



Future Monmouthshire

Economies of the Future

Skills Paper

April 2018

Prepared for Monmouthshire County Council



Introduction

This paper's discussion relative to skills shortages, skills provision, incentives and programmes takes into account multiple levels of governance, from the national to the regional and county level, in recognition of Monmouthshire's effective contribution to the wider regional labour market of Cardiff Capital Region, which is in turn inserted in the national skills development framework.

Given Monmouthshire's high proportion of skilled workers currently out-commuting, understanding opportunities for skilled employment and skills development at city region level is especially important to ensure Monmouthshire's residents will continue to reap opportunities outside the county. Most importantly, ensuring that Monmouthshire's workforce participating in the local labour market is equipped with the adequate skills sets will be crucial to meet the growth ambitions set out in the *Projections Report*. Consequently, the broader discussion on sectorial trends and associated skills demand for employment in manufacturing, services and the public sector, is of particular interest if growth aspirations are to be met.

Higher Education Providers and Skills & Training Programmes

This section does not set out to comprehensively map out all training opportunities and providers across Monmouthshire and the city region. Nonetheless, it outlines the principal ones that Monmouthshire's residents could benefit from.

Higher education is a devolved area in Wales. The Higher Education Funding Council for Wales (HEFCW) has regulatory powers to ensure that higher education institutions meet Welsh Government priorities around fee levels, fair access, quality of education and financial management. Higher education in Cardiff Capital Region is offered mainly through its 3 universities: Cardiff University, Cardiff Metropolitan University, and University of South Wales, with campuses in Cardiff, Newport and Pontypridd. Wales also has its own Open University and student finance system, Student Finance Wales, offering loans and grants to students wanting to study in Wales at undergraduate and postgraduate level.

Numerous skills and training programmes are available across Cardiff Capital Region. Business Wales lists 21 of these for Monmouthshire:

- Access to Work
- Active Inclusion
- Apprenticeships
- Financial Sector Graduate Programme
- Jobs Growth Wales
- Pre Employment Contact Centre Training
- ReAct
- Traineeships
- GO Wales
- Business Class
- Progress for Success
- Upskilling at Work
- Workplace Welsh
- WULF
- BOSS
- IIP
- Professional & Career Development Loan
- Qualifications Wales
- 20Twenty
- Agile Nation 2
- Higher Level Apprenticeships

Trends and Opportunities

Wales boasts a highly proficient workforce, as evidenced by the latest Employer Skills Survey (2015), where employers reported to be meeting their skills needs through the provision of training, with investment having increased since the 2013 and 2011 surveys. However, there remain challenges that need addressing, such as under-utilisation, retention difficulties and skills shortages.

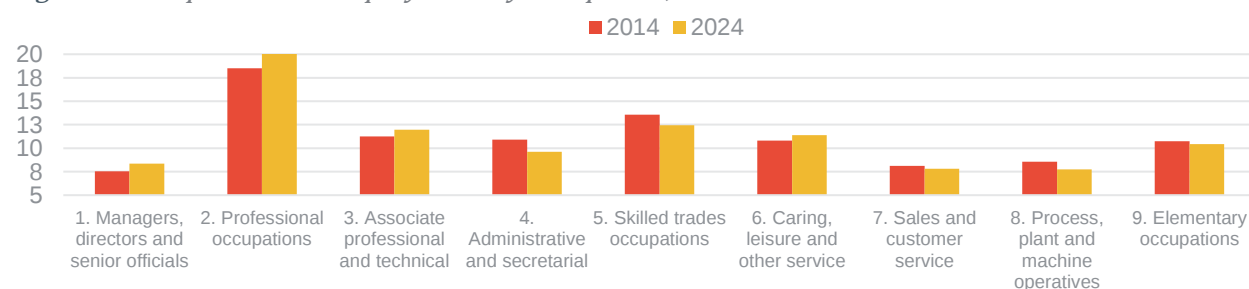
In order to identify skills needs in the workforce, the Welsh Government has established three Regional Skills Partnerships for Wales, which are tasked with producing Regional Employment and Skills Plans instrumental to supporting growth and key infrastructure projects in each region. South East Wales Learning, Skills and Innovation Partnership (LSkip) is the partnership responsible for driving investment in skills by developing responses based upon needs specific to South East Wales. The South East Wales Skills Observatory (SEWSO) was created to assist in the production and analysis of labour market information, regional skills plans and reviews of regional skills provision.

Sectorial considerations draw on the UK Commission for Employment and Skills' (UKCES) *Working Futures* study, a comprehensive and detailed projection model of the UK labour market for the period 2014 to 2024, which apply at national level. The more detailed sub-sectoral discussion is primarily based on LSkip's 2017 *Skills Plan for Cardiff Capital Region* (CCR). The plan recognises the need for CCR to develop a demand-led skills system that is driven by the needs of industry and to that end five sectors are prioritised for employment and skills support: Advanced Materials & Manufacturing; Construction; Financial, Legal & Professional Services; ICT/Digital - including creative industries and Human Foundational Economy.

