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Skills Research Digest
Quarter 4 2017

The **Skills Research Digest** monitors recently published skills and labour market research relevant to the work of the Department for the Economy and to the strategic and policy issues that we face in Northern Ireland.

In each case, we provide a short summary of the key points and web links to the full article or report*. A full list of sources can be found at the end of the publication.

Highlights this quarter include:

- Several reports on the impact of automation. While its actual impact is the subject of much speculation, there is no doubt that very different skills will be needed if we are to both ride its disruptive effect and exploit its potential.
- A continuing sense that national systems are failing to support the skills employers and economies need, with concerns about gaps, shortages and mismatches increasingly exacerbated by Brexit.
- New insights into how vocational education and training is organised and perceived in different countries.

** Links are correct at the time of publication, however it is likely that some will break over time. The list of sources has more general links, which should help the reader to track down the original report.*

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The research summarised here presents the views of various researchers and organisations and does not represent the views or policy of the Northern Ireland Executive or those of the authors.

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Preparing Young People for Work

16–19 EDUCATION

Cedefop published two volumes of *The changing nature and role of vocational education and training [VET] in Europe*, part of a series for the project: The changing nature and role of VET (2016–18).

- Volume 1 aims to develop a theoretical model that can be used to analyse national definitions or conceptions of VET and how they have changed over time.
- Volume 2 tests the approach across 30 European countries through a survey of national VET experts.
  - VET is largely perceived as occupation-specific education and training geared towards securing the supply of skilled labour; it is also generally seen as inferior to general or academic education.
  - In most countries it predominantly caters for young people, provides 'middle-level' qualifications, is financed through education budgets and is coordinated by central government.
  - There are four identifiable patterns of how VET is understood, which have remained stable over two decades despite considerable reforms: work-based or dual initial training (e.g. Denmark, Germany, Austria); initial vocational education (e.g. Bulgaria, Spain, Malta, Romania); further training (e.g. Ireland, England); and part of lifelong learning (e.g. France, Finland).
  - Some countries have 'bid farewell' to VET being seen as dead-end initial training, clearly separate from general education.
  - There has been considerable diversification in terms of providers, levels and target groups, and increased horizontal and vertical permeability, with more emphasis on work-based learning.
  - There appear to be two main trends, sometimes seen operating simultaneously: strengthening of VET, with greater focus on work-based training involving new parts of the education system (e.g. higher education (HE)); and diversification, with VET increasingly seen as part of lifelong learning.

Cedefop published its first *European public opinion survey on vocational education and training*, based on face-to-face interviews with over 35,500 member-state citizens.

- 86% had heard of VET, including 71% who knew exactly what it was, regardless of whether they had personally undertaken vocational or general education (UK: 61%).
- 57% had received information about VET when making decisions about their upper secondary education (UK: 44%).
- 25% of those with a general education had been advised against opting for VET; this ranged from 9% in the Netherlands to 51% in Hungary (UK: 14%).
- 68% thought upper secondary VET had a positive image in their country (UK: 75%).
- 75% thought students with low grades were directed towards VET in their country (UK: 69%).
- 54% thought it was easy to continue to HE after VET, while 31% disagreed; 61% of those who had undertaken VET agreed, compared with 53% of those with general education.
- 72% of those with general education had continued into HE, compared with 39% of those with VET; most people continued with the same type of education in HE.
- 60% of those primarily with VET had taken no more than a month to find a long-term job, compared with 49% of those primarily with general education.
- 90% of VET respondents were satisfied with their general skills, 89% with the quality of teaching, 87% with work-related skills and 81% with the equipment available; those with general education were less satisfied in relation to work-related skills (62%); across the four items, UK respondents were among the most consistently satisfied.
- 49% thought their government should prioritise VET (UK: 34%), 28% general education (UK: 43%) and 11% neither (UK: 11%).

A video presentation of the results is also available.

Australia's National Centre for Vocational Education Research (NCVER) published *Engaging young early school leavers in vocational training*, investigating the actions and initiatives that might maximise success in this area.

- Getting young people into VET can be difficult – in Australia the proportion of 15–19 year-olds in VET has declined.
- Among the findings:
  - **At the pre-enrolment stage:** information is vital – training providers and support services need to work together to demystify VET; connecting with families, schools and other community groups will help to raise awareness about options.
  - **At enrolment:** it is crucial to engage young people in what is often a complex process through well-designed information on course choices and financial support, and simplifying enrolment as much as possible.
  - **During training:** providers and support services need to work together to offer logistic, academic or social support, such as scheduling timetables around public transport availability; helping the young person to plan their travel; or offering assistance with language, literacy, numeracy or learning skills.

The National Institute of Economic & Social Research (NIESR) published *Peer Effects and Social Influence in Post-16 Educational Choice*, investigating whether the educational choices young people make after GCSEs in England are influenced by their peers.

- Although the main driver of educational choice is individual ability, higher ability peers reduce the likelihood that a student will choose a vocational course.
  - Other factors include GCSE subjects, ethnic group, gender and local authority.
- Household income has a very strong effect on choices: the more deprived the student's background, the more likely they are to choose a vocational rather than an academic path.
  - Students from 'just about managing' families are less likely to choose an academic course irrespective of their ability and the ability of their peers, potentially limiting their future options.

The Money Advice Service (MAS) published *Financial Capability of Children, Young People and their Parents in Northern Ireland 2016* from a UK-wide survey of 4–17 year-olds and their parents.

