

Building a better Wales – lessons from Europe

Skills and economic resilience

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In the context of an increasingly uncertain political climate within the UK and indeed across the wider world, issues of economic resilience and how to better prepare for economic shocks are undeniably important.

This research, undertaken on behalf of Colleges Wales/ Colegau Cymru, sets out to examine the relationship between higher level skills and economic resilience. It does so by drawing on the experiences of six European regions. Using a range of published evidence and face-to-face interviews across the six regions, the research team found that a range of factors influenced economic resilience, of which higher level skills was just one aspect.

Taking the knowledge gained from this stage of the project, the research team proceeded to discuss the findings with stakeholders in Wales. The report that follows makes an important contribution to the debate on economic resilience, skills and importantly, how Wales can make the most of the knowledge and experience shared by our partners in other European countries. Collaboration, whether within regions or between regions, remains key as we seek to charter the future. The report also reminds us that the quality of our skills system is not measured by summative or formative lists of achievements set against marking criteria but by its ability to support economies of people and place to be both resilient and able to respond to emerging needs.

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Finally, we are also grateful to those who gave their time and expertise as part of the interview process to contribute to this research, across the six European regions and within Wales, and all those who have helped or contributed to the project throughout its duration.

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This report represents the final part of a research project that has sought to investigate the hypothesis that, under certain circumstances, a greater preponderance of higher-level skills¹, tends to lead to greater regional economic resilience. Rather than suggesting that skills per se are a guarantor of regional economic resilience, this research project draws on the findings of the ESPON 2013 programme, which intimates that the accumulation of a dense skills base over time is an important nuance in the skills debate. Conversely, according to this perspective, places that experienced a more rapid rise in qualification levels tend to experience less resilience.

Typically, resilience is considered as an outcome following a shock but in practice, resilience has a more dynamic character. Four phases typify this dynamic conceptualisation of resilience (**Figure 1**).



Figure 1 – A stylised model of a resilience ‘cycle’

Following a shock, resilience is often measured in terms of the ability of an economy to return to the state that existed prior to the shock occurring. This is what gives rise to terms such as ‘bounce back’. This is the phase labelled ‘responsiveness’ in Figure One. The resilience of an economy may also be affected by the extent to which it is able to adapt to changing circumstances following a shock, what is sometimes referred to as ‘bouncing forward’. In **Figure 1** this phase has been labelled ‘adaptiveness’.

The ability of an economy to withstand or respond to a shock, though, is often determined by the extent to which it was prepared for such an event prior to the shock occurring. The level of preparedness might be deliberately planned, where a potential shock is foreseen, or might be the outturn of policies and practices which better equip an economy to deal with unanticipated events. In **Figure 1** this phase is labelled as ‘preparedness’.

Shocks continuously buffet an economy to a greater or lesser degree. In consequence, the extent to which an economy is prepared for a potential shock in the future, is contingent on the actions that it has taken in response to a previous shock and how it adapts to any changes in circumstance. This element of dependency on past actions is what provides the cyclical and dynamic dimension to the four phases of resilience.

Returning to the research question, using this resilience model, a dense regional skills base that is developed over time is likely to have more impact on ‘preparedness’, than rapid skills investment developed in response to a crisis. This study is a comparative regional economic research project that has undertaken a review of the skills systems in a variety of European regions. These regions appear to have demonstrated economic resilience in recent years, and appear to have had a dense skills base developed over a long period. In addition, one region where investments were made in skills in response to the crisis, but which has not appeared to experience significant economic resilience, was selected as a control study.

Resilience to an economic shock does not, of course, necessarily imply that a regional economy is otherwise strong, performing well over the longer-term, or contributing in a more fundamental sense to regional well-being. Rather, it is a measure of how a regional economy responds to a particular economic event, in this case the 2008 Global Financial Crisis.

This research has been undertaken in the context of the new skills agenda for Europe set out in

1. There are various definitions of ‘higher-level skills’; this project has adopted the definition applied by Welsh Government to skills at Level Three (EQF Level 4) and above (Welsh Government, 2017).

the Riga Declaration (2015). In Wales, the Welsh Government is seeking to address skills shortages in specific occupations and shift the balance from EQF level three and four qualifications, to increasing employment requiring level five, six and seven qualifications (Welsh Government, 2014). In addition, the Welsh Government's new apprenticeship and workforce development programme is seeking to improve the quality of apprenticeships and create 100,000 apprenticeships by 2022. This research aims to contribute to the conversation currently taking place within this policy landscape, seeking to improve regional economic resilience.

Interviews have been undertaken with stakeholders across six European regions and within Wales. This has been supplemented with contextual secondary data. The report first summarises the thematic findings from the interviews undertaken across the six European regions (a fuller discussion on these findings, contained in the interim project report, can be found in an appendix to this report). It then outlines the contextual data on Wales, before presenting observations based on the interviews undertaken in Wales. The final section offers a comparative thematic discussion. This report does not seek to offer definitive recommendations or conclusions, rather it seeks to offer a contribution that enriches the discourse on the relationship between skills and economic resilience.

2. European Regional Experiences

This research has adopted the resilient outcomes model developed by the ESPON project ECR2 *Economic Crisis: Resilience of Regions* (Bristow et. al., 2014), as well as neighbourhood analysis techniques based on the approach developed by Orkestra (Navarro et. al., 2014). This approach identified four categories of resilient regions. There are:

- Resistant regions (those regions that have not experienced an absolute decline in economic activity following the economic shock).
- Recovered regions (those regions that experienced a decline in economic activity, but have since recovered to pre-shock activity levels).
- Not-recovered, but in upturn (those regions that experienced a decline in economic activity, have passed the trough of the recession, but have not yet recovered to pre-shock activity levels).
- Not-recovered, still in decline (those regions that experienced a decline in economic activity, which was still ongoing at the time of the analysis).

Using this model, six European regions were selected for comparative study as part of this research, these were:

- Flanders, Belgium
- Niederosterreich, Austria
- Pays de la Loire, France
- Pomorskie, Poland
- Schleswig-Holstein, Germany
- Tampere, Finland.²

Five of these regions were either resistant to the economic crisis in 2008, or have recovered from crisis to their pre-crisis peak employment or GDP. One region, Tampere in Finland, continued to experience high levels of unemployment despite experiencing some degree of economic recovery. In comparison, Wales was classified as 'not-recovered, but in upturn'.

A total of 27 semi-structured interviews, involving 45 participants, were undertaken across the six regions between November 2017 and March 2018. The interviewees consisted of stakeholders in the Vocational Education and Training (VET) agenda, and included representatives from: regional and local government, chambers of commerce, employee and employer representative organisations, trade unions, business

agencies, universities, and vocational/further education schools and inspectorates.

Several themes emerged from the interviews undertaken across these regions and were particularly noticeable in the five resilient regions, though less so in the control region Tampere. An interim project report, which is included in the appendix, outlined the findings in detail (including comparisons between the five resilient regions and Tampere). The remainder of this section summarises these findings.

One: Intra-regional Collaboration and Common Purpose

A close degree of co-operation was evident between stakeholders from national and regional/local government, chambers of commerce, employer and employee organisations, educational actors and businesses. The role of SMEs in regional economies was highlighted as significant in a number of regions. Collaboration was a key factor in the ability to develop a shared vision, both as an immediate response to support regional economic resilience during the crisis of 2008, and in order to develop a longer-term strategic vision to embed such resilience ahead of future economic crises (the 'preparedness' stage of the resilience model outlined above).

Two: Strong Education Sector Networks

Actors from higher and vocational education organisations appeared to work well together and were closely involved with other stakeholders from governments and businesses. Vibrant networks were a critical element in the ability of some of the regions to withstand, or recover quickly from, economic challenges.

Three: Effective Vocational Education and Training

A major theme to emerge from this research concerns the importance of vocational education and training (VET) across each of the regions, where, despite evidence of some issues of a disparity of esteem between it and more academic educational routes, it is valued as an important contributor to regional economies. VET was generally seen as a critical element in delivering future skills needs, and not just current skills demands.

Four: Flexibility in Vocational Education and Training

Education systems are flexible and are able to accommodate the needs of all learners. VET is delivered either through work-based learning (WBL) or more traditional academic settings, and options exist for continued higher education or for the take-up of apprenticeships. Regional education systems tend to be responsive to the changing requirements of local employers, both in meeting current skills needs and in anticipating and effectively planning for longer-term requirements.

Five: Vocational Education and Training and Entrepreneurship

In some of the regions, VET, through a dual system and/or apprenticeships, often forms the basis for self-employment and as the basis of regional SMEs start-ups. The entrepreneurial mind-set and work ethic, engendered by VET experiences, were reported as strong drivers of entrepreneurship in regional economies. Apprenticeships and VET are an important means to attain experience essential to become a successful entrepreneur in a particular trade sector. Many interviewees also suggested that their strong regional SME base was, in part, a factor in ensuring their economic resilience.