Change in Wales' Occupational and Qualification profiles, 2014 - 2024

In terms of occupational trends, as illustrated in Figure 1, Working Futures predicts an increasingly strong bias towards skilled occupations in Wales, with Professional occupations being the group expected to see the greatest employment growth in absolute terms and Administrative & Secretarial occupations the group expected to see the greatest decline.

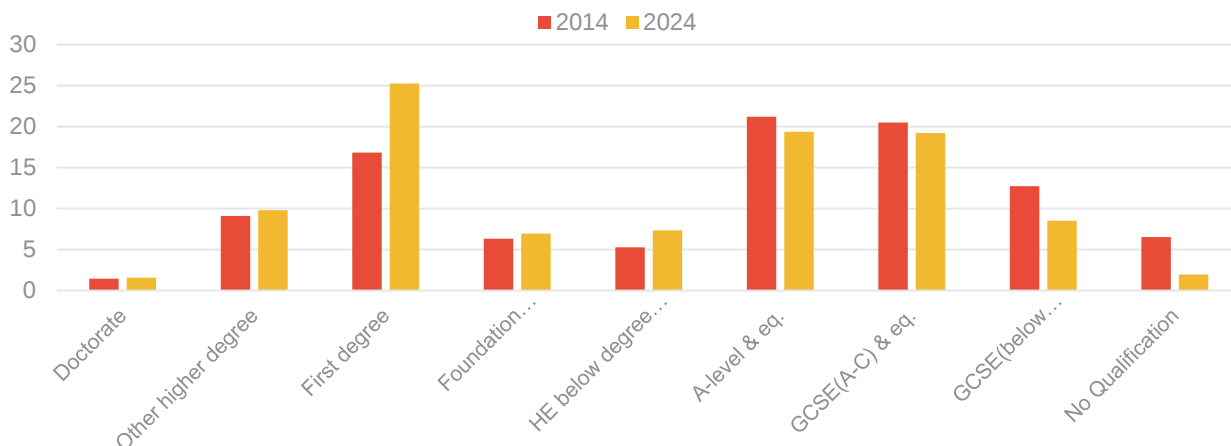
Figure 1: Composition of employment by occupation, % shares 2014 - 2024



Data Source: UKCES

The qualification profile (Figure 2) is expected to see growth in employment of workers with qualifications at Higher Education level and above, and a decrease in employment of workers qualified below Higher Education level. First Degree level is the qualification group expected to see the greatest increase in employment, taking over A-level & equivalent which in 2014 was the dominant employment group.

Figure 2: Composition of employment by qualifications, % shares 2014 - 2024



Data Source: UKCES

Manufacturing

Productivity growth in manufacturing is expected to lead to a continued decline in employment, with traditional roles being particularly affected mostly due to increasing automation in the sector. Future growth in manufacturing output is expected to be constrained by increasing competition from overseas manufacturers. On the other hand, global growth in advanced manufacturing demand will drive an increase in domestic activity, especially for industries in which the UK has specialised, such as aerospace, pharmaceuticals, and other technology-intensive industries.

The availability of *skilled labour* will be an important consideration for the employment outlook in the long-term. Employment for workers with qualifications below higher education is forecast to drop, especially for those holding No Qualifications, while employment for Higher Education qualifications, with the exception of Doctorate level, is expected to increase, particularly for First Degree level qualifications. In general, high demand for science, technology, engineering and mathematics (STEM subjects) graduates.

The Advanced Materials & Manufacturing sector is a priority sector for both the Welsh government and Cardiff Capital Region. At CCR level, it will be impacted by a number of projects:

Automotive

Skills demand areas:

Engineers/specialists/technicians in battery, software, power electronics, calibration and engine testing, quality, design, production, lightweight and composite, maintenance

Local drivers:

The opening of Aston Martin's manufacturing facility in St Athan, in the Vale of Glamorgan, with production starting in 2019/2020, is expected to create 750 high-skill jobs. About 40 miles from the Aston Martin factory, TVR, the sports car manufacturer, has plans to open a base in Ebbw Vale, which is expected to create 150 jobs. Ebbw Vale Enterprise zone is already a focal point for manufacturing in Wales, and in addition to this, the Welsh Government plans to create at least

1,500 jobs over the next ten years via the Tech Valleys project in Blaenau Gwent and surrounding areas.