- 57% of 7–17 year-olds say they remember learning about managing money at school or college (UK: 40%); 90% of those who had, found it useful (UK: 90%).
- 22% of 12–17 year-olds are unable to correctly read a bank statement.
- 6% had spoken to a teacher about money (UK: 7%); 71% had spoken to parents (75%).
- Overall, young people have a reasonable grounding in knowledge and understanding about money, debt, savings and value.
- Factors making an important difference to financial capability include: the importance of starting early; the need to empower children; developing saving behaviours; and vulnerabilities such as growing up in a low-income household and lack of confidence managing money.

SCIENCE, TECHNOLOGY, ENGINEERING & MATHS (STEM)

BT's Tech Literacy project and Accenture Strategy published *Tech know-how: The new way to get ahead for the next generation*, exploring the relationship between tech literacy and social mobility in the UK.

- The research draws on surveys of 4,000 16–24 year-olds and 1,000 41–50 year-olds, as well as interviews with experts and thought leaders.
- 73% of young people rated themselves as 'confident' (59%), 'creative' (10%) or 'expert' (4%) users of tech, regardless of parental background.
  - While only 10% consider themselves to be 'creative' tech users, 35% are comfortable creating blogs or YouTube channels.
  - Although only 4% think of themselves as 'expert', 16% can customise or design a gaming world, and 8% can build a game or app.
- Based on their ambitions, by 2022 36% of them will be confident, 29% creative and 22% expert.
  - Young people whose parents have a degree or above are more likely to aspire to be 'creative' or 'expert' tech users than those with lower-qualified parents; they have a salary expectation 19% higher than their peers.

- 66% (the same in Northern Ireland) agree that digital skills will be increasingly important for jobs in the future, and 70% (NI: 71%) think they will help open up opportunities.
  - However, only 60% (NI: 56%) think that tech will change the nature of their jobs in the next five years, and 42% associate tech capability with 'jobs that involve sitting in front of a computer screen'.
- Improving young people's tech literacy and matching them with suitable jobs could increase UK GDP by £11b by 2022.
  - Older respondents with higher levels of tech know-how earn an average 'tech literacy premium' of £10,000 p.a.
- There is a risk that some groups will miss out.
  - Young men are 17% more likely to report having had sufficient computer science training at school than young women; they are 46% more likely to be encouraged by friends and family to build their tech skills.
  - Young people in London are 50% more likely to aspire to be 'creative' or 'expert' users of tech, while those in Northern Ireland, Wales and the North East of England have the lowest ambition.
  - Employers are twice as likely to focus training on higher-paid workers, leaving already-disadvantaged groups behind.
- The report makes two key recommendations:
  - Break the single-minded focus on coding, to inspire a generation of creative problem solvers that value tech know-how and where it can take them: weave tech capability into the core of the curriculum and help young people recognise tech in the activities they already enjoy.
  - Provide structures, mechanisms and resources to prepare young people for the jobs of the future, regardless of background: provide equal access to skills development and hands-on experience of the workplace; invest in continuous tech training for employees.

Carnegie UK Trust published *A digital world for all? Findings from a programme of digital inclusion for vulnerable young people across the UK*, including 18 recommendations.

- The report follows on from the Trust's #NotWithoutMe pilot projects in Belfast (with Mencap NI), Glasgow, Cumbria and London.
  - It should not be assumed that young people have innate digital skills (and are 'digital natives'); instead we should assume that some level of support may be required.
  - Digital participation strategies should specifically consider vulnerable young people.
  - Digital skills learning should be embedded in existing long-term skills development programmes in formal and informal education.
  - Young people should be involved in shaping digital skills projects.
  - Ongoing training should be provided for young people's families and professional support networks.
  - Improved understanding is needed of the challenges related to basic literacy in digital skills learning.

The OECD published *What are the gender differences and the labour market outcomes across the different fields of study?*, comparing STEM career aspirations to the results of the 2015 Programme for International Student Assessment (PISA) science assessment.

- Evidence suggests that gender stereotypes may have a stronger influence on students at the crossroads of a career path than on 15 year-olds still in school.
- Despite having similar PISA science scores to boys, 15 year-old girls are less likely than boys to envision themselves in a science and engineering career when they are 30.
  - Some countries may have succeeded in mitigating stereotypes in science careers – in Iceland, Indonesia, Poland, the Russian Federation and the Slovak Republic, the gender gap in aspiration for a career in science and engineering is below 3ppt and not statistically significant.
- Men and women are largely influenced by gender divisions in the labour market and tend to reproduce the same patterns, although in some countries the gap in some fields of study is even larger than that in the relevant professions.

- STEM fields of study have relatively high employment rates – 85% on average across the OECD – but a larger-than-average gender gap in employment rates, with men enjoying a higher rate in all countries except Norway.

EMPLOYABILITY & CAREERS

The University College London (UCL) Institute of Education published *Is the future female? Educational and occupational aspirations of teenage boys and girls in the UK*.