Six: Universities and Vocational Education and Training

There is a trend, across each of the regions, for universities to become increasingly involved in providing VET and in working more closely with regional business to identify specific training needs. A common theme was that universities were becoming more reactive to the VET needs of employers.

Seven: Research and Development

Levels of investment in Research and Development (R&D) activities are generally regarded as important across each of the regions. Some regions reported a need for increased regional investment in R&D, as the quality particularly of university research was seen as important to attracting new investment into the region.

2. Tampere region is also sometimes referred to as Pirkanmaa region. For the purposes of consistency this report uses Tampere, which is also the name of the region's largest municipality/city.

Eight: Investment in Training

Across each of the regions, investment in training was secured through a range of different sources rather than an overall reliance on central funding.

This investment appears to be generally based on available evidence, which facilitates a responsiveness to actual regional skills demand. Regional stakeholders commonly reported a link between local labour market intelligence, as well as the priorities of their respective national governments.

Nine: Chambers of Commerce

Chambers of Commerce were identified as important bodies in each of the regions. In some, membership of a Chamber of Commerce is compulsory for all enterprises, and this ensured that funding for training activities was available from the respective Chambers. In most of the regions, membership of an employee organisation is also compulsory, and these often provide training funded by membership levies.

Ten: Training in Response to Crisis

Close co-operation, between various regional partners, was seen as important in the ability to respond quickly to changing skills needs. In some regions, governmental and educational stakeholders felt they could achieve this outcome, but business actors tended to be less convinced on success. Some of the regions reported that, during the recession, they had invested in training with funding from their national governments and the EU, as an alternative to laying off staff.

Eleven: Training at All Skills Levels

Investment in skills training at all levels was generally considered important. Those interviewed felt that whilst higher-level skills are clearly important to regional economies, there also needed to be continued investment in lower level skills that are more associated with traditional industries.

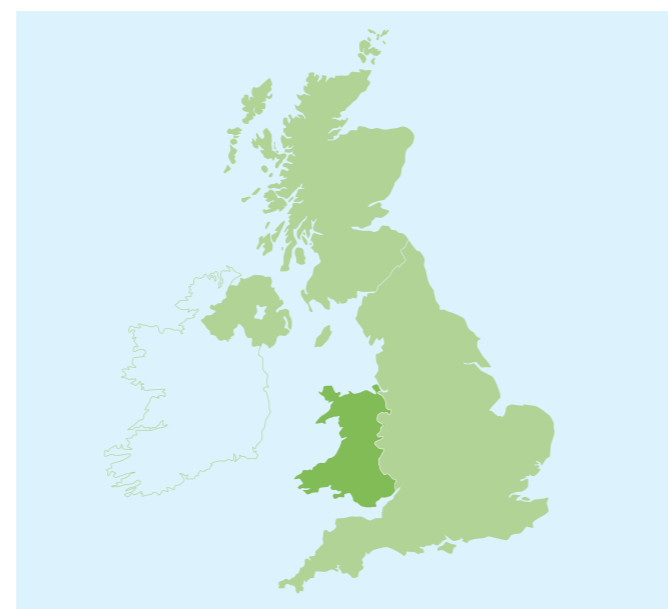
Twelve: Continued Skills Shortages

While recognising that continued investment in training is important, some regions reported that regional skills

shortages in the lower and medium skills levels are due, in part, to economic success. It was reported that skills 'bottlenecks' exist in a number of sectors.

The most significant findings appear to suggest that regional economic resilience is most assured, when it is built on firm foundations. It is, therefore, clear that the most resilient regions are those that are prepared for a crisis. Other than mitigating some of the worst impacts of the immediate shock itself, it appears that attempting to tackle a crisis through skills-based interventions once it has already occurred is too little and too late. Another major factor in regional economic resilience is the degree to which regional networks are dynamic and able to develop shared agendas and a common purpose, both as part of an immediate response to a crisis and also for longer-term strategy. A further finding suggests that skills at all levels are important in supporting regional economic resilience; higher-level skills are only part of a much broader skills agenda. These findings appear to be entirely consistent with the model of resilience outlined in the introduction to this report.

3. The Wales Context



Source: QGIS, Using Ordnance Survey Open Source Data – Euro Regions



Source: ONS Mid-year Population Estimates, June 2017.

With a population of around 3.1 million people, Wales is one of the four nations that comprises the UK. The chart below identifies the distribution of the Welsh population by local authority. In 2017, only around one in six of the Welsh population lived in one of the three main cities: Cardiff (352,700), Swansea (240,000) and Newport (146,558). The majority of the Welsh population are located in towns, particularly in the former industrial areas of the country. Rural Wales is comparatively sparsely populated.

In 2017, 17.9% of the Welsh population were aged between 0-15; 61.5% were aged between 16-64; and 20.6% were aged over 65 (ONS Mid-Year Population Estimates, June 2017). Overall, Wales has experienced net in-migration over the medium term, but while it has experienced a small annual net loss of those aged 25-44, it has gained in all other age groups. 'The net effect of migration over recent years has been to increase, rather than reduce, the number of young people in

Wales, since the numbers entering aged under 16 have exceeded the losses in older age groups' (Price, 2016). Nevertheless, the net loss of people between the ages of 25 and 44 is significant, as this is when many people are successfully establishing their careers.

Since 1999 Wales has had a form of devolved governance, with a directly elected 60-member National Assembly for Wales. The Assembly elects a First Minister who, in turn, appoints ministers to form a Welsh Government. Initially the powers held by the UK Government's Secretary of State for Wales were devolved in 1999. Subsequently the Government of Wales Act 2006 devolved further powers, including legislative competence. This devolved system of governance means that Wales has policy and legislative competence in a wide range of areas, including various economic development functions and all levels and types of education.

The Welsh Economy

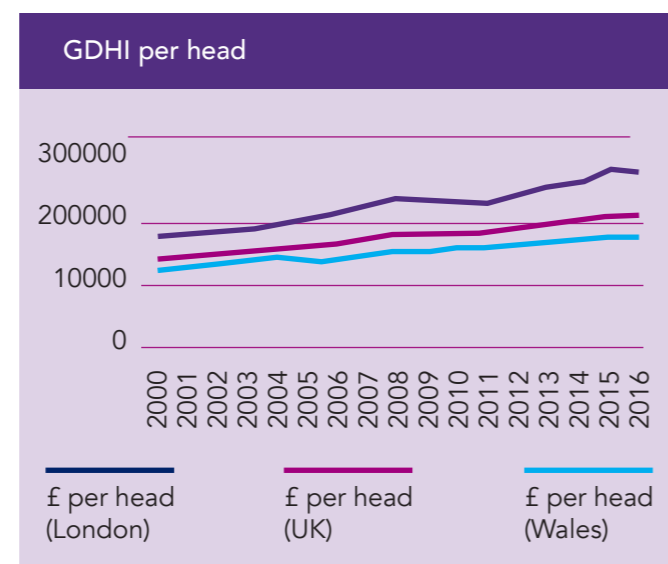
One of the major Welsh Government responses to the 2008 economic crisis was a policy of labour subsidies. The immediate Welsh Government programme was called ReAct, which provided grant support to employers taking on recently unemployed individuals, with funding provided to support the new employees' wages for four months (up to £2080) and pay for training over a six-month period. Nearly 16,000 people entered the scheme, with 11,000 leaving at a cost of £24m. This was followed by the ProAct initiative launched in October 2008, which provided part-funding for businesses that had introduced short-term working for employees. The expectation of the ProAct initiative was that once economic conditions improved, businesses would benefit from the retention of skilled workers with specific on-the-job knowledge. ProAct offered support for training costs of up to £2000 per individual, along with a wage subsidy for up to 12 months of up to £2000 (£50 per day) per individual during training. In total, 10,675 employees were supported under the programme at a cost of £27m (Bristow and Healy, 2015).

The gap in employment rates between Wales and the UK was generally wider during the 1990s than it has been in the period since devolution. The employment rate in Wales stabilised at around 69% from the mid-2000s until 2008/09. It fell below 67% in 2009 and remained below that level until mid-2012. The employment rate then increased and remained fairly stable at around 69.5% in 2014. The rate increased again to be 71.2% for the year ending 31 December 2016 (ONS Annual Population Survey, Dec 2016). In 2017/18 the employment rate for the population aged 16 to 64 in Wales was 72.7% compared with 74.8% in the UK (ONS Annual Population Survey, June 2018).

