufacture of paper and paper products and Scientific research and development subsectors (1k in total). Across Wales the sector shrank by 3% (2.6k employees) which was largely driven by a 26% (4.7k) reduction in employees in the Manufacture of fabricated metal products, except machinery and equipment. Employment in this subsector also decreased in North Wales by 22% (730 employees).

When using The Data City estimates and the SIC definition of Advanced manufacturing, there are currently estimated to be 22.1k jobs in North Wales in the sector. However, adopting The Data City definition of Advanced manufacturing which limits activity to more appropriate advanced elements of the manufacturing sector, the total jobs in North Wales are estimated to be 2.5k.

2.3.8 Energy and Environment

Between 2017 and 2022, employment in the sector declined by approximately 1.5% in North Wales and similarly 1.6% in Wales. Cleaning activities provide the largest employment share in the sector (17.7%) in Wales in 2022. Electrical Plumbing and other construction

installation activities, Architectural and engineering activities and related technical consultancy account for 14% and 12% of employment jobs in the sector, respectively. A similar trend can be observed in North Wales, where cleaning activities provide 13% of the employment share and architectural and engineering activities and related technical consultancy 12%. However, Electrical Plumbing and other construction installations account for the largest share of employment, approximately 14%.

Using the same SIC definitions as above, The Data City estimates that the total current employment in the Energy and Environment sector in North Wales is currently ~11.1k. Against a tighter definition of the Energy and Environment sector the total employment in this industry is estimated at ~1.4k in North Wales.

Taking a wider SIC code definition of the sector suggests that employment in this sector did increase by 2% (400 employees) although this is largely driven by an increase in the Specialised Construction Activities sector which will include activities not directly related to energy or the environment. The most notable decline was in the Architectural and engineering activities; technical testing and analysis sector which shrank by 20% (950 employees). Across Wales this sector grew by 0.2%.

2.3.9 Public Sector

Between 2019 and 2022, employment in the public sector in North Wales expanded employment by 9.1% to 35.7k jobs. In contrast, across Wales as a whole, the sector experienced a slightly slower growth rate of 4.6% during the same period. The most significant subsector in North Wales and Wales is General Public Administration activities, which accounted for 29% and 34% of all employment in the sector, respectively. In North Wales, this subsector saw substantial growth of 25%, while in Wales, it grew by 8.9%. A slightly smaller proportion of employment is found within Primary Education, accounting for 27% in North Wales and 23% in Wales. However, the sector observed only a marginal increase in employment of around 2.4% in North Wales and 2.8% in Wales)

2.4 Business Breakdown

North Wales is predominately made up of micro and small businesses, with micro businesses accounting for 84% and small businesses accounting for 14% of all businesses in North Wales. This is similar for the whole of Wales with micro and small businesses also comprising 98.2% of all businesses in Wales. From 2010 to 2013, the number of micro businesses in North Wales grew by 30%, similar to the increase across the whole of Wales where the number of micro businesses grew by 35% across the same period.

2.4.1 Finance and Professional Services

Financial and professional businesses made up 18.8% of all businesses in North Wales and 20.6% of all businesses in Wales across the same period. The number of Financial and professional businesses in North Wales fell by -6.2% between 2017 and 2023, and -3.4% in Wales. Wrexham has the most financial and professional businesses in North Wales,

accounting for approx. 18.2% of all businesses in the financial and professional sector in North Wales. Wrexham has also experienced the largest reduction in businesses in the Financial and professional sector out of the local authorities in North Wales (-14.1% between 2017 and 2023).

2.4.2 Construction

Businesses in the Construction made up 15.5% of all businesses in North Wales and 15% of businesses in Wales in 2023. The number of businesses in the Construction sector has increased over the period 2017 to 2023 16.6% in North Wales and 14.3% in Wales. Flintshire has the largest proportion of Construction businesses in North Wales at 21.6%.

2.4.3 Health and Social Care

The number of businesses in the health and social care sector have increased in North Wales by 2.3% between 2017 and 2023 while they have reduced in Wales by 2.8% over the same period. Health and social care businesses make up a small proportion of all businesses in both North Wales and Wales given many operators are national or the public sector (2.5%).

2.4.4 Food and Farming

Businesses in the food and farming sector made up 16.1% of businesses in North Wales in 2023. There are a similar proportion of Food and farming businesses in the whole of Wales at 14.2% of all businesses in Wales. North Wales accounts for 27.6% of the Food and farming businesses in Wales. The number of businesses in the food and farming sector has remained relatively stable across between the 2017 and 2023, with a ~1% variation year on year.

2.4.5 Tourism and Hospitality

Tourism and hospitality businesses made up 8.5% of all businesses in North Wales and 7.3% of all businesses in Wales in 2023. The number of businesses in the Tourism and hospitality sector in North Wales has remained the same from 2017 to 2023 despite an increase in 2020 and 2021 (potentially due to more domestic holidays as a result of the Covid-19 pandemic). In Wales as a whole the number of tourism and hospitality sector businesses increased by 10.1% between 2017 and 2023, a substantial difference compared to the change in North Wales, although nationally the sector also experienced the increase in 2020/21 and reduction in 2022/23.

2.4.6 Creative and Digital

The number of businesses in the digital and creative sector has increased between 2017 and 2023 in North Wales by 15.9% and in Wales by 18.2%. Overall, Creative and digital businesses make up 6.2% of all businesses in North Wales and 7.4% of businesses in Wales.

2.4.7 Advanced Manufacturing

The number of businesses defined as Advanced manufacturing in North Wales have reduced by -14.1% between 2017 and 2023. This was a similar reduction in Wales of -14.7%. The local authority that has experienced the largest reduction in Advanced manufacturing

businesses is Wrexham by -21.3%. Businesses in the Advanced manufacturing sector made up 5.2% all businesses in North Wales and 4.8% of businesses in Wales.

2.4.8 Energy and Environment

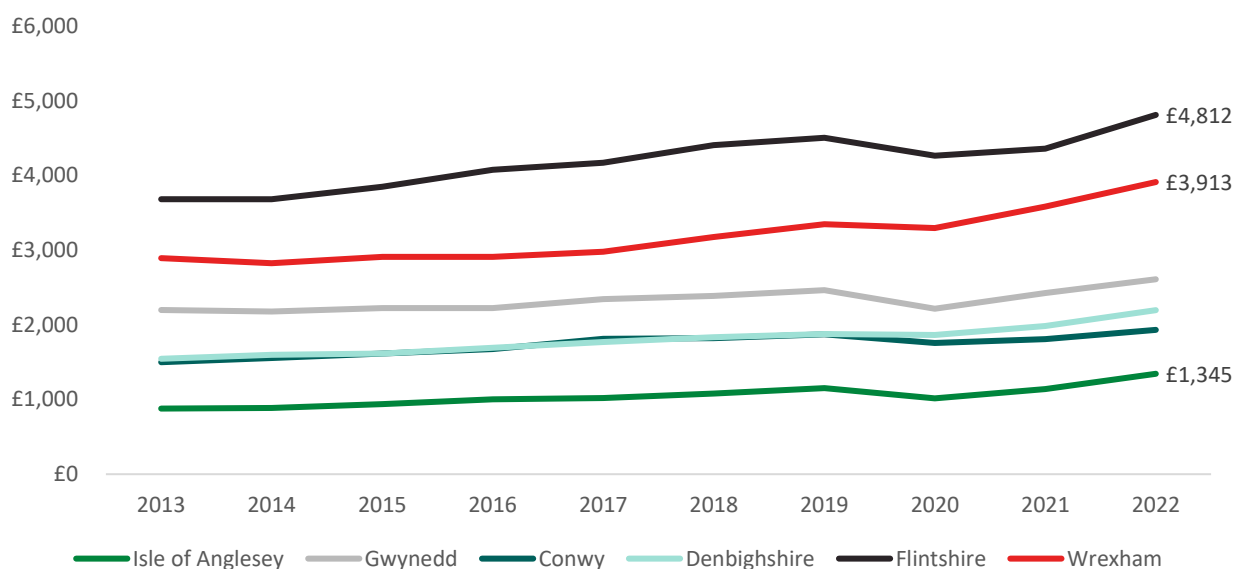
Businesses in the Energy and environment sector comprised 13% of all businesses in North Wales and 12.4% of Wales in 2023. The number of businesses in the sector has increased by 3.9% in North Wales between 2017 and 2023, while in Wales the increase was 6.1%. Flintshire is the local authority which has the most Energy and environment sector businesses, making up 23.4% of businesses in North Wales in 2023.