Aerospace and Defence

Skills/occupations in high demand:

Engineers in: aerospace, mechanical, lightweight and composite, product development/product support, design, R&D, production and assembly; but also pilots, cabin crew, aviation medicine, air law experts, airline marketing

Local drivers:

There are over 60 large companies in Wales, 10 of which are in the Cardiff Capital Region: British Airways Avionics Engineering; British Airways Maintenance Cardiff; GE Aircraft Engine Services Ltd; General Dynamics UK Ltd; Nordam Europe Ltd; Qioptiq; TES Aviation Group; Sony UK Technology Centre and Zodiac Seats UK. Most of these companies are recognised as Tier One for procurement which increases opportunities to develop skills locally.

Food & Drink Manufacturing

Skills in high demand:

Science, technology, engineering and mathematics, food science, new product development, nutrition, enzymology, microbiology, pharmacology, toxicology, effects of manufacturing, processing and storage, food safety management

Local drivers:

Cardiff Metropolitan University's specialist Food Industry Centre has attracted significant investment (£11.9m) for research. Higher education institutions are being encouraged to work collaboratively with local further education institutions to expand their food and pharmaceutical courses. Since April 2018, food & drink companies based in Wales can benefit from the Food Skills Cymru funding package worth £3m for technical and staff development training. In 2017, the Welsh Government launched Project HELIX, a programme worth £21m to fund research in drink and food production, aimed at increasing production and reducing waste.

Compound Semiconductor

Skills in high demand:

Mathematics, processes for manufacturing, electronics, power electronics, physics, radio frequencies, computer & software, nanophotonics, semiconductor technology

Local drivers:

Cardiff is the heart of the Welsh Compound Semiconductor cluster, largely supported by Cardiff University and Cardiff based research bodies such as IQE, the Compound Semiconductor Technology Centre, the Institute, the Manufacturing Hub, and the Applications Catapult. At its announcement in 2015, it was estimated that the cluster would create 5,000 high-value jobs over the following 5 years.

Construction

Construction is expected to see the fast growth, in both output and employment terms, resulting from an anticipated increase in public and private investment, in particular in major infrastructure projects such as HS2 and Crossrail 2. Overall, regulatory policies are likely to encourage construction growth, particularly as firms seek innovative processes and technologies to adapt to environmental concerns.

The majority of workers in the construction industry hold qualifications at A-level and GCSE (grade A-C) & equivalent. This is set to remain the same but with a drop in employment for A-level and increase for GCSE (grade A-C). Across the skill spectrum however, employment is

expected to increase for workers with qualifications above A-level, with a peak in demand for workers holding a first degree.

Occupations expected to have high increases in demand:

Wood trades and interior fit-out, bricklayers, electrical trades and installation, non-construction professional, technical, IT and other office-based staff¹

Local drivers:

Across Cardiff Capital Region, there are a number of major construction projects in the pipeline which are expected to create jobs and raise demand for skills in the construction industry, among which:

- Work on the A465 and the new M4 relief road. These projects have a contractual commitment to a 50-mile travel-to-work area which has the potential to protect jobs in the Cardiff Capital Region. This radius includes Mid and West Wales and the West of England;
- Electrification and the Metro project will create demand for high-level construction, engineering, manufacturing, building and maintenance skills;
- Coleg y Cymoedd is investing significantly in a specialist training centre to meet future demand of the Metro and for the electrification of the Great Western Railway linked to the Construction Wales Innovation Centre;
- Subject to approval for the go-ahead, the Swansea Bay Tidal Lagoon and Cardiff-Newport Tidal Lagoon are going to raise demand for skills in marine power, engineering and construction;
- Hinkley Point C Nuclear Power Station in North Somerset will have a long-term impact on demand for skills in construction (steel fabrication), advanced materials and manufacturing (coded welding), and energy and environment sector. Cardiff and Swansea are inside the travel-to-work area for Hinkley Point C.

Business and other services

Business and other services are forecast to see a moderation in its rate of growth in output and employment compared with that seen between 2004 and 2014. Strong investment into the sector and technological progress are anticipated to be major factors driving long-term growth.

The sector is expected to see strong growth in labour demand in the long run; much of this demand is likely to remain in high-skilled and low-skilled roles (elementary occupations) continuing the trend of occupational polarisation, but with a substantial rise in demand for high-skill/high-pay occupations (SOC groups 1-3).

The sector is expected to see stronger employment of workers with qualifications at Higher education level and above. In particular, workers holding a first degree qualification will be in increasingly high demand.