The Welsh economy has the lowest productivity of the UK four nations or any region of England. Overall, Gross Value Added (GVA) per head in Wales has varied between 70.5% and 74.4% of the UK average since devolution. GVA measures a value of the output of the economy generated in a specific geographic area (Munday et. al., June 2018). GVA per head in Wales in

2008 was £15,980, whilst the UK average was £22,607. In 2009, GVA per head in Wales fell to £15,723, whilst the UK average fell to £22,105. In 2010, GVA per head in Wales rose to £16,031, and the UK to £22,314. There has been a gradual increase each year since then. In 2017, GVA per head in Wales was £19,899, and across the UK £27,298 (ONS, Regional Accounts). It should be noted, however, although GVA includes the production of all goods and services, it does not make any allowance for resources used up in the production of these goods and services. Nor does GVA recognise that the incomes generated by production in an area are not necessarily received by residents of that area (IPPR North Commission on Economic Justice, 2018).

Gross Disposable Household Income (GDHI) is the amount of money that all of the individuals in the household have available for spending after taxes and social contributions have taken effect. Wales saw the third lowest percentage increase in GDHI per head of the UK countries and English regions between 1999 and 2016, up 58.8% compared with a 67.4% increase across the UK. In the two years following 2008, Wales saw a slight increase in GDHI per head, as did the UK as a whole. London actually saw a small fall in GDHI per head in each of the three years following 2008; however, since then it has experienced much stronger increase. GDHI per head in Wales in 2016 was the third



Source: ONS Regional Gross Disposable Household income, 2018

lowest amongst the UK countries and English regions, ahead of Northern Ireland and the North East. As a proportion of the UK average, GDHI per head in Wales has varied between 85% and 89% of the UK total since devolution (ONS Regional Gross Disposable Household Income, 1997 to 2016).

Gross Average Full-Time Weekly Earnings is the standard measure to compare earnings from work. It considers earnings before deductions and includes people working more than 30 hours per week (or 25 hours per week for those in teaching professions). In April 2017, Wales had the lowest average weekly earnings amongst the four UK countries and English regions at £498 (London was £693) (IPPR North, 2018). This is despite Wales' seeing the sixth largest percentage increase in gross weekly earnings out of the UK countries and English regions between 1999 and 2016, up 55.4% compared with a 55.9% increase across the UK. Since devolution, average weekly earnings in Wales have been around 90% of the UK average, with the largest gap between Wales and the UK in 2008 (ONS Annual Survey of Hours and Earnings, 2017).

Latest estimates suggest that the average total household wealth in Wales is currently £214,200, 95.2% of the GB average. Average total household wealth measures property wealth, physical wealth, financial wealth and private pension wealth. Since 2006/08, average total household wealth increased in Wales by 7.6%. The largest increase was in London (47%) and the smallest increase was in the North East of England (5.5%). The average total wealth in households in Wales was slightly above the average rate in 2006-08 but has been slightly below the average since then (ONS Wealth and Assets Survey, 2018).

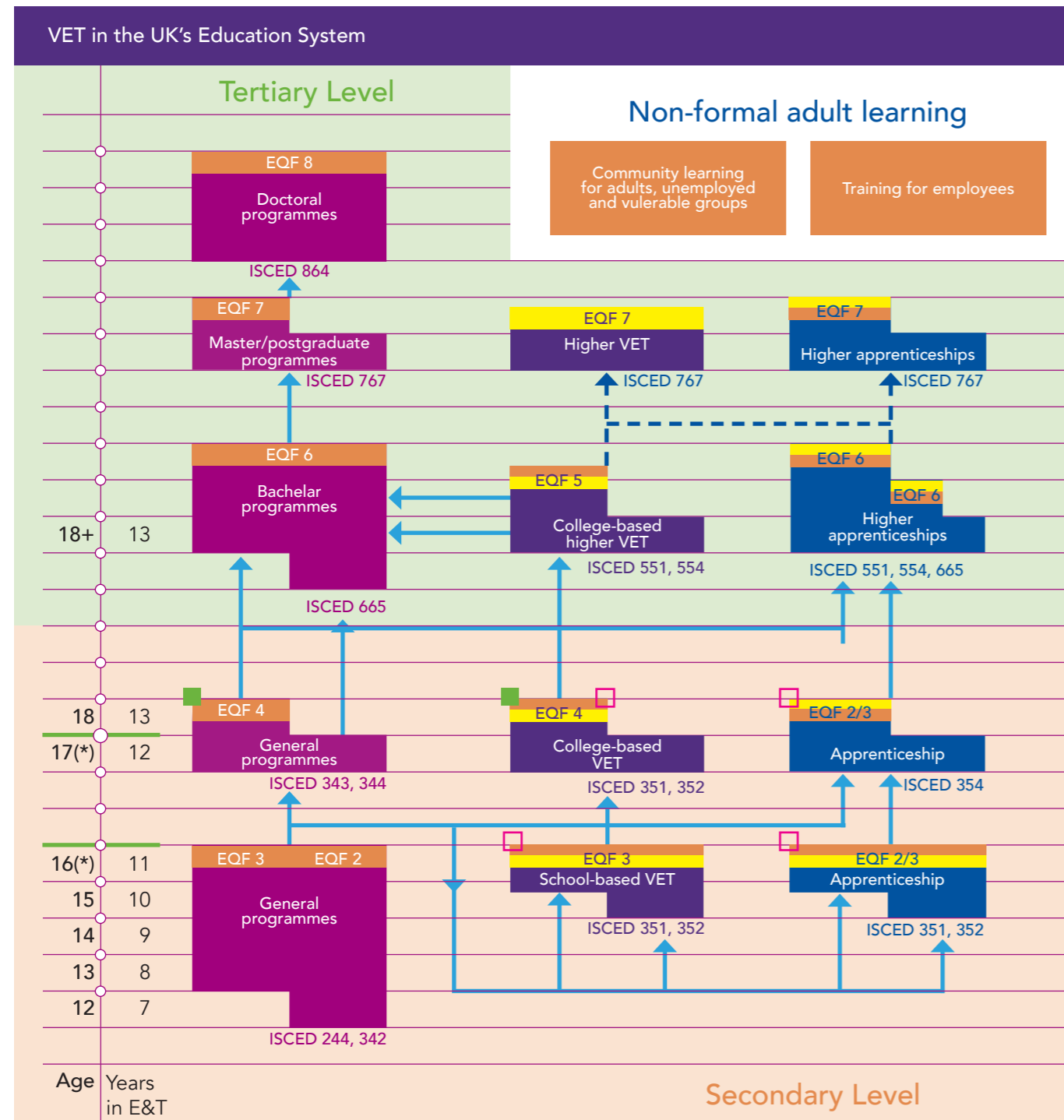
The poverty rate is generally calculated as the percentage of all individuals living in households below 60% of UK median income, after housing costs. Using this measure, the proportion of individuals in poverty in Wales, After Housing Costs (AHC), was 24% over the three-year period 2014/15 to 2016/17. Over the same period, child poverty was 28% AHC. Poverty rates in Wales have generally been greater than the UK average in the period since devolution. With the

exception of London, all other regions have a poverty rate within 5 percentage points of each other (DWP Family Resources Survey, 2018).

The number of workforce jobs in Wales increased by 26.7% (326,000) between March 1999 and March 2018. Over the same period, the number of workforce jobs across the UK as a whole increased by 20.3%. The number of manufacturing jobs in Wales has been in steady decline, and now accounts for 9.5% of all workforce jobs in Wales, compared with 17.2% in March 1999. By 1992, 30% of all Welsh manufacturing employees were already working in foreign-owned plants, '...foreign-owned plants were, however, typically highly footloose, capital-light operations which were highly mobile and indeed, during the 1990s this investment progressively left Wales...' (Bristow and Healy, 2015). Across the UK, manufacturing accounts for 7.7% of all workforce jobs compared with 14.3% in March 1999 (Welsh Government Key Economic Statistics, August 2018). Over the five years leading to quarter 4 of 2015, employment in the private sector in Wales increased by 11.4%, while employment in the public sector decreased by 10% (NAFW Research Service Labour Market Briefing, 2016). Nevertheless, public sector employment as a percentage of total employment in Wales in 2016 was still 22.4% (IPPR North, 2018).

The Skills Agenda in Wales

Skills are a key factor in economic growth and educational attainment can improve individual employment prospects (PPIW, 2016). The OECD's (2012) review of the evidence of the drivers of regional economic growth across developed countries found that improving the number of people lacking basic skills was particularly important. It stated that '... reducing the proportion of people in a region with very low skills seems to matter more than increasing the share with very high skill levels'. A recent report for Colegau Cymru (Emsi, 2017) also identifies some of the wider social and economic impacts of skills development, particularly through the Further Education sector.