2.5 Gross Value Added

Wales contributed roughly £74.5bn in Gross Value Added (GVA) to the UK economy in 2022, which is an increase of 9.6% since 2019.⁹ North Wales produced £16bn in GVA, which was an increase of 10.5% on 2019. However, the growth rate of North Wales and Wales as a whole is below the UK, which has grown by 12.8% over the 2019 to 2022 period.

As detailed in the graph below, of each the North Wales local authorities, Flintshire generates the most GVA, adding £4.8bn in GVA.

Figure 2.2: Total Gross Value Added by local authority (£m)



Productivity, measured by GVA per hour worked, estimates North Wales generated £31.40¹⁰ compared to £32.80 in Wales in 2022. By comparison the UK average GVA per hour is £39.70.

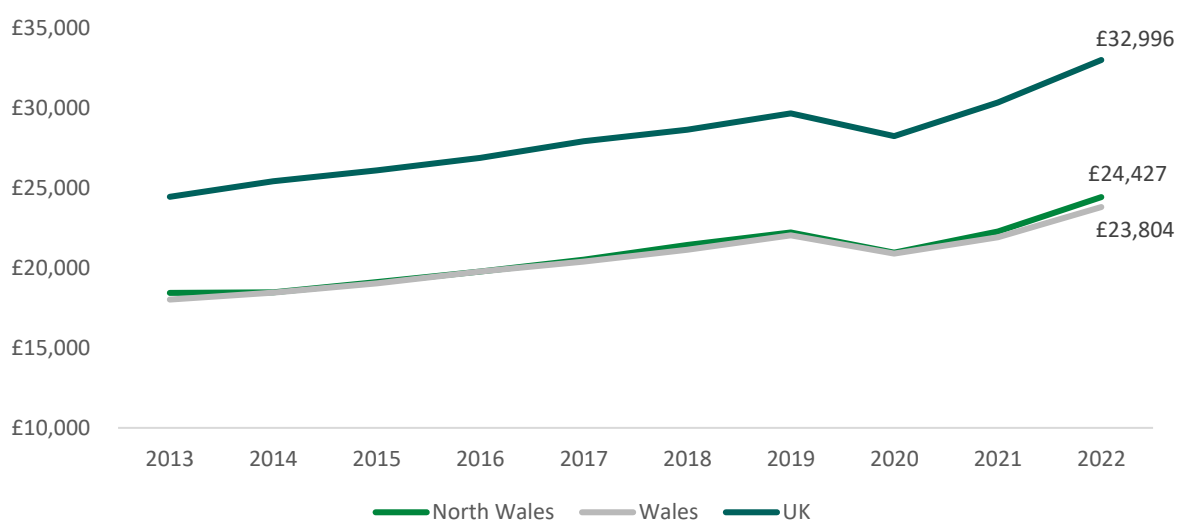
⁹ Gross Value Added (balanced), ONS, 2023.

¹⁰ This is an amalgamation of grouped local authority areas in North Wales, rather than a straight North Wales figure and therefore should be suitably caveated.

Since 2019, North Wales's GVA per hour has grown 10.2%, above the relative increase in Wales of 6.8%. GVA per hour in the UK increased by 8.5% over the same period.

North Wales also had a marginally higher GVA per head than Wales in 2022 (£24,427 vs £23,804) though both were smaller than the UK average of £32,996.

Figure 2.3: GVA per job



2.6 Occupation Breakdown

The most prevalent occupation classification in North Wales is professional occupations which accounts for approximately ~23% of the occupation types (SOC20). There are similar proportions of those in professional occupations in Wales as a whole, where 23% of people are employed. By comparison, professional occupations account for 26.5% in the UK.

North Wales has a marginally higher proportions of those in elementary occupations (~12%) compared to Wales (9.4%) and the UK (9%). This is due in part to the sectoral composition of North Wales and the greater rates of employment in industries such as tourism and hospitality.

Occupation breakdowns are not available at sufficiently low levels to allow for investigation against the 9 key sectors for North Wales, so instead higher level broad industrial group figures that contain each of the key sectors are presented below.

2.6.1 Banking, finance & insurance

The most employed occupation in the banking, finance and insurance sector in North Wales are those in professional occupations 26%. These proportions are similar to Wales at 28% and the UK at 33%.

2.6.2 Construction

In terms of the construction sector, the most employed occupation in North Wales is skilled trades at 41% in 2023, a reduction from 57% in 2021. Likely this latest figure is anomalous and occupational breakdown in construction remains consistent with Wales and the UK at ~50% of those employed in the sector.

2.6.3 Agriculture & fishing

The agriculture and fishing sector in North Wales is dominated by skilled trades occupations which account for 70% of roles in 2023. A large proportion of individuals were also classified as working in elementary occupations (~20%).

2.6.4 Distribution, hotels & restaurants

Within the distribution, hotels and restaurants sector, in North Wales the most employed occupation type is sales and customer service occupations (29%). There is also a relatively high proportion of those employed in elementary occupations in the sector at ~31%.

2.6.5 Transport & Communication

Within the transport and communication sector in North Wales the most employed occupations are process, plant and machine operatives (~38%) in 2023. A smaller proportion of occupations in the sector in North Wales are in professional occupations (9% compared to 26% in Wales).

2.6.6 Manufacturing

The manufacturing sector in North Wales employs the largest proportion of those in process, plant and machine operative occupations (31%) in 2023. Skilled trades occupations also account for 18% of those employed in the manufacturing sector in North Wales.

2.6.7 Energy and Environment

The occupational spread in the energy and water sector in North Wales is relatively broad, with proportions of the workforce in professional and technical occupations, as well as process, plant and machine occupations. Professional and technical occupations comprise of 55% of occupations in the Energy and Environment sector. Process, plant and machine occupations also comprise 23% of the sector employment.

2.6.8 Public admin education & health

Professional occupations make up most of the public administration, education and health sector in North Wales (33%), Wales (37%) and the UK (41%).