Financial, Legal & Professional Services

Skills in high demand:

Digital, technical, adaptability, collaboration, problem solving, risk management, data analysis, big data, data science, coding, negotiating, active listening, questioning and interviewing

¹ CTBI

Local drivers:

Cardiff is home to the UK's only Enterprise Zone dedicated to Financial and Professional Services, which is playing a leading role in driving the Financial & Professional Services' sector growth. Following UK Government regionalisation of HM Revenue & Customs (HMRC), HMRC is moving into its new HQ in Cardiff in 2020, in the first phase of a public-sector hub that will employ 4,000. The sector is strongly backed up by a highly skilled workforce and higher education institutions, such as Cardiff University, Cardiff Metropolitan University, Open University in Wales and the University of South Wales, which are all offering a range of specialist financial and professional services qualifications.

Cardiff Capital Region is also a centre for internet comparison websites. GoCompare is based in Newport, Creditsafe and Confused.com (part of the Admiral Group) in Cardiff.

Cyber Security

Skills in high demand:

System security, secure servers and networks configuration, incident management, digital crime and digital forensic techniques

Local drivers:

The University of South Wales (USW) and the Welsh Government have joined forces to establish the National Cyber Security Academy (NCSA) at USW's Newport City Campus. The Academy has been set up to address a shortage of cyber security skills and develop the next generation of cyber security experts. Courses at the academy have a good offer of placement opportunities with industry, including companies such as Airbus and General Dynamics.

Advanced digital skills in Newport are also supported by the National Software Academy, an initiative supported by the University of Cardiff offering courses in software engineering and programming.

Public administration, health and education

Activity in *public administration, health and education* are dependent on political decisions, as government is a major component of this sector's demand. Current government commitments to reducing the deficit will constrain the sector's growth potential in the medium-term. Activity and employment in education services, especially within private education and higher education institutions, are forecast to increase.

The sector is expected to see a decrease in employment for nearly all qualifications level below first degree level, coupled with a spike in demand for workers with first degree level qualifications.

The National Health Service (NHS) employs 74,000 staff in all organisations in Wales (2015) and has three major offices in the Cardiff Capital Region, with the head office in Cardiff and smaller offices in Pencoed and Pontypool. The NHS is working hard to attract and retain jobs across Wales offering strong work and benefits packages. A not-negligible share of workforce in the health and social care sectors comes from other European countries; following the UK's exit from the European Union the sector is therefore expected to experience increased pressures and a potential skills shortage.

Trade, accommodation and transport

Although diverse in composition, the performance of the trade, accommodation and transport sector is largely dependent on the amount of activity in the wider economy. Employment growth in

the sector is expected to be mainly driven by jobs growth in retail, accommodation and catering. Retail, accommodation and food services, as well as transportation services are likely to be partly dependent on the outlook for tourism growth, which is expected to be modest.

The skills structure of the sector is typically skewed towards low-skills. The structure is expected to remain approximately the same but it will see a high increase in employment for workers holding qualifications at first degree level.

Primary Sector & Utilities

Activity is expected to grow modestly in Primary Sector & Utilities, leading to a fall in its share of total output. Agricultural output is expected to grow modestly, driven by changing consumer patterns. However, productivity improvements are expected to result in a fall in employment.

The skills structure of the sector has been dominated by workers with qualifications below Higher Education. The structure is not expected to undergo any dramatic shift, but it will see an increase in demand for qualifications at Higher Education level associated with a decrease in employment for workers with qualifications below Higher Education level.

Conclusions

Monmouthshire is endowed with a highly skilled resident population and benefits greatly from participation in the wider regional labour market of Cardiff Capital Region, where good universities and skilled employment opportunities create a healthy balance of skills supply and demand.

Historically, pathways for students pursuing academic options have been easier to navigate, while today more specific skills sets are required in order to stand out in the labour market and support emerging sectors and future economic growth. Moreover, with demand for skills set to increasingly favour high-skilled individuals - mostly educated at degree-level or above, ensuring that the County's residents access the wide-range of skills provision at both local and regional level is critical to the delivery of aspirational growth targets.

The labour market is becoming increasingly digital, and the mastering of digital skills, be these basic/intermediate or very advanced, is becoming a necessary requisite for labour market participation. Advanced digital skills, such as software development, cyber-security, and big data analytics, are ever more cross-sectorial thanks to their wide range of applications, and underpin most of the priority sectors and sub-sectors for Cardiff Capital Region and Monmouthshire. In particular, digital skills coupled with a STEM background constitute the skills package most in demand today, and even more so in the future. On the other hand, a skills set that comprises both technical, subject-specific skills and good relational, soft skills not only offers greater adaptability to future hard-to-predict changes in the job market, but it is also the skills set increasingly more in demand in the service sector, which is the fastest growing in the economy.

This paper provides a discussion around future sectorial trends, demand for skills and local opportunities, that taken all together should help frame the discussion of support around skills and training, to ensure that Monmouthshire's population continues to seize opportunities for upskilling available at city region level and is adequately equipped with the right skills set to support the County's ambitious growth targets.