- General education programmes
- VET programmes
- Programmes combining VET and general education
- Also available to adults (full-part time or distance education)
- Officially recognised vocational qualifications
- Qualifications allowing access to the next education level
- Giving access to tertiary education
- ➔ Possible progression routes
- (*) End of compulsory education and training. At age 18 in England, 16 in Scotland, Wales and Northern Ireland
- ➔ Possible direct admission at institution discretion

Education Authorities with responsibilities in Wales	
Policy making	Welsh Government / Department for Education and Public Services – school education. Welsh Government / Department for Economy, Skills and Infrastructure – further education colleges and higher education.
VET regulators and inspection/ accreditation agencies	Qualifications Wales – school, further education and non-degree higher education qualifications. Her Majesty's Inspectorate for Education and Training in Wales (Estyn) – schools and further education colleges.
Education providers	Schools – general academic and vocational secondary education. Further education institutions – secondary and post-secondary VET. Colleges – secondary and post-secondary VET Higher education institutions – higher vocational education.
Qualification frameworks owners	RQF - Office of Qualifications and Examinations Regulation (Ofqual). Council for the Curriculum, Examinations and Assessment (CCEA). CQFW – Welsh Government. FHEQ – Quality Assurance Agency for Higher Education (QAA).

Source: UK NARIC, 2016

It has been intimated, by some, that Wales' poor GVA per head performance is a result of the generally poor skills profile of the population, the economic geography of Wales and Wales's demographic structure. With regard to skills, it has been suggested that there is little spatial variation across Wales for people with higher qualifications as these people tend to be more mobile. There is, however, more spatial variation of people with low level qualifications, 'with the general pattern being that employment rates tend to be highest where the proportion of the population with low qualifications tends to be low...', particularly in rural areas of Wales (Price, 2016). The number of jobs that require intermediate and higher skills and education is continuing to rise across the UK as a whole, and 2012 was the first time there were more jobs requiring higher education degrees than jobs requiring no qualifications in the UK.

Vocational education and training (VET) is delivered at secondary and higher education levels across the UK. 'There are a large variety of VET qualifications in the UK and some enjoy a higher regard in the labour market than others...' (UK NARIC, 2016). The chart on page 10 outlines the structure of VET across the UK, though it also generally applies in Wales.

A quality assurance reference point was set up in Wales in 2009; this includes initial vocational education and training (IVET), continuing vocational education and training (CVET)/adult learning and non-formal learning. The quality and effectiveness framework (QEF), also introduced in 2009, aimed to improve the quality of post-16 education in Wales. This framework, developed in co-operation with Estyn (the Inspectorate for Education and Training in Wales), provides a set of key performance indicators for post-16 providers to use in self-assessment, as well as being the basis for inspection (Cedefop, 2018). Following a review

Participation of 18-30 year olds in Education in Wales										
		2009			2014			2017		
		16-18	19-24	25-30	16-18	19-24	25-30	16-18	19-24	25-30
Full-time Education	Total	75940	63030	9960	76940	67490	11310	71720	69910	10710
	Schools	32290	160		31440	130		26570	50	
	Further Education	30950	6400	1620	33220	7030	1670	32140	5860	1480
	Higher Education	12690	56470	8350	12290	60330	9640	13040	64000	9220
Part-time Education	Total	7010	17800	17520	4300	13200	14590	2870	8980	10830
	Further Education	6220	10210	8880	3620	6480	7200	2310	3780	4480
	Higher Education	560	6540	7020	620	5640	5660	450	4170	4660
	Open University	230	1050	1630	70	1080	1740	130	1040	1680
Work-Based Learning	Total	9170	7940	3640	7680	11070	4270	6880	9770	6150

Source: Stats Wales, 2018

of the Credit and Qualifications Framework for Wales (CQFW), which was introduced in 2002, a new Welsh Government-sponsored body Qualifications Wales was established in 2015 to act as an independent regulator of the Welsh regulated qualifications system. Only qualifications that are approved or designated by Qualifications Wales will be eligible for funding by a Local Authority or by Welsh Government. This funding is for the education provider, not the learner. (Cedefop, 2018).

The framework for post-compulsory education in Wales (Welsh Government, 2016) seeks to develop stronger links between education policy, provision, and social and economic goals to ensure the future needs of Wales are met. The Welsh Government has been preparing measures to monitor achievement, post-16 value-added and destinations, with a view to giving a rounded picture of learner outcomes (Cedefop, 2018). Welsh Government has consulted on establishing

a single oversight and co-ordinating authority for the post-compulsory education and training sector, including higher education funding and research and innovation. The new authority – the Tertiary Education and Research Commission for Wales – will seek to ensure that learners can move smoothly to and through post-compulsory education and training (Welsh Government, April 2018).

The table above identifies the number of 18-30 year olds in education in Wales during 2009, 2014 and 2017. Although there was a small increase in the number of 16-18 year olds in full-time education in 2014, the overall number has now fallen below 2009 levels. This is mainly due to a decline in the number of 16-18 year olds remaining to study full-time in schools. There has been a significant decline in the number of 18-30 year olds studying through all mediums in all age brackets. Although there have been declining numbers of 16-18 year olds in work based learning programmes

Work-Based Learners in Wales 2016 – 2017									
		Foundation Apprenticeship (Level 2)	Apprenticeship (Level 3)	Higher Apprenticeship/MSD (Level 4+)	All Apprenticeship Programmes	Traineeships	Work Ready	Other programmes	All Programme Types
All learners		15965	19570	11130	46665	8080	60	30	54840
Male	All ages	7280	8345	3185	18810	4460	35	10	23315
	Under 16	15	10	–	30	555	–	–	585
	16	400	80	–	480	1830	–	–	2310
	17	885	350	–	1235	1305	–	–	2540
	18	950	790	25	1760	615	–	–	2375
	19	850	1030	40	1915	145	–	–	2065
	20-24	2270	3135	290	5695	10	–	–	5710
	25-39	1380	2215	1715	5310	–	10	10	5330
	40-49	325	470	765	1555	–	10	–	1565
	50-59	190	230	330	750	–	10	–	760
	60-64	20	30	25	70	–	–	–	70
65 & over	–	5	–	10	–	–	–	10	
Female	All ages	8685	11230	7945	27860	3620	25	20	31525
	Under 16	15	–	–	15	510	–	–	530
	16	265	40	–	305	1475	–	–	1780
	17	560	155	–	715	1085	–	–	1805
	18	695	375	20	1085	435	–	–	1525
	19	710	530	55	1295	105	–	–	1405
	20-24	2780	3190	760	6730	5	5	–	6745
	25-39	2220	4360	3965	10540	–	15	10	10565
	40-49	875	1710	2135	4720	–	–	5	4730
	50-59	505	790	930	2225	–	–	–	2230
	60-64	50	70	70	190	–	–	–	190
65 & over	5	10	15	30	–	–	–	30	

Source: Stats Wales, 2017

Welsh Policy Initiative: Master Craftsperson

In 2016, ColegauCymru proposed the development of a Master Craftsperson qualification route in Wales. This follows the long-established European model, whereby the delivery of workplace learning was the responsibility of a 'Master Craftsperson' with significant experience in their trade. In some instances, this title is accredited, whereas in others it is more customary.

The ColegauCymru proposals suggested that, in the first instance, the following sectors should develop a Master Craftsperson framework: Business Management and Administration; Construction; Engineering; Finance; Health and Social Care; and Hospitality and Tourism. Such an initiative would, it was argued, improve the quality of outcomes in work-based learning provision within these sectors.

since 2009, there have been significant rises in the numbers of 19-24 and 25-30 year olds undertaking such programmes.

In order to help raise skills levels, particularly among young people, the UK government has introduced an apprenticeship levy. This is a charge on large employers (those with a wage bill of over £3 million), which goes into a fund from which they can draw to pay for apprenticeships in England. Funding is used by the devolved governments in Northern Ireland, Scotland and Wales to fund existing skills provision (IPPR North, 2018).

Following a review in 2015, a new Welsh Apprenticeships Skills Policy Plan was published by the Welsh Government in 2017 (Welsh Government, 2017). The Wales Employment and Skills Board (WESB), which includes employer and trade union representatives, has an important role in ensuring that apprenticeships are aligned to the changing needs of the industry (Cedefop, 2018). Wales Apprenticeships Advisory Board (WAAB), which operates under the auspices of the WESB, has also been established to help shape future apprenticeships. The Plan aims to align the apprenticeship model with the needs of the Welsh economy and has specific targets including:

- creating 100,000 all-age new apprenticeships between 2016 and 2022
- attracting more school leavers and young people aged 16 to 19 to apprenticeships
- developing apprenticeships in growth sectors and emerging job categories
- developing higher level skills including apprenticeships at level four and above
- integrating apprenticeships into the wider education system.

The table on page 13 identifies the number of work-based learners in Wales during 2016-17, including apprenticeships and other programmes. It shows that

during 2016-17 there were 46,665 people engaged on apprenticeship programmes. The largest group were engaged in level three apprenticeships. In addition, there were 8,080 trainees.

4. Wales interview findings

This section presents a summary of the main issues raised during the stakeholder interviews in Wales. Potential interviewees were selected to represent a range of stakeholders across Wales. The actual interview list, however, was to some extent determined by interviewee availability. The discussion that follows is organised around several themes, which were identified as important elements in the regional resilience experienced by the European regions included in the comparative study. These are: effective regional skills structures; the importance of intra-regional collaboration and common purpose; having an appropriate skills base; and long-term planning.