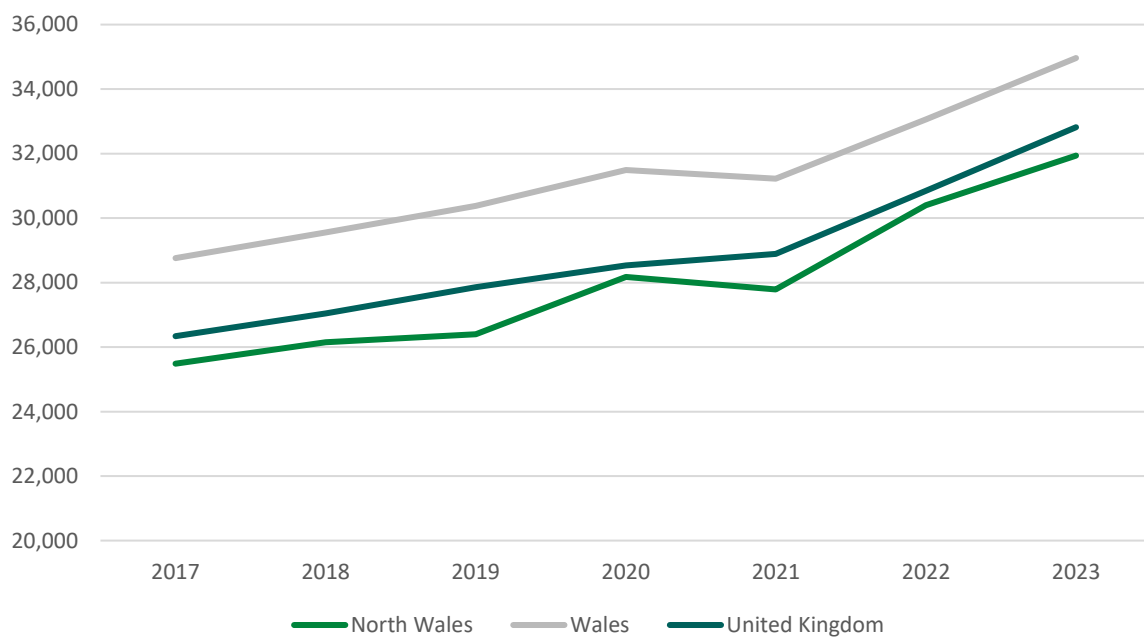
2.6.9 Conclusions

Continued training and development to support skilled trades and professional occupations are needed to support the key sectors in North Wales. Both these occupations typically support more productive outputs and are therefore important to support greater GVA per hour and earnings.

2.7 Earnings

The median average annual earnings for residents in North Wales was £31,938 in 2023¹¹. The minimum annual earnings for residents across North Wales are in Denbighshire (£29,641) and the maximum annual earnings are in Flintshire (£33,444) in 2023. The annual earnings for the whole of Wales stood at £32,817, below the UK at £34,963.¹² Since 2017, median annual earnings for residents increased by 25.3% in North Wales, marginally above that of Wales (24.6%) and substantially above the UK (21.6%).

Figure 2.4: Annual median average resident earnings



The median average annual earnings by workplace in North Wales was £31,367 in 2023¹³. The minimum annual earnings by workplace across North Wales are in Conwy (£28,617) and the maximum annual earnings are in the Isle of Anglesey (£33,220) in 2023. The difference between workplace and residence based assessments suggests that individuals living in North Wales travel outside of the region to seek higher paying work which they then bring back.

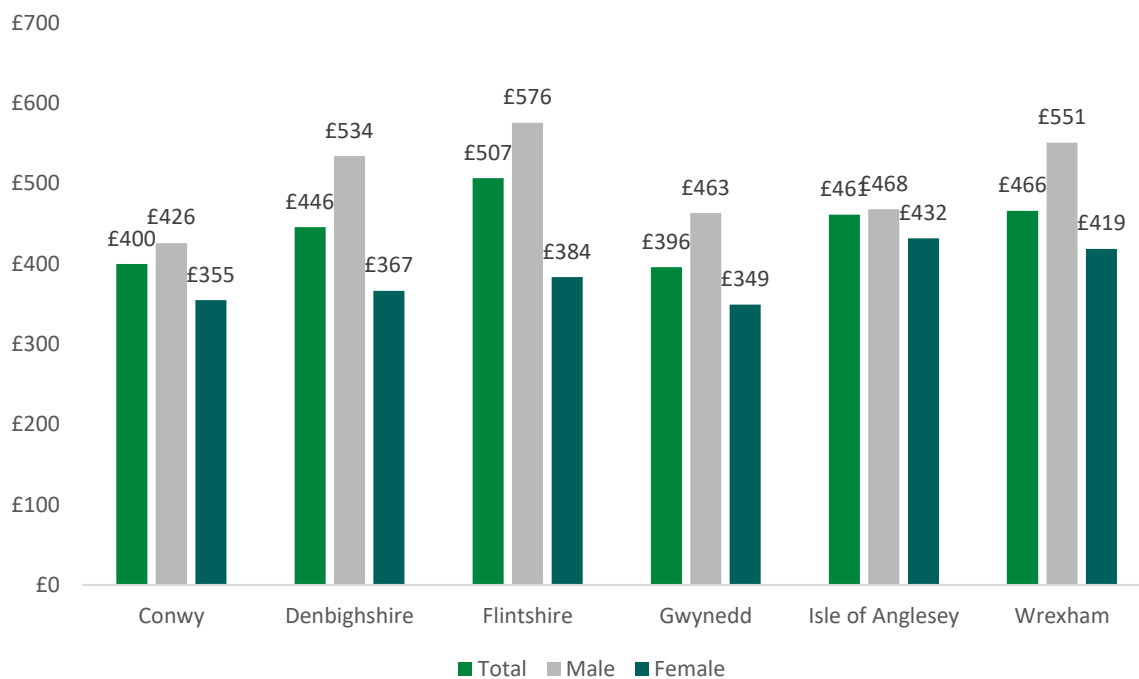
The graph below provides a breakdown of the weekly workplace median average earnings in North Wales local authorities, including gender differentials.

¹¹ This is an average of the average earnings across each local authority area in North Wales, therefore should be treated with caution as is not completely mathematically correct

¹² Annual Survey of Hours and Earning, ONS, 2024

¹³ This is an average of the average earnings across each local authority area in North Wales, therefore should be treated with caution as is not completely mathematically correct

Figure 2.5: Weekly workplace median earnings in North Wales by local authority



2.8 Skills Needs

The analysis of jobs and skills data across North Wales, based on information from Lightcast, provides valuable insights into the region's evolving labour market. However, it is important to approach the data with caution, as the analysis relies on broad sector categorisations (2 digit SIC codes) and therefore includes a higher degree of approximation for each key sector.

This section explores the skills needs and trends across North Wales compared to corresponding data for Wales and the UK to identify critical areas for workforce development.

2.8.1 Top Specialised Skills by Key Sector

The analysis of the skills demand across the key sectors provides an insight into the evolving priorities of North Wales's labour market. In sectors such as advanced manufacturing, construction, creative digital, and health and social care, key skills reflect a strong focus on operational efficiency, technical expertise, and specialised roles. Other industries like energy and the environment, finance, food and farming, and tourism emphasise a blend of logistical management, safety practices, and customer service.

A more detailed breakdown of the latest specialised skills needs are provided below.

Advanced Manufacturing: Project Management (634 postings) is the dominant skill demand, followed by Auditing (414) and Key New Product Development (398), which reflect the focus on operational efficiency and product development.

Construction: Skills such as Machinery (226) and Continuous Improvement Processes (212) are most in demand, showing a preference for roles focused on optimising operations and maintaining technical expertise. Although less common, there is demand for Risk analysis skills (149).

Creative and Digital: Currently there is a strong emphasis on Marketing (299) and Auditing (206) skills, suggesting the sector's focus on digital product promotion in North Wales.

Energy Environment: The current job roles highlight a demand for operational skills such as Housekeeping (406) and Key Performance Indicators (461).

Finance Professional: Auditing (699) is the top specialised skill in this field, followed by Project Management (662). Marketing (615) is also in much demand within this sector.

Food and Farming: Demand for skills such as food Safety and Sanitation (259) and Warehousing (123) are most prevalent the job roles posted in the sector.

Health and Social Care: The figures for this sector are influenced by the dominance of demand for nursing job roles (4,515 postings) and mental health (2,470 postings), with other specialist skills related to midwifery (2,402) and Personal Care (1,978).

Tourism and Hospitality: In this sector, Restaurant Operation (1,600) and Housekeeping (1,062) are the highest demand skills. Food Safety (840) and Cooking (587) are also widely cited.