- The research analyses data on aspirations collected from over 7,700 UK teenagers as part of the Millennium Cohort Study, which also provides a rich set of covariates.
- Asked at age 14 about their future aspirations, on average girls thought they had a 71% chance of going to university, and 14% were 100% certain they would go; the figures for boys were 63% and 10%.
  - Latest UCAS figures show that 42% of 18 year-old school leavers in their cohort were accepted onto a university course.
- Gender egalitarianism of their mothers and levels of self-esteem were critical in the formation of these expectations.
  - Risk-propensity was negatively associated with university expectations.
- Around a third had aspirations for a professional or managerial occupation, but this was significantly higher for girls (40%) than for boys (31%).
  - For girls, the most popular jobs were: the medical profession (8%), secondary teacher (8%), singer (6%), legal profession (5%), vet (5%), nurse (4%) and midwife (4%).
  - The most popular for boys were: professional sportsman (12%), software developer (6%), engineer (6%), Armed Forces (4%), architect (4%) and secondary teacher (4%).
- As might be expected, both boys and girls aspired to jobs with wages substantially higher than those their parents would have received (on average) while they were growing up.
  - However, the average hourly wage for the occupations that girls aspired to was 27% or £6.49 lower than for the boys.
  - Risk-propensity heightened wage expectations for boys, but reduced wage expectations for girls.
- Girls wanted to work in occupations that were female dominated, and boys that were male dominated.
  - Those who were more risk-taking were more likely to defy gender-typical patterns, although the size of the effect was modest.

As part of its new Careers Strategy (*see page 30*), England's Department for Education published *User insight research into post-16 choices*, based on research with learners in school sixth forms, sixth form colleges, FE colleges, universities and on apprenticeships.

- Although a small proportion of young people start thinking about their post-16 choices as early as primary school, it is most common for them to begin this process in earnest during Year 11.
  - Grammar school pupils, learners on academic pathways, young people with a least one parent with a university education, and those with special educational needs start thinking about their post-16 options earlier than other groups.
  - Young people typically leave the final decision until the final year of study prior to making a transition; however, those on academic routes are more likely to make a final decision earlier than those on a technical pathway.
- On average, they consult three sources, most commonly 'informal' sources, including parents/carers, teachers and friends.
  - Staff consulted during an open day, or a direct visit to an educational institution, are regarded as the most useful sources.
- Five groups of resources are typically used: university-focused; mentoring-focused; vocationally-focused; careers-focused; and STEM-focused.
  - Learning providers' websites are rated as the most useful, followed by comparison sites.

- Wider sources of information, advice and guidance are used less but regarded as more useful than individuals, tools and resources; work experience/internships and extra-curricular activities are regarded as particularly helpful.
  - Young people from lower socioeconomic groups often lack the social capital and networks that help them access these opportunities, and their use is more prominent among more advantaged respondents.
- Young people seek information on costs involved in studying, outcomes of studying, course approach, and wider knowledge of course.
  - They most commonly seek information on the qualifications and grades they need and information on what they will learn.
  - Those in HE are more concerned than those in FE to know about the jobs and earnings of people who have studied the course they are considering and the financial support that is available.
  - Disadvantaged learners are also more likely to seek information on financial support and costs.
- Although most young people are willing to access information online, there is a strong preference for face-to-face help and support with decision making.
- Respondents during the qualitative interviews welcomed the idea of a new system that improved the quality and depth of course information available to students as well as provided information on specialist student support services, destinations and student career trajectories.

The Education & Employers Taskforce published *Making the Grade: Does involvement in activities with employers impact the academic achievement of young people?* based on a survey of 824 UK secondary teachers.

- 93% of teachers say work experience and employer related activities can help students perform better in exams.
  - Teachers from disadvantaged schools and underperforming schools were most likely to agree that these activities had impact.
  - Teachers believe girls, those uncertain about their future, higher and borderline achievers are more likely to experience positive impacts on their academic achievement.
  - On average, teachers believed 20% of students in a typical year group can experience positive impacts on their academic achievement after taking part in employer engagement activities.
- Successful work experience placements are believed to have the greatest impact, followed by employer-led sessions such as career events.
- Over 50% feel academic achievement can be improved by helping students to understand the relevance of their education to employment, and by exposing students to new role models.

Precarious Pathways into Employment for Young People, funded by the Economic & Social Research Council and hosted by the Warwick Institute for Employment Research, published *Present Tense, Future Imperfect?*, providing preliminary findings from this three-year project.

- The project aims to shed light on the rapidly changing landscape of work through an examination of the youth labour market in the Midlands and the challenges facing young people looking for jobs.
- From the point of view of young people, the current labour market is a buyers' market, despite employer reports of difficulties in finding suitable candidates to fill some vacancies.
  - Many respondents were enthusiastic about opportunities in industries such as media and engineering, but there is a shortfall in sustainable entry-level jobs.
  - However, those with good educational and vocational qualifications are at an advantage compared to those who have been unable to acquire marketable skills.
- Lack of adequate advice and guidance while at school was a theme that ran through many of the graduate and virtually all of the non-graduate respondents' accounts, and was also noted by employers.
- For graduates and non-graduates, work experience facilitates access to employment, and many of the study participants actively sought out opportunities including unpaid work experience and temporary placements.
  - However, unpaid work experience was difficult to access for young people without family support.

- Overall, young people with solid educational and family backgrounds, and with the contacts and confidence to seek out career opportunities, were highly likely to gain access to work in secure occupations with good conditions of employment and career development.
- By contrast, jobseekers without these advantages were increasingly found in low-skilled, low-paid jobs, very often on short-term contracts with no guaranteed hours and with few opportunities for progression.

The Institute of Labor Economics (IZA) published *Student Work, Educational Achievement, and Later Employment: A Dynamic Approach*, examining the impact of student work during secondary education on later employment outcomes, based on data from Belgium.