Effective Regional Skills Structures

Stakeholders consistently identified that, although potentially under resourced, Wales' three RSPs (Regional Skills Partnerships) (North Wales, South East Wales, and South West and Mid Wales) have in recent years become the primary mechanisms to establish common regional (sub-regional) skills purposes. The RSPs have been established by the Welsh Government to produce Regional Employment and Skills Plans, which are required to integrate with other economic programmes such as City/Growth Deals, City Regions and Enterprise Zones. It was also suggested that the RSPs should also seek to integrate more with the recent Welsh Government emphasis on the Foundational Economy. Whilst the RSPs provide regional (sub-regional) mechanisms, it was suggested that there is no single Wales-wide forum for planning skills strategies.

Although some interviewees in Wales suggested that businesses could be better represented in the work of the RSPs, they were generally recognised as important structures in developing the skills agenda in

Wales. One RSP representative said that Sector Cluster Groups in their region are run by businesses and not by sector/industry representative bodies as is the case elsewhere. Another RSP representative accepted the need to capture a wider breadth of business knowledge from a larger base of organisations, but that this was difficult due to the lack of business organisations to engage with locally. There was little direct reference to Chambers of Commerce during any of the interviews with stakeholders in Wales. This was in contrast to the European regions where they appeared to have an important role in developing local business engagement with the skills agenda.

One commentator suggested that, SMEs can be overlooked for training support as they are not as visible as larger businesses. Furthermore, SMEs tend to have more niche training needs that are difficult to deliver. Some interviewees suggested, however, that existing county business forums had a role to help identify generic skills needs among SMEs. This would enable them to build a critical mass of small businesses to request specific training courses from training providers. This would, it was suggested, require businesses to better organise themselves at a local level.

The Importance of Intra-regional Collaboration and Common Purpose

Some interviewees suggested that regional (sub-regional) competition for funding between various training providers in Wales prevents a shared approach to training provision. Consequently, it was said that the FE sector in Wales does not always work together as effectively as it could to meet employer demand. This was not intended to be a criticism of the sector, so much as a recognition that the competitive nature of skills funding in Wales may be counterproductive to achieving collaboration and common purpose.

One training provider stated that Welsh Government policy, over last few years, has been to move away from free training for employers, toward a contributory approach. They suggested that this approach has met

with limited success, particularly among SMEs. In some sectors, there has been a notable increase in business investment in staff training. One business owner said that skills have played an important part in the development of the care sector in Wales since 2008, and that this may be a result of a growing requirement for compulsory qualifications.

The business owners interviewed as part of this research clearly saw the importance of training. One business owner reported that all of their staff are encouraged to enter a learning pathway. They added that the business sees a real benefit in training their staff, both in terms of staff retention and increased staff commitment. Another business owner said they had opened their own training centre to train their staff and employees of other businesses.

An Appropriate Skills Base

It was suggested that the competition for numbers amongst training providers sometimes led to an oversupply of skills provision in some areas of the economy. This, it was believed, was a symptom of an output-driven funding regime and a lack of focus on outcomes. One employer, who was interviewed for this research said that there also appeared to be a lack of parity of esteem between vocational and academic education in Wales. Careers that require vocational qualifications, they said, did not appear to be held in as high esteem as those that require academic qualifications.

Positive attitudes toward apprenticeships appear to be growing in Wales. The benefits of apprenticeships as an alternative to higher education among learners appeared to be increasingly understood. It was reported by a number of interviewees that the Apprenticeship Levy has made a positive difference in demand for training, particularly amongst larger or public sector employers. Some interviewees suggested, however, that larger employers were more able to take advantage of the apprentice programme than SMEs, where the take up tends to be lower. There was very limited discussion by the stakeholders

interviewed in Wales about the role of VET (Vocational Education and Training) in promoting entrepreneurship. One business representative suggested it was easier for FE colleges to respond to needs of large employers, whilst SMEs, either individually or collectively, appeared to offer more of a challenge. It was expressed by several interviewees that, although there were some good examples of engagement, some smaller FE colleges, in particular, do not have the capacity to effectively work with SMEs to promote entrepreneurship at present.

Long-term Planning and Skills Funding

Some interviewees suggested that the competitive funding process in Wales is a major barrier to long-term planning. Concerns were also raised about the current one-year funding cycle. It was felt that Wales needed to move away from funding qualifications and towards investing in skills. Indeed, the recent Graystone Review (2018) recommended that Welsh Government should move towards a three to five-year planning cycle.

One employer stated that following the 2008 crisis, a lot of reactive training took place in their sector. This training was through a mixture of apprenticeships and fast-track short courses. They suggested that the quality of fast-track training was dubious. Conversely, they felt, it was clear that from about 2010, those apprentices who had started their longer courses in 2008 and completed their apprenticeship, subsequently continued employment with the right skills base. This, they argued, showed the higher value of long-term training.

The ProAct and ReAct schemes were developed by Welsh Government in the immediate aftermath of 2008 crisis. Some interviewees suggested that whereas these schemes had some success in mitigating some of the immediate effects of the crisis, they would have had a more lasting and deep-seated impact if associated funding had been quality, rather than quantity based. As they were, however, these schemes appeared to be designed very much in response to the immediate crisis, rather than in preparedness against future shocks.

One interviewee said, that training and qualifications in Wales continue to be overwhelmingly directed at present demands, with not enough focus on training for the future skills requirements. As well as future skills needs, one business representative also suggested that there is a major succession planning issue in Wales, with companies having little skills transfer processes in an ageing workforce.

The section that follows considers how these observations can be considered in the skills policy process in Wales.

5. Discussion and lessons for Wales

The following section offers some comparative observations between Wales and the six European regions, and highlights some issues to consider in the Welsh skills policy process.

Intra-regional collaboration and a shared purpose were identified as an important comparative theme in the European regions studied as part of this research programme. In Wales, the RSPs provide the foundation for the development of regional (sub-regional) skills plans, but there appear to be limitations in the current structures to support the development of local or Wales-wide skills plans. Findings appeared to indicate that **efforts should be made in Wales to strengthen local, place-based skills coordination, as well as national coordination of the skills agenda in Wales.**

Issues were highlighted in Wales with regard to the need to more fully engage SMEs with the skills agenda, but also that businesses themselves needed to help facilitate this by being more coherently organised, particularly at a local level. This was an area that contrasts quite clearly with the comparative European study, which found that the more successful regions had strong and effective mechanisms to engage with SMEs. These mechanisms were sighted as the means by which the more resilient regions identified the higher-level skills that were most required by their indigenous business communities. This research

would suggest that **efforts should be made to better involve a broader range of businesses, including SMEs, within the skills agenda.**

Strong networks between educational and skills organisations were also highlighted as significant factors in economic resilience across the European regions. In Wales, despite the existence of forums to support coordination, interviewees generally suggested that the competitive nature of funding for training providers can frustrate collaboration. The competitive short-term funding of skills development in Wales would appear to cut across efforts to strengthen networks between educational and skills focused organisations. This research would suggest that **the funding of post-16 skills training should be reviewed to provide longer-term funding arrangements that support collaboration.**

The cultural value placed on VET was a consistent theme identified across the European regions. In the more resilient regions, higher level skills were not necessarily associated with academic route qualifications. In Wales, the esteem of academic and vocational educational routes did not, generally, appear to be equal. This, it was suggested, affected careers advice and choices, as well as the demand for VET. The apprenticeship model in Wales was, however, increasingly seen as a success. The proposals regarding the establishment of a Master Craftsperson qualification in Wales would also appear to add to the general perception, and practical delivery, of high-quality VET. This research suggests that **efforts should be made to better promote equality of esteem between vocational and academic routes, including more detailed exploration of the Master Craftsperson proposals.**

The comparative study found that the more resilient European regions had effective long-term planning for future skills needs. In Wales, some interviewees suggested that training and qualifications priorities are directed at present demands, rather than future skills requirements. Forecasting should be based on anticipated political and technological developments,

as well as the current economic landscape in Wales. In this respect, the Welsh Government (2018) *Review of Digital Innovation for the Economy and Future of Work in Wales* undertaken by Professor Phil Brown is an important development. So too, is the National Assembly for Wales Economy, Infrastructure and Skills Committee Report (2018) *Industry 4.0 – the Future of Wales*. This research would appear to suggest, **the skills agenda in Wales needs to be more effectively focused on future skills demands and succession planning.**

Some of the European regions reported that, during the recession, they had invested in training with funding from their national governments and the EU, as an alternative to laying off staff. This process was paralleled in Wales via schemes developed in the immediate response to the 2008 financial crisis. It was felt that the schemes developed in Wales in the immediate aftermath of the 2008 crisis were, however, too short-term and generally did not improve Wales' longer-term economic preparedness using the resilience model discussed above. This research would appear to suggest that the emphasis on jobs numbers in Wales is not helpful to longer-term resilience, and that **VET should support long-term quality, rather than short-term expediency.**

This research has sought to investigate the hypothesis that the accumulation of a dense regional skills-base over time, has more lasting impact on regional economic resilience than those regions that experienced a more rapid rise in qualification levels in the immediate aftermath of a crisis. This comparative European study appears to generally support this proposition, but, as the proceeding discussion has highlighted, a number of other factors appear to be relevant. While recognising that continued overall investment in training is important, some of the European regions continued to experience skills shortages in the lower and medium skills levels. This would appear to suggest that a balanced approach to future skills needs is required, and that investment should be made for skills at all levels, not just higher-level skills.