2.8.2 Top Common Skills Across Sectors

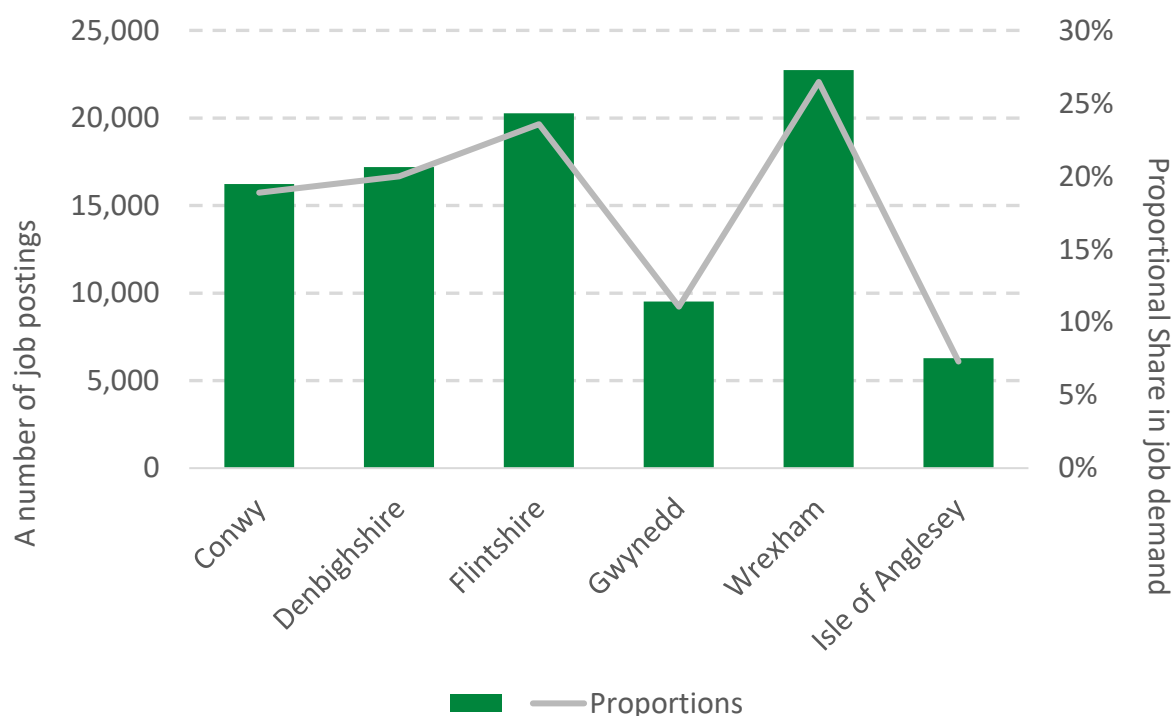
While specialised skills are critical to each sector, there are common competencies highly valued across all industries in North Wales. Communication is the most universally required skill, featuring prominently across Finance (4,463 postings), Tourism (3,514), Health and Social Care (6,449), and more. The most demanded common skills in each sector are listed below:

- Advance Manufacturing; Management (1,196), Communication (1,559)
- Construction; Management (538), Communication (789)
- Creative Digital; Communication (1,558) Customer Service (1,216)
- Energy Environment; Customer Service (2,317) Communication (2,236)
- Finance Professional; Communication (4,463) Customer Service (3,806)
- Food Farming; Communication (410) Management (279)
- Health & Social Care; English Language (11,035) Welsh Language (10,895)
- Tourism Hospitality; Customer Service (3,514) Communication (2,888)

2.8.3 Job Postings by Region

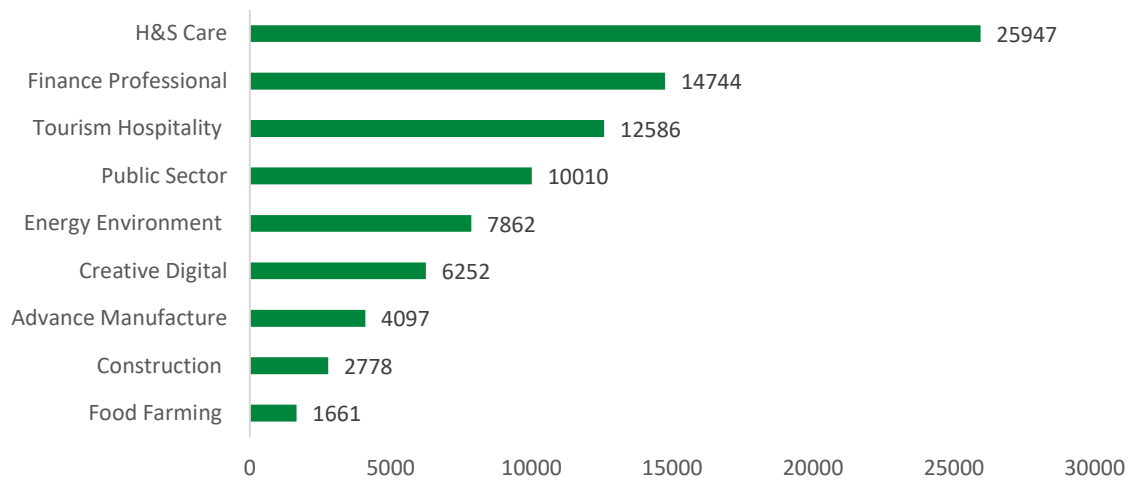
The local authority breakdown highlights variations in job demand across North Wales. As seen below, Wrexham had a largest number of job postings in the last three years (2022-2024) at 21,932 (29%), with demand particularly in Health and Social Care (7,424 postings). Flintshire also has a high job demand with 17,677 job postings (23%), especially in sectors like Construction, Energy and Environment, Finance, and Professional services. Denbighshire and Conwy each account for around 18-19% of total job postings, with strong demands in Tourism, and Health and Social Care. While having fewer jobs and therefore fewer postings than other authority areas, Gwynedd leads in demand in the Tourism and Hospitality sector with 2,984 job postings.

Figure 2.6: Job postings by local authority (2022-2024)



The greatest demand for jobs in the last three years in North Wales has been in the Health and Social Care sector, with almost 26,000 job postings. Correspondingly, the Health and Social Care sector experiences the greatest demand for jobs across Wales with over 140,000 job posting in the same time period.

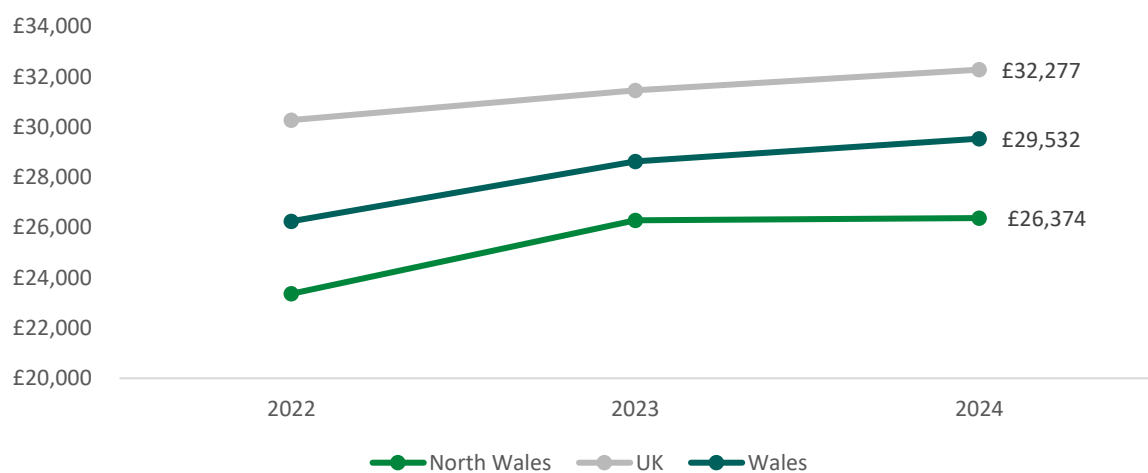
Figure 2.7: Total job postings by North Wales key sectors



2.8.4 Median Salary Trends

Job posting salary data from Lightcast helps to show the impact of relative demand in regions.¹⁴ Over the last three years (2022-2024) there has been a general upward trend across all industries in North Wales. Manufacturing saw average salaries rise from £21,937 in 2022 to £24,609 in 2024, reflecting a steady growth in pay. Construction experienced the most significant rise, from £26,571 to £32,284, indicating a the potential challenges for recruitment in this sector. Finance, Tourism, and Health have seen more modest increases, with the Tourism & Hospitality sector still offering the lowest median salaries, despite a rise by approximately 19% to £25,038.