- Pupils who work during the school summer holidays are 15.3% more likely to have a job three months after leaving school compared to their equivalent peers without this experience.
  - This premium is higher if they also work during the academic year and diminishes for later employment outcomes.
- The direct returns to student work make up for its negative indirect effect via tertiary education enrolment.

The International Labour Organization (ILO) published *Global Employment Trends for Youth 2017*.

- The global economic outlook for 2018 is positive, and growth is projected to accelerate modestly; however, job growth does not always accompany economic recovery, a situation that particularly affects young people who are entering the job market in record numbers.
- 15–24 year-olds were estimated to account for over 35% of the unemployed population worldwide in 2017.
  - The global youth unemployment rate stabilised at 13.0% in 2016, but was expected to rise slightly to 13.1% in 2017, representing an estimated 70.9m unemployed young people.
  - The youth-to-adult unemployment ratio has barely changed over the past decade, illustrating the ingrained and extensive disadvantages for young people in the labour market.
- Young women's labour force participation is 16.6ppt lower than that of young men, and their unemployment rates are significantly higher.
  - The female not in education, employment or training (NEET) rate is 34.4%, compared to 9.8% for males.
- Globally, 75% of employed young people are in informal employment, compared to 60% of adults.
- The school-to-work transition is a critical stage for many young workers, and should ideally lead to a stable and satisfactory job.
  - The ILO School-to-Work Transition Surveys indicate that the average time for the full transition to a stable and satisfactory job is 13.8 months – 14.4 months for females and 13.7 months for males.
  - 34.3% in upper middle-income countries moved into stable employment, while in low-income countries it was only 11.2%; for self-employment, the pattern is reversed: 6.8% vs 23.0%.
  - Trends from the last decade suggest prominent growth sectors for young workers include financial services; trade, hotels and restaurants; transport and storage, information and communications; and health services (including care work and social work activities).
- Skills demands are shifting, with a decline in middle-level skills, while demand for high-skilled and less-skilled workers is growing.
  - This trend towards job polarisation could be accentuated by new technology and could potentially exacerbate existing inequalities.
  - However, machines are still less able to perform non-routine, non-repetitive, more complex cognitive and social tasks that require skills such as problem solving, critical thinking and creativity.
- A growing number of young jobseekers and young entrepreneurs are finding new and diverse forms of employment using internet-based platforms.
  - There are, however, important risks, including low incomes, no guarantee of any continuity in employment or income, and lack of access to work-related benefits.

- Young people often start their working lives in temporary employment with the knowledge that they may never attain 'job security'.
  - Further investments in quality education and skills development are critical since the longer a young person studies, the shorter the transition time into employment.

Action for Children published *The Next Chapter: Young People and Parenthood*, analysis by the Institute for Policy Research of the Next Steps longitudinal study of young people in England.

- The study defines young parents as those aged 25 and under, and teenage parents as 19 and under.
  - Young people who grow up in low-income households are more likely to become young parents.
  - 11% of young parents have attended university, compared to 45% of those who aren't parents.
  - 33% of young parents are in skilled work, compared to 51% of their peers.
  - 47% of single young parents are in workless households, compared to 18% of their peers.
  - Young parents are also more likely to struggle financially and to experience poor mental health.
- Young parents need to be supported back into education and employment to improve their life chances; 17 recommendations include:
  - training work coaches in job centres to address the specific needs of young parents
  - extending the Care to Learn scheme to all teenage parents who are on apprenticeships, or who wish to take up volunteering, and to all young parents who are their child or children's primary care-giver up to the age of 25.

The Institutional Landscape

THE FURTHER EDUCATION & SKILLS SECTOR

The Centre for Vocational Education Research, funded by England's Department for Education, published *Effectiveness of CEOs in the Public Sector: Evidence from Further Education Institutions*, looking at the impact further education (FE) principals have on outcomes for young learners.

- For various reasons, the FE sector historically has been under-considered by academics and policymakers alike, yet – in England – about 60% of a typical student cohort attend FE colleges.
  - FE is therefore a key determinant of educational level, social mobility, unemployment and other labour market indicators.
- Principals do matter for the educational performance of their students, and differ in their ability to enable students to progress.
  - Switching from a principal who is in the bottom 25th percentile to a principal who is in the top 25th percentile increases students' probability of achieving Level 2 by 15.9ppt, of achieving Level 3 by 14.1ppt, and of enrolling in a Level 4 or above qualification by 3.7ppt.
- There are no significant correlations between a principal's performance and age, gender, salary or teaching qualification; however, differences in recruitment and wage policies might explain their effectiveness.
  - Between top and bottom percentile principals, the share of teachers under a permanent contract differs by 12.9ppt, the share of female teachers by 5.5ppt, and the share of certified teachers by 14.1ppt.
  - Average gross annual salary of teachers differs by £3,511.
- The findings suggest that it matters to invest time and resources in finding ways to improve the quality of leadership among FE principals, and that it is important to attract and retain high quality principals to FE colleges.
  - Given their potential impact on thousands of students, such investment might also be highly cost-effective.

HIGHER EDUCATION: APPLICANTS & STUDENTS

The Quality Assurance Agency for Higher Education (QAA) published *Sub-bachelor Higher Education in the United Kingdom*, an examination of the four UK nations.