Effective and accurate planning and delivery of long-term skills requirements is important, and this requires appropriately targeted resources. The research also suggests that there needs to be a greater emphasis on outcomes and skills, rather than outputs and qualifications. This research has shown that the cultural value attached to skills, VET and R&D activities needs to be deeply and broadly imbedded within the region. Importantly, indigenous businesses of all sizes, self-employment and local entrepreneurship need to be celebrated and supported with effective national, regional and local skills policy. The more resilient European regions appear to more closely link longer-term skills development with entrepreneurial activities.

This comparative research project concludes that, on the basis of the evidence to emerge from the more resilient European regions, Wales needs to ensure that it has an effective long-term plan to develop a denser skill base for anticipated future skills needs.

The findings indicate, economic resilience is not necessarily assured by a greater preponderance of higher-level skills per se - the relationship between skills and resilience is much more complex and dynamic. Wales also needs to have an open dialogue about how skills are most appropriately funded and developed, particularly where the benefits of such investment may take some time to realise, but this long-term investment and regional cultural value of skills would appear to be a significant element in regional economic resilience.

Key findings

- Regional economic resilience appears to be, in part, aided by a dense and appropriately planned skills-base developed over a long period, but not necessarily a skills-base developed hurriedly in response to a crisis.
- Efforts should be made in Wales to strengthen local, place-based skills coordination, as well as national coordination of the skills agenda in Wales.
- A broader range of businesses, including SMEs, should be involved within the skills agenda and ways to achieve this should be explored urgently.
- The funding of post-16 skills training in Wales should be reviewed to provide longer-term funding arrangements that support collaboration.
- Better promotion of genuine equality of esteem between vocational and academic routes is essential.
- The skills agenda in Wales needs to more effectively focus on future skills demands and succession planning, and a balanced approach across skills levels should be adopted.
- VET should support long-term quality, rather than short-term expediency.

Appendix 1: European Visits Report

December 2018

This short report presents the result of a series of interviews conducted as part of an EACEA funded project³ undertaken by Colegau Cymru/Colleges Wales between 2017 and 2019. The project has sought to test the thesis that a preponderance of higher-level skills in the labour force, tend to lead to greater regional economic resilience.

There are various definitions of 'higher-level skills'; this project has adopted the definition applied by Welsh Government to skills at Level 3 (EQF Level 4) and above⁴. Although there are a number of measures that can be used to define economic resilience⁵, overall regional employment/unemployment levels have been used as a simple indicator for the purposes of this research.

The project has adopted the resilient outcomes model developed by the ESPON project ECR2 *Economic Crisis: Resilience of Regions*⁶, as well as neighbourhood analysis techniques based on the approach developed by Orkestra⁷. This approach identified four categories of resilience, there are:

- Resistant regions (those regions that have not experienced an absolute decline in economic activity following the economic shock).
- Recovered regions (those regions that experienced a decline in economic activity, but have since recovered to pre-shock activity levels).
- Not-recovered, but in upturn (those regions that experienced a decline in economic activity, have passed the trough of the recession, but have not yet recovered to pre-shock activity levels).
- Not-recovered, still in decline (those regions that experienced a decline in economic activity, which was still ongoing at the time of the analysis).

Resilience to an economic shock does not, of course, necessarily imply that a regional economy is otherwise strong, performing well over the longer-term, or contributing in a broader sense to regional well-being. Rather, it is a measure of how a regional economy responds to a particular economic event, in this case the 2008 Global Financial Crisis.

Using this model, as well as background desk-research undertaken, and additional advice provided by researchers at the Cardiff University School of Geography and Planning, six European regions were selected, these were:

- Flanders, Belgium
- Niederösterreich, Austria
- Pays de la Loire, France
- Pomorskie, Poland
- Schleswig-Holstein, Germany
- Tampere, Finland.⁸

Internal background papers were prepared on each of these regions during an earlier stage of this project, which provided useful research team briefings prior to undertaking this stage of the project. The briefings identified that, five of the regions were either resistant to the economic crisis in 2008, or have recovered from crisis to their pre-crisis peak employment or GDP. One region, Tampere in Finland, continued to experience high levels of unemployment despite experiencing some degree of economic recovery.

A total of 27 semi-structured interviews, involving 45 participants, were undertaken across the six regions between November 2017 and March 2018. The interviewees consisted of stakeholders in the Vocational Education and Training (VET) agenda, and included representatives from: regional and local government, chambers of commerce, employee and employer representative organisations, trade unions,

business agencies, universities, and vocational/further education schools and inspectorates. Although the interviews have been conducted under Chatham House Rules, and responses have not been directly attributed to any comments reported in the discussion below, a full list of the organisations represented by the interviewees is included in the appendix.

The response rate to requests for interviews for this project were generally positive, but there were difficulties in arranging interviews in Schleswig-Holstein and this was further complicated by several cancellations by interviewees during the visit. Consequently, only two face-to-face interviews were conducted in Schleswig-Holstein. There were also difficulties in securing a sufficient number of respondents in Finland, although four interviews were undertaken.

Whilst there are findings that were specific to particular regions, there were several common themes to emerge. The remainder of this report outlines the findings from the interviews that were undertaken. The common themes included:

- Intra-regional Collaboration and Common Purpose
- Strong Education Sector Networks
- Effective Vocational Education and Training
- Flexibility in Vocational Education and Training
- Vocational Education and Training and Entrepreneurship
- Universities and Vocational Education and Training
- Research and Development
- Investment in Training
- Chambers of Commerce
- Training in Response to Crisis
- Training at All Skills Levels
- Continued Skills Shortages.

There are a number of examples used throughout the text, which are intended to highlight particular regional examples that help illustrate some of these themes. It should be noted that these are derived from comments made by particular interviewees, and no effort has been made by the research team to validate any points made.

Emerging Themes

One: Intra-regional Collaboration and Common Purpose

Interviewees in every region reported a close degree of co-operation between stakeholders from national and regional/local government, chambers of commerce, employer and employee organisations, educational actors and businesses. The role of SMEs in regional economies was highlighted as significant by respondents in a number of regions. Respondents across all regions felt that collaboration was a key factor in the ability to develop a shared vision, both as an immediate response to support regional economic resilience during the crisis of 2008, and in order to develop a longer-term strategic vision to embed such resilience ahead of future economic crises.

In Pomorskie, interviewees tended to highlight the positive links that exist between all of the key economic actors, and they suggested that this was an important element of the regional collaboration that exists. In Pomorskie, the central organisation around which collaboration is built appears to be the Pomorania Development Agency.

The Pomorania Development Agency, Pomorskie

In Pomorskie, the Pomorania Development Agency advises all regional employers and the Regional Government on what European Union funding can be accessed to support training and development. The Development Agency is supported by the regional Chambers of Commerce that exist in each sector.

The Development Agency then invests funding by contracting with VET sectors in the region, in order to support bespoke and existing higher skills training for both the employed and unemployed to fulfil the anticipated future skills demands in the region. The Development Agency works in close collaboration with local government representatives to develop appropriate VET responses from aged twelve onwards in Technical Schools and at Technical Universities.

3. Project reference: 36/2016.

4. Welsh Government (2017). *Aligning the Apprenticeship Model to the Needs of the Welsh Economy*. Cardiff: Welsh Government.

5. www.espon.eu/programme/projects/espon-2013/applied-research/ecr2-economic-crisis-resilience-regions

6. Ibid.

7. http://s3platform.jrc.ec.europa.eu/documents/20182/114903/JRC89819_RegionalBenchmarking.pdf/699a6115-f685-4567-969d-921d116a304e

8. Tampere region is also sometimes referred to as Pirkanmaa region. For the purposes of consistency this report uses Tampere, which is also the name of the region's largest municipality/city.

In Tampere, collaboration was also referenced as important, but it appeared to be driven by the regional Chamber of Commerce. Direct collaboration in Tampere was not identified as being particularly successful, although interviewees did report that the Chamber of Commerce provided a good focal point for co-operation. Interviewees in Schleswig-Holstein also suggested that the regional Chambers of Commerce provide important links between government, businesses (particularly SMEs) and the education sector.