Figure 2.8: Lightcast salary trend data



¹⁴ This data from Lightcast should not be conflated with average earnings data from ONS.

2.8.5 Education Breakdown

The majority of Lightcast job postings across sectors do not require formal education, particularly in manual labour sectors. In sectors like Construction, Energy, and Food and Farming, 70-90% of postings list “No Education Required” with experience suggested as more important for recruitment. In contrast, employers in Advanced Manufacture place emphasis on Higher Education qualifications, with 27% of roles requiring a Bachelor’s or higher degree. Health and Social Care, similarly, has a more substantial proportion (12%) of roles requiring a higher education degree than other sectors. Creative and Digital and Tourism also show some need for GCSEs, A-Levels, or higher qualifications, but many roles still do not list education as a key requirement (78%).

3. Looking Forward

This section considers the future situation of the North Wales economy through the impacts that changes in work will have on the labour market.

The future of work is constantly being influenced by various factors, global and domestic.¹⁵ Technological advancement and the Artificial Intelligence (AI) evolution is at the very least going to change how people work while the broader use of digital technology is reorienting the skills with which individuals need to do their jobs. Geopolitics and migration, demographics and aging populations, and societal considerations like inequality all play a role. The shifting behaviours among businesses and consumers, economic growth and consequences of climate change are all impactful on the job roles that are available.

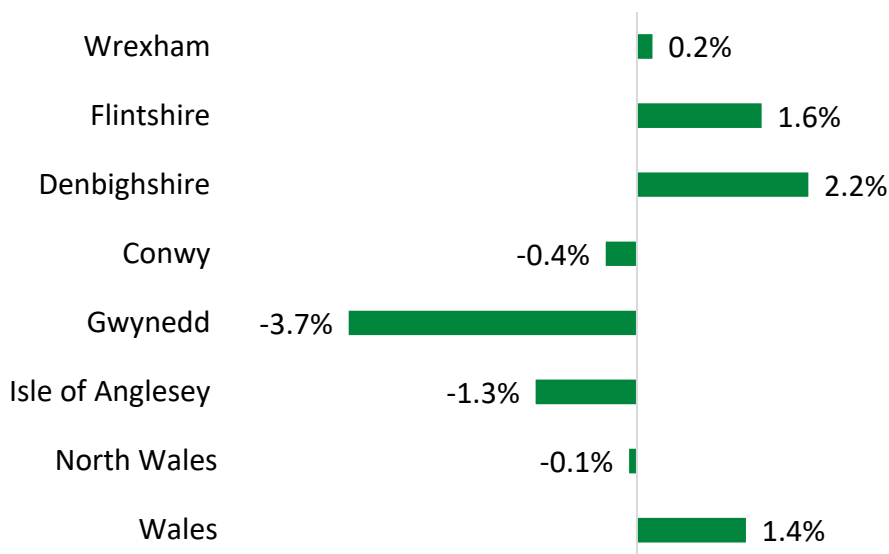
There is also change to the way jobs work, with the Covid-19 pandemic accelerating a change in attitudes to work and considerations of the quality of work (though the trend towards homeworking has recently begun to shift backwards).

3.1 Demographic changes

2021 population projections released by the ONS suggest that by 2035 the population of Wales is anticipated to increase by 5.3%. However, this data is currently unavailable at a sub-regional level and recent trends between the 2011 and 2021 census in North Wales local authorities demonstrated that the overall population in North Wales has fallen by 0.1%, largely driven by declines in the north west based local authorities.

¹⁵ Labour market and skills demand horizon scanning and future scenarios, Research Report, RAND Europe on behalf of the Department for Education Skills and Productivity Board, 2022 https://assets.publishing.service.gov.uk/media/628ca1fce90e071f6af1462a/Labour_Market_and_Skills_Demand_Horizon_Scanning_and_Future_Scenarios_FINAL.pdf

Figure 3.1: Population Changes 2011-2021 Census



Population projections from 2018 are available at a regional level and do account for smaller population growth in these regions, using this data the population projections of each local authority in 2030 are given in the following table.

Table 3.1: Population projections by local authority and year (2018)¹⁶

	2021	2030	% change
North Wales	701,149	708,278	1.0%
Isle of Anglesey	69,879	69,609	-0.4%
Gwynedd	124,936	128,250	2.7%
Conwy	118,001	120,470	2.1%
Denbighshire	95,836	97,073	1.3%
Flintshire	156,862	159,201	1.5%
Wrexham	135,635	133,676	-1.4%

However, this data does not appear to align with existing trends of decline in some areas and increase in others, as evidenced in the Census (notably Gwynedd and Wrexham). As a final estimate applying a linear year on year percentage change based on total population change between the 2011 and 2021 Census provides the projections in the following table.

Table 3.2: Population projections by local authority and year based on Census linear change

	2021	2030	% change
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¹⁶ <https://statswales.gov.wales/Catalogue/Population-and-Migration/Population/Projections/Local-Authority/2018-based/populationprojections-by-localauthority-year>

North Wales	686,909	686,291	-0.1%
Isle of Anglesey	68,878	68,076	-1.2%
Gwynedd	117,393	113,541	-3.3%
Conwy	114,741	114,329	-0.4%
Denbighshire	95,818	97,732	2.0%
Flintshire	154,962	157,208	1.4%
Wrexham	135,117	135,360	0.2%

These patterns suggest that the expanded labour supply in North East Wales will require additional training and can be used to support employment needs. In North West Wales, high quality employment will help protect against falling population levels which are in part due to migration for better work prospects (see section 2.1.1 above).

The population of over 65s in North Wales is projected to rise, in line with wider trends and the median population age in the region already being above the national figure.

Table 3.3: Median age by Region and Local Authority (2021 Census)¹⁷

	Median Age
Wales	40
North Wales	46
Isle of Anglesey	48
Gwynedd	45
Conwy	49
Denbighshire	47
Flintshire	44
Wrexham	42

Using 2018 population projections, the population of over 65s in each local authority in 2030 is projected to increase, as outlined in the table below.

Table 3.4: Population projections by local authority and year (2018)¹⁸

	2021	2030	% change
North Wales	165,710	188,874	14.0%
Isle of Anglesey	18,548	20,825	12.3%
Gwynedd	28,552	31,739	11.2%
Conwy	33,288	38,857	16.7%
Denbighshire	23,738	27,416	15.5%
Flintshire	33,727	38,625	14.5%

¹⁷ <https://www.northwalescollaborative.wales/wp-content/uploads/2022/11/2021-Census-topic-summary-demography-migration.pdf>

¹⁸ <https://statswales.gov.wales/Catalogue/Population-and-Migration/Population/Projections/Local-Authority/2018-based/populationprojections-by-localauthority-year>

Wrexham	27,856	31,413	12.8%
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Using linear projections based on 2011 and 2021 Census data presents a slightly different picture suggesting that Denbighshire and Flintshire will see the biggest growth in their over 65 populations.