- Sub-bachelor qualifications include HNC, HND, Diploma of Higher Education, Certificate of Higher Education, National/Scottish Vocational Qualifications and professional qualifications.
  - They continue to be accorded lower status.
- 14% of undergraduates in the UK are studying for sub-bachelor qualifications (down from over 50% in the 1960s).
  - There is considerable variation between nations: 26% in Northern Ireland, 25% in Scotland, 18% Wales and 13% England.
- 70% of sub-bachelor students are part-time and are older than bachelor degree students.
- In Northern Ireland, in 2014/15 most of the 18,000 sub-bachelor students were taught in the six regional FE colleges.
- All governments in the UK have plans to expand higher level apprenticeships, which could halt the decline in sub-degree HE.

The Higher Education Policy Institute (HEPI) published *Fixing the Broken Market in Part-Time Study* by Peter Horrocks, Vice-Chancellor of The Open University, arguing that the crisis in England's part-time HE is a symptom of a broken market.

- The Higher Education Funding Council for England (HEFCE) has identified a number of contributing drivers, including:
  - removal of funding for students studying towards an equivalent or lower level qualification in 2008/09
  - phasing out of programmes to promote employer co-funded courses after 2011/12
  - the impact of the recession and slow recovery in real earnings in making it more difficult for students to finance their studies
  - the reduction in the numbers of students funded by public sector employers to improve their skills via part-time HE.
- But the single most important driver is the 2012/13 changes to student funding in England, resulting in a marked 'cliff edge'.
- Evidence suggests that part-time learners are more debt averse, more sensitive to the cost of tuition and more likely to dip in and out of study than full-time learners, which can affect outcomes.
  - They face significant up-front costs, can be put off by the risk of limited earning returns to their studies, and receive less public subsidy than full-time students.
- Part-time HE can support government objectives on social mobility, the economy and public finances, but financial barriers need to be reduced by separate and direct funding for part-time students and providers.
  - This could be take the form of a part-time 'premium' or specific learning-and-earning incentives, such as tax credits, learn-and-earn vouchers or increased flexibility in the apprenticeship levy.

The Centre for Global Higher Education at the UCL Institute of Education published *The end of free college in England: implications for quality, enrolments, and equity*.

- Despite increasing financial pressures on HE systems, many governments remain resolutely opposed to the introduction of tuition fees, and some where tuition fees have been long established are now reconsidering free HE.
  - In designing HE finance policy, there is widespread agreement on policy objectives: facilitating student enrolment; protecting access of under-represented groups for equity and efficiency reasons; and maintaining quality in the sector through adequate per-head investment.
  - Yet there is far less consensus on how to achieve these goals, and debate over the role of tuition fees is politically charged.
- England's reforms shifted the costs of HE away from the taxpayer and towards graduates themselves, with universities and students the key financial beneficiaries.
- While it is impossible to know for certain what would have happened in the absence of the reforms, enrolments have continued to rise despite these dramatic shifts in how the system is financed.
  - Moreover, after many years of widening inequality, socioeconomic gaps in college participation appear to have stabilised in the years since the initial reform.

- Tuition fees have also played a crucial role in protecting investment in the sector – per-student expenditures, having fallen to a historic low in the years pre-reform, have fully recovered since the introduction of tuition fees.
- Several key features of the English system seem to have helped moderate the impact of rising tuition on enrolments and access, including deferring fee repayments until after graduation, increasing liquidity available to cover living expenses, and automatic enrolment in the loan repayment system.
- Drawing on private resources can hugely alleviate the challenge of insufficient resources that is present in free HE systems.
- However, while the evidence generally describes a positive experience in terms of the three metrics, there are still a number of challenges facing England's sector.
  - Government bears the full risk, while the university bears none.
  - Universities receive tuition fee payments even if outcomes are poor, giving them little incentive to vary prices to reflect quality.
  - The removal of student number caps gives universities stronger incentives to increase enrolment in low cost courses.
  - Generous terms may encourage students to choose courses where income-contingent loans are offered (HE) over more appropriate courses (e.g. FE), leading to inefficiencies in the market.
  - Many prospective students may struggle to understand the complex loan system; the media has focused primarily on debt rather than the benefits of university or the nuances of the system.
  - Many English institutions give out generous grants to poorer students, but there is no easy way for students to obtain this information, which can be a barrier to access.

CESifo published *Socio-Economic Gaps in University Enrollment: The Role of Perceived Pecuniary and Non-Pecuniary Returns*.

- Differences in beliefs about the returns to university education can explain 49% of the gap in intention to go to university between 'first generation' potential students and those whose parents have experienced HE.
  - Job satisfaction, parental approval and perceptions of the quality of their social life during the three or four years after they finish school play an important role in the choice and in explaining the socioeconomic gap; perceived monetary returns are also found to play a role, but to a lesser extent.
- There is little evidence on how the pecuniary and non-pecuniary returns actually differ across socioeconomic groups, but there are differences in outcomes that would suggest they might.
  - High socioeconomic status (SES) graduates with high grades earn £9,834 more than high SES individuals without university education.
  - Low SES graduates with high grades only earn £8,017 more than low SES individuals without a university education.
  - These differences may arise because different types of students self-select into university education or because of other differences between the two groups.
- Recent psychology studies have found that first generation students can experience difficulties fitting into the university social environment, consistent with their perception that they are less likely to enjoy university social life.
- While their beliefs may be rational, it might also be that they have less access to information than high SES students – beliefs about returns increase with the number of people a potential student can ask about university.
- Student beliefs are also significantly related to local area characteristics, and there is evidence that providing information about earnings related to education can have an impact on decisions to pursue tertiary education.
- Traditional policies have mainly focused on relieving credit constraints for low SES students; policies that target students' beliefs about benefits of university education may be very effective in narrowing the socioeconomic gap.