Schleswig-Holstein, Chambers of Commerce

In Schleswig-Holstein, the central actor in regional collaboration was identified as the Chamber of Commerce. In Germany, Chambers are funded through a levy on employers in their respective sectors and regions. These funds are used to:

- Forecast skills needs for respective sectors, regions and anticipated economic demand.
- Provide support to employers who are experiencing financial challenges.
- Provide standard or bespoke training for employees to prepare them for future skills demands.
- Create links to the local higher skills providers to provide training requirements identified through the research on sector requirements.
- Assist employers to share technical knowledge and ability to create a structured collaborative response to economic opportunities.

The Chambers of Commerce have an important function in driving Government policy through their work in sector forecasting, employer responsiveness and their development of educational support programmes.

In Flanders, interviewees also highlighted the level of collaboration between regional actors, and, in particular, mentioned co-operation between local and

regional governments to create bespoke educational qualifications to fulfil regional demand. They also suggested that, in order to ensure their experience on workforce skills was integrated into the policy development process, regional businesses had been closely engaged.

Two: Strong Education Sector Networks

Across each of the regions, educational actors from higher and vocational education organisations appeared to work well together and were closely involved with other stakeholders from governments and businesses. In Pays de la Loire, educational actors in the region appeared to work particularly closely together, and one respondent suggested that government and professional networks in the region are dynamic. It was clear that vibrant networks were a critical element in the ability of some of the regions to withstand, or recover quickly from, economic challenges.

Pays de la Loire

Pays de la Loire aims to become a leader in advanced manufacturing, and has developed several programmes. In particular, the competitiveness cluster EMC2 is addressing advanced production through quadruple helix co-operation. The Jules Verne Institute of Technology is dedicated to improving advanced manufacturing through the concept of flexible technological building blocks.

EMC2 and the Jules Verne Institute of Technology work closely together to ensure the commercialisation of their, and their company members' research work. Research results are developed further with the support of three Technocampuses, which encourage interdisciplinary approaches and collaborative research and development.

There are currently four Technocampuses:

- *Technocampus Ocean (mutualised technological research platform dedicated to marine structures and metallic materials).*

- *Technocampus Smart Factory (enables companies of all sectors to appropriate industrial uses of virtual reality technology).*
- *Technocampus Composites (mutualised technological research platform dedicated to composite manufacturing).*
- *Technocampus Acoustic (research in acoustics and in physical chemistry of materials).*

In Pomorskie, there appeared to be a difference of opinion between the various interviewees. Whereas some felt that the education sector was able to collaborate and respond effectively to economic demands, others felt that the sector's responsiveness was not as dynamic as it often needed to be to meet changing economic circumstances. Interviewees in Tampere generally felt that recent vocational education reform had ensured closer collaboration between skills providers and businesses in order to meet regional business needs, but that it was too soon to determine if this reform would have a longer-term impact on regional preparedness for economic shocks.

In Schleswig-Holstein, collaboration to meet future skills needs is ensured through the strong links developed between university commercial departments and the Chamber of Commerce. In Flanders, this function appeared to be fulfilled through the regional development hubs.

Three: Effective Vocational Education and Training

A major theme to emerge from this research concerns the importance of vocational education and training (VET) across each of the regions, where, despite evidence of some issues of a disparity of esteem between it and more academic educational routes, it is valued as an important contributor to regional economies.

In Niederosterreich, it was reported that 40 percent of learners choose VET routes, and in Pays de la Loire, the high level of apprenticeship take-up is considered an important element in the economic success of the

region. In other regions difficulties were reported. In Pomorskie, although it was reported that education system supports VET development, delivery can be complicated due to staff recruitment difficulties. This problem appeared to be common to all regions.

The dual education system in Flanders is likely to be relaunched in order to improve the image of VET, which can be seen in the region as a place to 'school drop-outs'. In Schleswig-Holstein, it was reported that there had been a gradual shift from VET toward academic education over recent years. In general, VET appeared to be particularly valued by regional SMEs, and was highlighted by respondents across most of the regions as being a significant part of the regional skills mix.

Four: Flexibility in Vocational Education and Training

Across each of the regions, it appears that education systems are flexible and are able to accommodate the needs of all learners. VET is delivered either through work-based learning (WBL) or more traditional academic settings, and options exist for continued higher education or for the take-up of apprenticeships. Regional education systems tend to be responsive to the changing requirements of local employers.

In Pays de la Loire and Niederosterreich, entry to higher education can be secured either through school/academic routes or through VET. The French system, in general, appears to offer a range of educational options to suit each learner, including what one interviewee referred to as 'second-chance' education. In Pomorskie, it was reported that controls around VET were too restrictive for it to be truly responsive to need.

Five: Vocational Education and Training and Entrepreneurship

In some of the regions, VET, through a dual system and/or apprenticeships, often forms the basis for self-employment and as the basis of regional SMEs start-ups. The entrepreneurial mind-set and work ethic, engendered by VET experiences, were reported as strong drivers of entrepreneurship in regional economies. All interviewees, across each

region, suggested that apprenticeships and VET are an important means to attain experience essential to become a successful entrepreneur in a particular trade sector. Many interviewees also suggested that their strong regional SME base was, in part, a factor in ensuring their economic resilience.

In Pomorskie, the entrepreneurial spirit was seen as a driver for success in the region and it is regularly taught as a subject in VET schools. In Austria, owners of vocational businesses must have a Master Apprenticeship qualification. In Pays de la Loire, one respondent stated that employers in the region actually prefer to employ workers who have undertaken VET, rather than a more academic lycée professional.

Six: Universities and Vocational Education and Training

There is a trend, across each of the regions, for universities to become increasingly involved in providing VET and in working more closely with regional business to identify training specific needs. A common theme across all of the respondents was that universities were becoming more reactive to the VET needs of employers.

In the Pomorskie, university responsiveness to regional employers' VET needs has tended to be driven through a third party such as a Chamber of Commerce or the Development Agency. In Flanders, Thomas Moore University has a department dedicated to supporting business VET requirements, and universities tend to perform an important function in the enterprise hubs. Universities in Pays de la Loire were also reported to have become more responsive to VET needs.

In Niederosterreich, the business agency Ecoplus acts as a conduit between universities and employers. If training gaps are identified, pilot training schemes can be established with help from national government funding. These schemes are run by clusters, with support from Chambers of Commerce, and by experts from universities or universities of applied science. Although the funding for these schemes is available across Austria, Niederosterreich has the highest take up.

Seven: Research and Development

Levels of investment in Research and Development (R&D) activities are generally regarded as important across each of the regions. Some regions reported a need for increased regional investment in R&D, as the quality particularly of university research was seen as important to attracting new investment into the region.

In Flanders, investment in R&D was identified as significant by both governmental and education sector stakeholders. The regional Hubs were identified as the main source of R&D funding. Tampere has also stressed the importance of R&D investment, and its regional efforts appear to be mainly focussed on the medical research sector. Interviewees in Tampere did, however, suggest that they recognised the need for this investment to be expanded into other sectors as it was currently too limited.

Although the level of expenditure on R&D in Pays de la Loire is lower than the regional average in France, the quality of research in universities was reported to be of a high standard. This was considered by interviewees to be an important factor in the attractiveness of the region to new businesses. Moreover, SMEs in Pays de la Loire have been identified as being particularly innovative⁹.

The Austrian Research Promotion Agency

The Austrian Research Promotion Agency is the national funding agency for industrial research and development. The Agency's 'R&D Competences for Industry' programme supports companies in the development and improved qualifications of their research and innovation employees. The focus is on small and medium-sized enterprises (SMEs).

The Programme aims to support co-operation between businesses and tertiary education and research institutions, particularly in industrially relevant research fields, and has three specific elements:

- *Increase Expertise (qualification seminars - customised training of employees, focus on SMEs, enabling access to new technology fields).*
- *Expertise Development (qualification networks – customised training for companies with universities, universities of applied sciences and other educational and research institutions, increase innovation skills of companies in future relevant technology).*
- *Enhance Applied Research Expertise (customised training networks between companies and universities, universities of applied sciences and other educational and research institutions, emphasis on industry driven topics at a high scientific level).*

Eight: Investment in Training

Across each of the regions, investment in training was secured through a range of different sources rather than an overall reliance on central funding. This investment appears to be generally based on available evidence, which facilitates a responsiveness to actual regional skills demand. Regional stakeholders commonly reported a link between local labour market intelligence, as well as the priorities of their respective national governments.

The interviewees in Flanders, Pomorskie, Schleswig-Holstein and Tampere, all suggested that funding for training had been secured through three main sources: the European Union, government investment and private business investment. In Schleswig-Holstein, additional funding was derived from the Chambers of Commerce.

In Pays de la Loire, the regional government has enhanced the 51 percent French Government funding with between six and seven percent of regional funding. Current changes to the apprenticeship scheme in France, however, are reported by some regional interviewees to mean more centralised control and allocation of funds by national sectoral interests. This was seen, in part, to be a result of some French regions utilising all their allocated funding on training, but there was a fear that successful regions will have less funding for training in SMEs.