Table 3.5: Population projections by local authority and year based on Census linear change

	2021	2030	% change
North Wales	143,636	161,206	11.6%
Isle of Anglesey	15,646	18,205	15.7%
Gwynedd	25,140	27,272	7.9%
Conwy	28,162	31,371	10.7%
Denbighshire	19,690	23,747	20.1%
Flintshire	26,836	33,227	23.6%
Wrexham	28,162	27,384	-2.5%

The trend projections anticipate an additional 23-36k more individuals in the over 65 age category by 2030. This will put additional pressure on those in work to support those who are not in work, as well as increase the demand for health and social care sectors.

In line with this trend, life expectancy is anticipated to increase by 2030. For Males the rise is expected to be 1.3 years from 79.2 for those born in 2021 to 80.5 for those born in 2030. The increase will be slightly smaller for Females, rising by 0.8 years from 83.1 to 83.9. The UK Government is projected to increase the age of state pension in line with life expectancy projections raising the State Pension age to 66 between 2024 and 2026, to age 67 between 2034 and 2036, and to age 68 between 2044 and 2046.¹⁹ These trends will result in older adults remaining in the workforce for longer.

Conversely, the working age population (16-64) in the region is expected to shrink, although linear projections based on the 2011 Census suggest that Wrexham may be the exception to this trend (though extrapolated figures from the last decade need to be treated cautiously).

Table 3.5: 16-64 Population projections by local authority and year based on 2018 projections and Census linear change

	2018 Projections			Census linear projections		
	2021	2030	% change	2021	2030	% change
North Wales	410,371	402,572	-1.9%	407,031	406,140	-0.2%
Isle of Anglesey	39,220	37,732	-3.8%	38,942	36,287	-6.8%
Gwynedd	75,311	76,150	1.1%	70,697	66,540	-5.9%
Conwy	65,495	63,524	-3.0%	64,993	62,499	-3.8%
Denbighshire	54,673	53,509	-2.1%	55,161	53,505	-3.0%
Flintshire	94,048	92,912	-1.2%	94,351	92,036	-2.5%
Wrexham	81,626	78,745	-3.5%	82,887	100,820	21.6%

¹⁹ <https://www.gov.uk/government/publications/state-pension-age-review-2023-government-report/state-pension-age-review-2023>

It is worth noting that reform changes to Work Capability Assessment processes are projecting 424k fewer individuals in the UK are expected to be assessed as having limited capability for work and work-related activity by 2028 to 2029 and a further 33k will be found fit to work.²⁰

3.2 Sectoral changes

This section outlines predicted sectoral changes, particularly with a view to examining their impact on employment within North Wales in the next 10 years. As available projections are based on SIC code categorisation, these do not align exactly with the nine identified and defined priority sectors. To overcome this, a best fit has been applied.

In order to mitigate against the impact that the COVID-19 pandemic had on industry figures for affected years, a four-year average of employment figures between 2017 and 2021 has been used.

Overall, the key sectors that are projected to grow are Finance and Professional Services, Health and Social Care, Food and Farming, and Tourism and Hospitality.

3.2.1 Construction

Across Wales, employment in the Construction sector is anticipated to shrink by 5% between 2019 and 2035, reducing from 59k to 56k employees. The four-year average for North Wales demonstrates that employment in the core construction sector accounted for roughly 5% of all employment in North Wales. This would shrink the sector from 13.9k to 13.2k employees in 2035 in the region.

3.2.2 Finance and professional services

The finance and professional services industry is projected to grow by 10% between 2019 and 2035, with the largest growth being seen in Advertising activities (38%), Other professional activities (27%), Insurance and pensions, and Auxiliary financial services (22% respectively). Across Wales this would represent a growth from 112k employees to 123k. For North Wales this would mean that the number of employees in these sectors would grow to 21k. Employment in this industry currently accounts for approximately 7% of employees in North Wales or 19k job roles.

3.2.3 Health and social care

As outlined in the demographic projections above, Health and social care is projected to be one of the biggest growth areas and anticipated to grow by 19% (with a 21% growth in core Health provision activities). Across Wales the number of employees is projected to grow

²⁰ <https://www.gov.uk/government/publications/work-capability-assessment-reform-estimated-number-of-claimants-affected/work-capability-assessment-reform-update-to-estimated-number-of-claimants-affected#:~:text=Budget%202024%20forecasts.-,Results,under%20the%20current%20WCA%20rules.>

from 200k to 238k employees. In North Wales, this sector is the largest employer accounting for 16% of employees in the region (46k jobs). This is projected to increase to 55k by 2035.

3.2.4 Food and farming

Agricultural, farming and forestry activities is another sector where considerable growth is anticipated (29%), whilst food manufacturing is projected to shrink slightly by 2% by 2035. For Wales the current projections for 2035 are

	2017-2021 average	2035 projection	% change	Change (N)
Agriculture, forestry and fishing	16,132	16,537	29	405
Food manufacture	23,565	21,556	-2	-2,009
Total	37,307	41,562		4,255

For North Wales this equates to:

	2017-2021 average	2035 projection	% change	Change (N)
Agriculture, forestry and fishing	4,786	6,174	29	1,388
Food manufacture	8,066	7,905	-2	-161
Total	12,852	14,079		1,227

3.2.5 Tourism and hospitality

For the tourism and hospitality sector, this estimate has taken available projections for the Accommodation and Food Service activities sector which is anticipated to grow by 5% by 2035. This growth is largely driven by the accommodation sub sector (35%) as the food and beverage activities sub sector is projected to shrink by 7%.

For Wales the resultant projections for 2035 are:

	2017-2021 average	2035 projection	% change	Change (N)
Accommodation	26,752	36,023	35	9,271
Food service activities	77,000	71,404	-7	-5,596
Total	103,752	107,427		3,675

In North Wales the break down by sub sector is as follows:

	2017-2021 average	2035 projection	% change	Change (N)
Accommodation	10,612	14,290	35	3,678
Food service activities	18,150	16,831	-7	-1,319
Total	28,762	31,121		2,359

3.2.6 Creative and Digital

For the Creative and Digital sector, figures have been derived from the following subsectors:

- Publishing activities
- Film and music
- Broadcasting
- Telecommunications
- Advertising
- Arts and entertainment
- Libraries, etc
- Sport and recreation

Overall, this sector is projected to shrink by 34% by 2035 based on the current data, with all subsectors expected to contract except advertising which is anticipated to grow by 38%. For Wales the breakdown by subsector is as follows:

	2017-2021 average	2035 projection	% change	Change (N)
Publishing activities	1,378	854	-38	-524
Film and music	4,924	3,151	-36	-1,773
Broadcasting	1,823	1,021	-44	-802
Telecommunications	7,394	5,767	-22	-1,627
Advertising	1,586	2,189	38	603
Arts and entertainment	3,142	1,571	-50	-1,571
Libraries, etc	4,154	2,119	-49	-2,035
Sport and recreation	19,165	13,799	-28	-5,366
Total	43,566	30,471		-13,095

For North Wales, the projected change in employees is:

	2017-2021 average	2035 projection	% change	Change (N)
Publishing activities	337	209	-38	-128
Film and music	817	523	-36	-294
Broadcasting	74	41	-44	-33
Telecommunications	914	713	-22	-201
Advertising	590	814	38	224
Arts and entertainment	695	348	-50	-348
Libraries, etc	1,059	540	-49	-519
Sport and recreation	4,381	3,154	-28	-1,227
Total	8,867	6,342		-2,525