The European Commission published *Erasmus+ Annual Report 2016* plus country factsheets (including for the UK); 2017 was the programme's 30th anniversary year.

- In 2016 €2.27b EU funding (the highest to date) was invested in mobility grants for 725,000 Europeans to study, train, teach, work or volunteer abroad; 21,000 projects received funding involving 79,000 education, training and youth organisations (up 15% from 2015).
  - €200m supported 1,200 projects focused on promoting tolerance, non-discrimination and social inclusion.
  - €13m supported 35 projects at 245 organisations developing policies and strategies to prevent violent radicalisation and foster the inclusion of disadvantaged learners.
  - In the UK, a grant of €92.18m supported 44,741 participants in 821 projects involving HE, VET, school education, adult learning and youth.
- The target is to support 3.7% of young people in the EU between 2014 and 2020.
- In 2015/16, Erasmus+ enabled HE institutions (HEIs) to exchange 330,000 students and staff, including 26,000 to and from partner countries.
  - France, Germany and Spain were the top three countries sending students and staff.
  - Spain, Germany and the UK were the three most popular destinations; from the UK, the most popular were France, Spain and Germany.
  - 15,786 UK students and trainees went abroad, while 31,362 came to the UK – both were the highest recorded.
- 33 countries currently participate:
  - All 28 EU member states plus Turkey, Macedonia, Norway, Iceland and Liechtenstein.
  - The programme is also open to partner countries across the world.

HIGHER EDUCATION: WIDENING PARTICIPATION

The Sutton Trust published *Admissions in Context: The use of contextual information by leading universities* – it focuses on 30 mainly English institutions plus four in Scotland (none from Northern Ireland).

- The majority of universities use information about a candidate's background to inform admissions; however there is little evidence of large numbers of disadvantaged students being admitted or of their grades being substantially lower than those of their peers.
- There is no evidence to suggest disadvantaged students admitted via this route cannot succeed at top universities.
- Lowering offers for disadvantaged students by two grades could lead to a 50% increase in numbers of disadvantaged students admitted.
- Recommendations for universities include:
  - Using contextual data in admissions process.
  - Making greater use of individual-level indicators, e.g. eligibility for free school meals.
  - Providing extra support to disadvantaged students.
  - Increasing differentiated first-year provision, particularly for the disadvantaged.
  - Sharing information about participation in outreach programmes with other universities.
  - Considering lower thresholds for participation in outreach programmes to widen access.

The Scottish Funding Council published *Mapping and evaluating the use of contextual data in undergraduate admissions in Scotland*, as part of the commitment to ensure that admissions systems do not perpetuate the disadvantages learners have faced earlier in life.

- Four reports explore details including which contextual disadvantage indicators are being used and how they are informing decisions, and the relationship between achievement at Highers and degree-level success.
- 14 recommendations include:
  - Providing clearer guidance to applicants about whether or not they would be considered as disadvantaged applicants and what that means in practice.
  - Strengthening procedures to verify whether or not an applicant is genuinely disadvantaged.
  - Making greater and more ambitious use of adjusted offers to applicants.

- Setting minimum entry requirements for disadvantaged students that recognise potential for success at degree level.
- Increasing the support for learning provided to disadvantaged students, pre- and post-entry, so that they fulfil their potential at university.

England's Office for Fair Access (OFFA) published *Understanding a whole institution approach to widening participation: Final report*.

- Core features of a whole institution approach are:
  - A whole-lifecycle approach: pre-entry support, on-course success, post-graduation progression.
  - Staff from departments, services and units across the institution are involved, not just 'professional' widening participation staff.
  - A clear and explicit institutional commitment, defining target groups and expected outcomes as appropriate.
- Additional characteristics identified from the case studies include:
  - Extending the focus beyond POLAR (Participation of Local Areas) groups and disabled students, to include, e.g. care leavers and care givers, and students with non-traditional entry qualifications.
  - Incorporating admissions into the lifecycle, including alternative entry pathways, reduced offers and matching students with courses; ensuring marketing is both inclusive and informed by the perspectives of widening participation students; identifying and addressing differential attainment; and addressing access to postgraduate study.
  - Embedding widening participation into all roles and considerations across the institution.
  - Data, evidence and research informing all stages, including understanding the issues, staff accountability, and monitoring student participation.
  - Resources allocated across the institution, rather than being held centrally (which reinforces the idea that it is not everyone's job).
  - An integrated approach where activities and services are coordinated, avoiding duplication and gaps, and contributing to strategic widening participation objectives.

The report includes case studies and an evaluation tool for use by universities and colleges.

The Institute for Employment Studies published *Models of support for students with disabilities*, an overview of 137 HE providers in England in 2016/17, assessing progress towards an inclusive social model.

- Recommendations and feedback for the sector and its institutions include:
  - Considering the use of 'champions' to promote inclusive practice.
  - Supporting an effective use of specialist software.
  - Improving the accessibility of digital resources.
  - Supporting further development and use of lecture capture.
  - Promoting greater understanding and use of alternative assessments.
  - Ensuring greater clarity of approach to staff training.
  - Establishing a clear programme of evaluation.

GRADUATES & GRADUATE EMPLOYMENT

HEFCE published *The wellbeing of graduates: Assessing the contribution of higher education to graduates' wellbeing in the UK*.