Nine: Chambers of Commerce

Chambers of Commerce were identified as important bodies in each of the regions. In some, membership of a Chamber of Commerce is compulsory for all enterprises, and this ensured that funding for training activities was available from the respective Chambers. In most of the regions, membership of an employee organisation is also compulsory and these often provide training funded by membership levies.

In Schleswig-Holstein, interviewees suggested that training provided by the Chambers of Commerce represented value for money to the businesses, and in Flanders, interviewees suggested that training provided by the Chamber Commerce was very much focussed on employer demand. In Niederosterreich and Pays de la Loire, where membership of a Chamber of Commerce is compulsory for all enterprises, training was reported to be responsive to the particular skills levels and requirements of various sectors.

Ten: Training in Response to Crisis

Close co-operation, between various regional partners, was seen as important in the ability to respond quickly to changing skills needs. There were divergent views expressed by interviewees on their own regional success in achieving this outcome. In some regions, this meant that whilst governmental and educational stakeholders felt they could achieve this outcome, business actors tended to be less convinced on success.

During the recession, some of the regions reported that they had invested in training as an alternative to laying off staff. Supported by national and EU funding, some interviewees suggested that this policy meant that they have been better able to respond to the subsequent economic upturn. This experience was particularly evident in Flanders, where the Regional Government created a support fund that allowed employers to retain staff and offer training. A similar experience was identified in Schleswig-Holstein.

9. Regional Innovation Scoreboard: https://ec.europa.eu/growth/industry/innovation/facts-figures/regional_en

Flanders Training in Response to Crisis

Flanders was able to sustain employment levels and economic viability through a range of measures set out by national and regional governments. Prior to the 2008 Global Financial Crisis, Belgium had experienced a high skill and low labour economy since the 1970s. This meant that businesses were already streamlined and had the skills necessary to attract external investment in the region.

This was accompanied by legislated pay scales, which meant that disposable income was maintained at pre-crisis levels and increased yearly. As a result, the retail economy stayed buoyant. Furthermore, taxation income was invested in locally responsive national retraining schemes to promote business viability and adaptability. There was also investment in alternative sector development, which gave tax payers vouchers to spend in the services sector. This helped create alternative employment roles for employees who could not be maintained in their previous roles.¹⁰

For employers who wanted to retain skilled staff, a support fund, which was linked to unemployment support payments and identified further skills development training, was initiated. This allowed employers to receive financial support for retained employees, and for training in the region to provide the skills identified by regional government skills analyses.

Following the 2008 Global Financial Crisis, interviewees in Pays de la Loire reported that the various sectors had also undertaken training initiatives in response. It was reported that there was positive co-operation, and a mutualisation of training funds, during this period. It was also reported, however, that whilst many employers retained staff with higher-level skills, those workers with lower-skilled had a much more difficult experience.

Eleven: Training at All Skills Levels

Investment in skills training at all levels was generally considered to be important by interviewees across

each region. It tended to be expressed that whilst higher-level skills are clearly important to regional economies, there also needed to be continued investment in lower level skills that are more associated with traditional industries.

Interviewees in Flanders, Pomorskie and Tampere all stated that their region is experiencing a deficit in the mid-level skills, and construction and engineering operatives were specifically mentioned.

Tampere Regional Skills Shortages

Tampere suffered from a skills exodus during the economic downturn when some of the large regional employers downsized or closed down entirely. Consequently, employees with higher-level skills moved. This created a void in skills in the region that has been difficult to rebuild.

The local university successfully attracted higher-level learners, but it has taken a number of years to train and retain qualified employees in-line with the Regional Development Plan. The regional and national government has recognised the need to restructure the VET system, for it to be more employer skills demand responsive.

Interviewees in Niederosterreich and Pays de la Loire, identified their respective regional needs to train lower skilled workers in order to meet changing skills needs and working practices, such as the greater use of robotics and technology in industry.

Twelve: Continued Skills Shortages

While recognising that continued investment in training is important, interviewees in some regions, reported that regional skills shortages in the lower and medium skills levels are due, in part, to economic success. It was reported that skills 'bottlenecks' exist in a number of sectors.

In Flanders, in order to meet expanding requirements created by economic growth, interviewees

acknowledged the need to continue investment in all skills levels and to create stronger mid-level skills in the workforce. In Pays de la Loire, it was suggested that there was a need to balance the gap between the two to three-year apprenticeship programme, with immediate skills shortages in the short-term.

Discussion

This short summary, derived from the findings from the interviews conducted across the six European regions, has demonstrated a number of common themes that have contributed to their regional economic resilience. Although there will clearly be a wide range of other factors that contributed to the relative degree of economic resilience of each region, that were either not highlighted by the various respondents or that fall outside the scope of this research to interrogate further, the twelve themes highlighted tend to be consistent across each of the six regions.

The most significant findings appear to suggest that skills at all levels are important in supporting regional economic resilience; higher-level skills are only part of a much broader skills agenda.

Another major factor in regional economic resilience is the degree to which regional networks are dynamic and able to develop shared agendas, both as part of an immediate response to a crisis and also for longer-term strategy. It is, therefore, clear that the most resilient regions are those that are prepared. Regional economic resilience is most assured, when it is built on firm foundations. Other than mitigating some of the worst impacts of the immediate shock itself, it appears that attempting to tackle a crisis once it has occurred through skills-based interventions is too little and too late.

The themes identified in this report will be explored further through the next stage of this research, the study of Wales. Wales has experienced less economic resilience than most of the European regions that have been included in this research. The common themes identified across the European regions will be explored further during the interviews conducted

with stakeholders in Wales, and will form part of the evidence and discussion in final project report. The degree to which Wales shares common features with the European regions is a major question to be addressed in the next stage of this research.

10. For background see: <https://www.eurofound.europa.eu/data/tackling-undeclared-work-in-europe/database/services-vouchers-belgium>

Flanders, Belgium

- Departement Werk en Sociale Economie - Afdeling Beleid – Studiedienst
- Ministry of Education (EU Advisory Committee for Vocational Education and Training)
- Voka (Vlaams network van ondernemingen)
- Vlaamse Overheid
- WZC Sint Barbara
- Flemish Department of Education and Training
- Gemeentz Best
- Verantwoordelijke Studiedienst
- Thomas More University

Niederösterreich, Austria

- ARQA-VET
- Wirtschaftskammer Niederösterreich
- Amt der NO Landesregierung
- Landesschulinspektorin
- HTL St. Polten
- Handelsakademie
- University of Applied Science, Krems
- Ecoplus, NO
- BHAS Bruck an der Leitha

Pays de la Loire, France

- L'Agence Regional, Pays de la Loire
- Conseil Regional, Pays de la Loire
- University of Angers
- Chambre de metiers et de l'Artisan des Pays de la Loire

Pomorskie, Poland

- The Gdynia Maritime Academy
- Internationalisation and Innovation, Pomerania Development Agency Co.
- The Department of Economic Development Office of the Marshal of the Pomorskie Voivodeship
- European Funding Department, Pomerania Development Agency Co.
- Regional Chamber of Commerce of Pomorskie
- Labour Office, Pomorskie
- Pomorskie Employers' Union LEWIATAN
- The Complex of Secondary Technical Schools of Communication Technology
- Ship and General Education Schools of Conradinum
- Polytechnika Gdansk
- University of Gdansk

Schleswig-Holstein, Germany

- Mentoren - Mentors für Unternehmen, Schleswig-Holstein
- Wirtschaftsakademie (Business Academy)- Schleswig-Holstein

Tampere, Finland

- Office of the Director of Vocational Education, Tampere
- Pirkanmaan liitto (Council of Tampere Region)
- Tampere Vocational College Tredu
- Tampere Chamber of Commerce
- Directorate of Business Development, Council of Tampere
- University of Tampere

Appendix 2: List of Wales interviews

Organisation	Date of Interview
ALS Training Ltd.	8 January 2019
Caerphilly County Borough Council	8 January 2019
Cardiff Business School	21 November 2018
Cardiff Capital Region RSP	30 November 2018
Cardiff Metropolitan University	19 November 2018
Cardiff University	11 December 2018
Cardiff and Vale College	19 November 2018
CBI	24 January 2019
Coleg Sir Gâr	16 January 2019
FSB	4 December 2018
Grŵp Coleg Llandrillo	17 December 2018
Heatforce	11 January 2019
Independent Trainer	12 November 2018
Lantra	3 January 2019
Montana Healthcare Ltd.	17 November 2018
National Training Federation for Wales	8 January 2019
North Wales RSP	15 January 2019
Penderyn	2 January 2019
South-West and Mid-Wales RSP	27 November 2018
Tata Steel Training Centre	8 January 2019
Wales TUC	11 November 2018
Welsh Government	31 January 2019

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