Data from the wider literature is mixed in its future forecasts for jobs in the creative and digital sectors. Both in Wales and the wider UK there has been government emphasis on

supporting the creative and digital sectors which may help boost their prevalence in the economy.²¹ This sector is one where AI is likely to have some of the most unpredictable outcomes, from displacing jobs to replacing them altogether.²² Optimistic forecasts suggest that there will be an increase in jobs in the creative sector in the UK by 1 million by 2030 (a 33% increase).²³

3.2.7 Advanced Manufacturing

For the Advanced Manufacturing sector, a composite has been taken from the following subsectors:

- Manufacture of chemicals and chemical products
- Manufacture of basic pharmaceutical products and pharmaceutical preparations
- Manufacture of rubber and plastic products
- Manufacture of machinery and equipment n.e.c.
- Repair and installation of machinery and equipment
- Manufacture of paper and paper products
- Manufacture of fabricated metal products, except machinery and equipment
- Manufacture of computer, electronic and optical products
- Manufacture of electrical equipment
- Manufacture of motor vehicles, trailers and semi-trailers
- Manufacture of other transport equipment
- Scientific research and development

Overall, this sector is projected to contract by 13% by 2035, according to the available data. For Wales, the projections broken down by subsector are given in the following table.

	2017-2021 average	2035 projection	% change	Change (N)
Manufacture of chemicals and chemical products	5,353	6,102	14	749
Manufacture of basic pharmaceutical products and pharmaceutical preparations	2,720	2,802	3	82
Manufacture of rubber and plastic products	10,929	9,836	-10	-1,093

²¹ <https://www.gov.uk/government/news/ambitious-plans-to-grow-the-economy-and-boost-creative-industries#:~:text=Developed%20with%20industry%20via%20the,a%20creative%20careers%20promise%20that> and <https://www.gov.wales/new-plan-help-develop-wales-creative-talent>

²² At risk: Our creative future, House of Lords Communication and Digital Committee, 2023 <https://committees.parliament.uk/publications/33536/documents/182541/default/>

²³ The Future of the Creative Economy, Deloitte, 2021 <https://www.deloitte.com/uk/en/Industries/tmt/perspectives/the-future-of-the-creative-economy.html>

Manufacture of machinery and equipment n.e.c.	4,769	4,244	-11	-525
Repair and installation of machinery and equipment	6,499	5,979	-8	-520
Manufacture of paper and paper products	3,800	2,850	-25	-950
Manufacture of fabricated metal products, except machinery and equipment	15,474	12,843	-17	-2,631
Manufacture of computer, electronic and optical products	6,981	4,607	-34	-2,374
Manufacture of electrical equipment	4,339	3,645	-16	-694
Manufacture of motor vehicles, trailers and semi-trailers	10,393	8,210	-21	-2,183
Manufacture of other transport equipment	9,266	8,247	-11	-1,019
Scientific research and development	3,167	3,737	18	570
Total	83,690	73,104		-10,586

For North Wales, the 2035 projections are:

	2017-2021 average	2035 projection	% change	Change (N)
Manufacture of chemicals and chemical products	1410	1,607	14	197
Manufacture of basic pharmaceutical products and pharmaceutical preparations	1555	1,602	3	47
Manufacture of rubber and plastic products	1630	1,467	-10	-163
Manufacture of machinery and equipment n.e.c.	1330	1,184	-11	-146
Repair and installation of machinery and equipment	1150	1,058	-8	-92
Manufacture of paper and paper products	3825	2,869	-25	-956
Manufacture of fabricated metal products, except machinery and equipment	2445	2,029	-17	-416
Manufacture of computer, electronic and optical products	1470	970	-34	-500
Manufacture of electrical equipment	1040	874	-16	-166
Manufacture of motor vehicles, trailers and semi-trailers	2220	1,754	-21	-466
Manufacture of other transport equipment	5475	4,873	-11	-602

Scientific research and development	1275	1,505	18	230
Total	24,825	21,791		-3,034

These projections of decline in the Advanced manufacturing sector are heavily influenced by the definition of advanced manufacturing from SIC codes. Recent trends suggest that Advanced manufacturing is going to continue to grow, though there are few specific estimates of actual numbers.²⁴ While more broadly the manufacturing sector is facing various challenges, the adoption of Industry 4.0 and the increasing use of robotics, as well as the decarbonisation agenda, all create potential prospects for growth.²⁵

3.2.8 Energy and Environment

For the Energy and Environment sector, a composite has been taken from the following subsectors:

- Repair and installation of machinery and equipment
- Electricity, gas, steam and air conditioning supply
- Water collection, treatment and supply
- Sewerage
- Waste collection, treatment and disposal activities; materials recovery
- Remediation activities and other waste management services
- Specialised construction activities
- Architectural and engineering activities; technical testing and analysis
- Services to buildings and landscape activities

Overall, this composite sector is projected to shrink 0.5% by 2035, based on the available data. For Wales, the projections broken down by subsector are as follows:

	2017-2021 average	2035 projection	% change	Change (N)
Repair and installation of machinery and equipment	6,499	5,979	-8	-520
Electricity, gas, steam and air conditioning supply	7,291	4,885	-33	-2,406
Water collection, treatment and supply	3,300	3,828	16	528
Sewerage	1,060	1,240	17	180
Waste collection, treatment and disposal activities; materials recovery	7,914	8,864	12	950
Remediation activities and other waste management services	413	463	12	50

²⁴ https://joint-research-centre.ec.europa.eu/jrc-news-and-updates/advanced-manufacturing-industry-growing-significantly-eu-2024-07-02_en

²⁵ <https://www2.deloitte.com/us/en/insights/industry/manufacturing/manufacturing-industry-outlook.html>

Specialised construction activities	30,676	29,449	-4	-1,227
Architectural and engineering activities; technical testing and analysis	15,902	14,471	-9	-1,431
Services to buildings and landscape activities	21,780	25,483	17	3,703
Total	94,835	94,661		-174

For North Wales, the 2035 projections are:

	2017-2021 average	2035 projection	% change	Change (N)
Repair and installation of machinery and equipment	1,144	1,052	-8	-92
Electricity, gas, steam and air conditioning supply	1,343	900	-33	-443
Water collection, treatment and supply	820	951	16	131
Sewerage	145	170	17	25
Waste collection, treatment and disposal activities; materials recovery	2,033	2,277	12	244
Remediation activities and other waste management services	115	129	12	14
Specialised construction activities	7,526	7,225	-4	-301
Architectural and engineering activities; technical testing and analysis	3,965	3,608	-9	-357
Services to buildings and landscape activities	3,326	3,891	17	565
Total	20,417	20,203		-214

The projected decline in this sector is again heavily influenced by the reliance on SIC codes and the scaling back of traditional energy sources such as coal fired powerplants and North Sea oil production, as well as an ageing workforce in these traditional sectors. Within the literature, and more aligned to the opportunities in North Wales, is an anticipated rise in the Renewable Energy sector, across various subsectors such as offshore wind.²⁶ Estimates suggest that 200k jobs will be required in the UK to meet the Net Zero 2050 targets.²⁷ Previous research for the North Wales Regional Skills Partnership suggested that ~300 job roles are required in the next 5-7 years by firms in the Energy sector in North Wales.

²⁶ <https://www.renewableuk.com/media/hgzfsc2r/owic-offshore-wind-skills-intelligence-report-2023-executive-summary.pdf>

²⁷ Building the Net Zero Energy Workforce, National Grid, 2020
<https://www.nationalgrid.com/document/126256/download>

Recent data for the environmental sector also suggests that it is growing steadily, and there are clear demands for this to continue, however there are limited forecasts available for future expected performance.