- Research to date on the value of HE has largely focused on its labour market value; any research on non-monetary benefits has been directed primarily at the health benefits.
- The report identifies the differences in wellbeing between those with different qualification levels, and compares the wellbeing of graduates and non-graduates within sub-groups defined by demographic characteristics, such as employment status and ethnicity.
- The analysis uses data from the Office for National Statistics (ONS) Annual Population Survey, which asks four wellbeing questions:
  - Overall, how satisfied with your life are you nowadays?

- Overall, to what extent do you feel the things you do in your life are worthwhile?
- How happy did you feel yesterday?
- How anxious did you feel yesterday?

- Key findings:
  - Graduates tend to be more satisfied with their lives than non-graduates, to find their lives more worthwhile and to be happier, and there is less variation in their wellbeing.
  - However, they also tend to be more anxious across all income levels than people who have no qualifications above A level.
  - The increased anxiety of graduates is most prevalent in London – in most other areas of the UK, graduates are both more satisfied and less anxious than non-graduates; it is unclear whether this is due to the location, the characteristics of the graduate population or their circumstances.
  - The 'graduate advantage' for both satisfaction and anxiety is greatest in Northern Ireland.
  - Within an occupation, graduates are rarely more satisfied, or more anxious, than non-graduates.
  - Graduates are less affected by negative life circumstances than non-graduates – the benefits of HE are most conspicuous for people who are inactive in the labour market, separated, divorced or unmarried, or who have very poor health.

Universities UK (UUK) published *Graduate Retention: Meeting local skills needs*, highlighting variable retention rates across the UK, with case studies of successfully improving rates.

- The highest regional retention rate is in Northern Ireland (84%); however, many graduates are attracted to London rather than to entering employment in the region of their HE provider.
  - London accounts for 19% of jobs six months after graduation and 22% of the total graduate workforce.
  - Almost two-thirds of students move away from their home area to study, but nearly 50% return after graduation.
  - The HE Careers Services Unit (HECSU) defined four categories of graduate: 'loyals', 'stayers', 'returners' and 'incomers'; high rates in Wales, Scotland and Northern Ireland are predominantly due to a large number of 'loyals', who come from, study in and get jobs in the region.
  - Retention isn't always a positive thing: graduates from lower socioeconomic backgrounds are less likely to be mobile but have better outcomes if they are; at the same time, universities are increasingly judged on graduate earnings, which will be lower if more remain in the region.
- Accompanying interactive data tables show the level of regional high-skilled, hard-to-fill and skills shortage vacancies reported in 2015 that could benefit from increased graduate retention.
- There are three recommendations for government, universities and business:
  - Improve local networks in order better to match graduate skills with local employer demand.
  - Improve the granularity and currency of publicly available data on skills shortages through better data sources and/or greater local sharing of intelligence.
  - Contextualise or benchmark graduate earnings data so that universities outside London and the South East don't lose out in the metrics when they encourage graduates to stay in the region.

Prospects and the Association of Graduate Careers Advisory Services (AGCAS) published *What do graduates do? 2017/18* on behalf of HECSU, analysing the destinations of UK graduates and changes in the labour market.

- A robust graduate jobs market plus a sharp rise in students taking postgraduate courses has led to the lowest graduate unemployment rate since 1989.
  - 5.3% of graduates were unemployed six months after graduating (down from 5.7% in 2016).
  - 74% were in employment (down from 76%).
  - 16% entered further study (up from 13%).
  - There were large rises in graduates entering nursing, marketing, finance and IT.
  - There were significant falls in graduates entering medicine, teaching and engineering.
  - Graduate starting salaries remained flat at an average of around £21,000.

The report is packed with details by subject studied, including types of work and examples of employers.

The Chartered Institute of Personnel & Development (CIPD) published *The graduate employment gap: expectations versus reality*, drawing on the latest data on graduate destinations for 2015/16.

- Just 5% of recent graduates fail to find a job, compared with a national unemployment rate of 4.9%, and down from 7% in 2011/12, however there are substantial differences by subject studied.
  - Computer science graduates are most likely to fail to secure a job six months after graduation.
  - The UK's share of natural sciences, maths and statistics graduates is more than double that of the OECD average.
- The Government's definition of a 'graduate job' disguises the extent of graduate over-qualification, as it includes 'associate professional and technical occupations', which do not actually require a degree.
  - If these are removed, the proportion of graduates in a 'graduate job' falls to 52%, again with considerable variation by subject.
- The average annual salary for recent graduates by gender is £21,500 for females and £24,000 for males.
  - Women are over-represented in lower salary bands and under-represented in higher salary bands, with 83% of recent female graduates earning less than £30,000, compared with 71% of men.
  - The gender pay gap exists regardless of subject area studied, and even for female graduates from the UK's top ten institutions.

AGCAS published *What Happens Next? 2017: A report on the first destinations of 2015 disabled graduates*.

- At all qualification levels a higher proportion of graduates disclosed a disability than the previous year; the proportion decreased with increasing qualification level.
  - At all qualification levels, the highest proportion of disabled graduates had a Specific Learning Difficulty.
- Disabled graduates at all qualification levels were less likely to be in full-time work than non-disabled graduates, but were more likely to be in part-time work.
- Disabled graduates were more likely to be unemployed than non-disabled graduates.
- At higher degree level (both taught and research), some disability groups had a higher proportion of graduates obtaining permanent contracts than non-disabled graduates.
- Graduates with a social/Autism Spectrum Disorder condition were the least likely to be employed, the most likely to be unemployed, and the most likely to be carrying out voluntary work.