3.3 Occupational Trends

Across sectors there are roles that are in decline while others are predicted to grow. Administrative and secretarial; skilled trades; sales and customer service; process plant and machine operatives; and elementary occupations are all forecast to decrease overall in the UK.²⁸ While replacement demand will mean that skills and jobs are still required in these occupations, fewer net jobs will be needed overall. The impacts of this for North Wales are presented in the table below.

Occupation Groups	2022	2035	2022-2035	Replacement demand
1: managers, directors and senior officials	30,100	30,500	400	1400
2: professional occupations	65,400	68,500	3,100	7400
3: associate professional occupations	44,900	45,200	300	2300
4: administrative and secretarial occupations	28,600	28,300	-300	1500
5: skilled trades occupations	38,800	38,600	-200	1900
6: caring, leisure and other service occupations	34,400	34,800	400	1900
7: sales and customer service occupations	22,200	22,100	-100	900
8: process, plant and machine operatives	26,000	26,200	200	900
9: elementary occupations	33,600	33,200	-400	1600

Skills aligned to these roles will be required within North Wales to ensure the labour market is able to service the needs of businesses. The total of both new and replacement demand is the expected throughput of skills and training for individuals who will be starting in these careers.

3.3.1 Qualifications

Rates of higher qualification within occupations are expected to increase in Wales by 2035. Level 7 and 8 (high degrees and doctorates) are forecast to increase by 164% which would increase the numbers of individuals in the North Wales labour market with these qualifications by ~29k by 2035. Some 18k more people in the labour market will be qualified

²⁸ Working Futures 2017-2027: Long-run labour market and skills projections for the UK, University of Warwick and Cambridge Econometrics on behalf of the Department for Education, February 2020 – **Note:** While subsequently published literature suggests that these occupations are likely to continue to reduce in relative terms, this data was compiled in 2020 and does therefore not consider factors such as the Covid-19 pandemic and supply chain challenges that have affected businesses in the period since.

to degree level (6) while the proportion of the labour market whose highest qualification level is 3 or below will reduce.

3.4 Future skills needs

In addition to changes to the composition of the labour market and demand for jobs within sectors in the future, the skills individuals need for work are also going to change. Most notably this will be due to the role of digital technology and the shift towards net zero.

3.4.1 Net Zero Skills

The aim of reaching net zero in Wales and the UK by 2050 will affect all areas of the economy and society. Skills are going to play an important part in realising the ambition and research suggests that as well as the 20% of jobs in Wales that are directly supporting the move to net zero, a further 10% will require reskilling to align with the transition.²⁹ In some sectors such as manufacturing and construction, the majority of jobs are already aligned to the transition or will need to reskill.

For North Wales the total number of jobs likely to require reskilling due to the net zero transition is ~30k, in addition to the ~32k that will already be in demand to reach net zero. The transition to net zero is predicted by businesses as the strongest net-job creation effect of current macro trends.³⁰

The types of skills that will be required to meet net zero include:³¹

- **Construction**, including retrofit assessment, plumbing and heating, insulation, solar and electrical installation e.g. EV charging points.
- **Environment**, including forestry, sustainable farming, conservation, horticulture, and flood management.
- **Engineering**, including renewable energy, electricity grid infrastructure, battery technology, automotive design, water infrastructure and processing, materials development, and transportation upgrades.
- **Advanced manufacturing**, including automotive, battery development, smart systems production, advanced materials, renewable energy equipment.

²⁹ Grantham Research Institute on Climate Change and Environment, London School of Economics (2021), Policy brief: Are 'green' jobs good jobs? Lessons from the UK and EU to inform labour market transitions. Available at:

https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2021/10/Are-Green-Jobs-Good-Jobs_Policy-brief.pdf

³⁰ Future of Jobs, World Economic Forum, June 2023

³¹ Skills Through Crisis; Upskilling and (re)training for a green recovery in Wales, New Economics Foundation, December 2020 & Skills for a Green Recovery, Institute for Public Policy Research, February 2021, <https://www.ippr.org/files/2021-02/skills-for-a-green-recovery-feb2021.pdf> & Green Jobs Taskforce Report, The Green Jobs Taskforce, July 2021, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1003570/gitf-report.pdf

3.4.2 Digital Skills

Technology will continue to disrupt labour markets as generative AI is already doing to ways of working. Three quarters of companies are reported to be looking to adopt AI technologies in the next 5 years.³² Over this period the effects of AI are expected to be positive for net-job creation, though job displacement may still take place, and skills to use these technologies will be required.

At a high level, digital skills needs over the next five years are similar to those now:³³

- Big data processing
- Coding
- IT systems and network architecture
- Database building and management
- Software development
- Animation and multimedia production
- Quantitative data analysis
- Digital health technologies
- Engineering and manufacturing methods

³² Future of Jobs, World Economic Forum, June 2023

³³ Which digital skills do you really need?, Nesta, 2018

https://media.nesta.org.uk/documents/Which_digital_skills_do_you_really_need.pdf

4. Conclusions

The labour market in North Wales is experiencing various pressures and changes. Some of these are as a result of wider factors such as sectoral composition and demographics. Others relate to the needs of specific skills and future trends. There are also expected changes within the key sectors in North Wales which need to be considered.

A summary of the key factors affecting the labour market going forward are presented below.

Population Shifts

The changing age structure of the region, both with an ageing population and outward migration of younger residents (particularly from North West Wales) is likely to create ongoing restrictions on the availability of labour to support local jobs. There has been a real terms decline in the local population as well as the number of people of younger working age. As a result, there are fewer individuals available in North Wales to fulfil future job roles.

Higher value jobs

Part of the challenge for North Wales in attracting younger residents is the lack of higher value jobs. With the dominance of lower paying sectors such as Health and social care and Tourism and hospitality there are fewer opportunities to raise earnings. This contributes to the brain drain challenge with younger, and particularly higher educated, individuals leaving the North Wales region. Jobs in key sectors such as Finance and professional services, Energy and environment and Creative and digital sectors have seemingly declined in real terms in the last five years.

Skills shortages

The changing structures of employment and the labour market in North Wales are influenced by the available job roles and demand for skills. Health and social care roles have grown in demand and this is likely to continue given the ageing population. Similarly, Tourism and hospitality roles are expected to increase within the Accommodation subsector.

Within occupation roles, the shifting skills requirements are likely to be towards more productive groups such as managers and professionals. These typically require more complex training to delivery skills improvements. The most substantial change in North Wales expected in the next 10 years is among professional occupations which will require ~10,500 additional and replacement job roles. Education provision therefore needs to be aligned to accommodate.

In addition, there is a continuing need in North Wales, as elsewhere in the country to foster the development of digital skills and those associated with the Net Zero transition and key sectors such as Construction, Environment, Engineering and Advanced manufacturing.

The use of SIC code sector definitions

Defining sectors is challenging, particularly when considering different businesses activities that can often take place within the same organisation. For the nine key sectors in North Wales, SIC codes have been used prior to this research to establish the scope of each sector. However, as outlined above, these are often poor at capturing emerging or niche sectors such as Advanced manufacturing. The use of SIC codes is though, consistent with ONS data and insights including forward projections.

The Data City has created a novel way of defining sectors which draws on what companies say about themselves, rather than their arbitrary classification with Companies House. This can help to provide a more nuanced understanding of sectors like Advanced manufacturing within a geography but does not currently allow for plotting historical trends and future expectations. In the data collated to accompany this document, latest insights from The Data City have been captured for the sectors where a more nuanced approach is likely to be more effective at describing the key sectors. If this data is consistently collected going forwards, there is the potential for a more accurate monitoring of the activities within these key sectors in North Wales.

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