The British Academy published *The Right Skills: celebrating skills in the arts, humanities and social sciences*, the report of a project led by Professor Sir Ian Diamond, Vice-Chancellor of Aberdeen University.

- A common core of skills is shared by undergraduate and postgraduate students, and early career researchers across the arts, humanities and social sciences (AHSS).
  - These can be divided under three broad headings: communication and collaboration; research and analysis; attitudes and behaviours characterised by independence and adaptability.
- Skills more specific to AHSS disciplines include languages, high-level numeracy, qualitative analysis and data processing, geospatial and practical production skills, content production, recording and broadcasting and archival retrieval skills.
  - Graduates are able to use their skills in employment, research, education and broader social contexts in ways that are complementary to the skills and knowledge gained from other disciplines.
- AHSS graduates are employed in a wide range of sectors and roles, from financial services to education, social work, the media and creative industries.
  - They have skills that open up a wide range of options, across the private, public and third sectors.
  - They are able to move between careers over their working life, adapting to different industries and becoming successful leaders and managers.
- There are also a number of discipline-specific employment routes, and AHSS graduates are found throughout the creative industries and the cultural sectors.

- AHSS graduates contribute to society in many ways: employed in sectors that underpin society's cohesiveness; producing research that underwrites the social and economic health, wealth and reputation of the UK; as engaged citizens and responsible media professionals; contributing to arts and culture and the wellbeing of the wider population.
  - Their skills of critical analysis, problem solving, negotiation and communication, speaking other languages and understanding other cultures have intrinsic value with huge benefits for society, contributing to social cohesion at home and the UK's prosperity and security abroad.
- AHSS graduates are well placed to shape the future and to take advantage of the opportunities it will present.

IZA published *Generation Internship: The Impact of Internships on Early Labour Market Performance*, evaluating whether internships enhance or hinder transition from university to work.

- Internships appear to be 'rather harmful' to the university-to-work transition; they can be a means of orientation for graduates, but employers do not seem to value them.
  - Analysis of German interns found they are less likely to work than 'non-interns', earn between 12% and 21% less, and are less satisfied with their jobs during the first year following graduation; these effects decrease with work experience and disappear within five years.
  - Initial detrimental effects are due to asymmetric information and negative signalling, e.g. employers seem to believe that interns are unable to find a direct job, and therefore offer them lower earnings.
- Short-term work experience during studies would be preferable to post-graduate internships, enabling students to acquire practical experience without receiving the apparently negative label.

HIGHER EDUCATION: TEACHING, RESEARCH & INSTITUTIONS

On behalf of all four nations, HEFCE published *Higher Education – Business and Community Interaction [BCI] Survey* for 2015/16.

- The survey records information on a wide range of interactions, including collaborative and contract research; consultancy; continuing professional development; regeneration and development programmes; the exploitation of intellectual property; and other activities with a direct social benefit, such as hosting museums and giving public lectures.
- In this 16th survey year, the wider UK economy has been largely stable, with positive signs of growth in many industries; globally, the picture is more mixed, with the global economy stuck in a 'low growth trap', and suffering 'prolonged demand weakness', although growth increased during 2017.
  - It is too early to determine whether the EU referendum will have any effect on university-business interactions, and the wider HE-BCI survey income – the report covers the period to the end of July 2016 only.
- Strong intellectual property income growth from UK-based organisations points to increasing confidence among UK-based businesses in engaging with HEIs.
  - The new Industrial Strategy is likely to have an effect in the future *(see page 29).*
- There has been a continuing increase in the exchange of knowledge between UK HEIs and the public, private and third sectors.
- At 1%, HE-BCI growth was slightly weaker than GDP growth for 2016 (1.8%); however most income categories saw overall increases of at least 3%.
- Collaborative and contract research, together with continuing professional development (CPD) and continuing education (CE) activity, represent the largest income streams.
  - Income from the sale and licensing of intellectual property, and facilities and equipment-related activities, while making up a relatively small proportion overall, have also shown consistent growth in recent years.
  - HEIs in Northern Ireland receive relatively more income from their facilities and equipment and relatively less from CPD and CE.
  - Northern Ireland and Wales have the largest proportion of income from intellectual property.
- Income from SMEs has continued to increase for the fourth year in a row, with strong increases from contract research (14%) and consultancy (13%).

- Income by partner is broadly comparable between the four UK nations, although Scotland shows a higher proportion from large business and SMEs.

Separate data tables for the UK, Northern Ireland, England, Scotland and Wales are provided, along with regional maps that enable further exploration of the data.

Oxford Economics published *The economic impact of UK universities, 2014–15* for UUK.

- In total, the economic activity of universities, the international students they attract and their visitors supported more than 940,000 UK jobs.
  - Universities themselves employed 404,000 people, 1.3% of all UK employment; in Northern Ireland, universities employed 6,900 people, 0.8% of the total.
  - The jobs created were in some of the most deprived local communities; in Northern Ireland, 100% of HE employment was in the most deprived decile and quartiles of local authorities.
- UK universities and their international students and visitors generated £95b of gross output in the economy.
  - The gross value added (GVA) contribution of universities' own operations to GDP, at £21.5b, was larger than that made by a number of sizeable industries.
  - They supported £14.1b in tax receipts for the Exchequer and earned £13.1b in export receipts.
- Experimental new figures were published, which estimate two aspects of universities' contribution to the productive capacity of the UK economy.
  - The education universities provided increased the value of graduates' human capital by £63b (28%), relative to its pre-degree value.
  - Universities undertook £7.9b worth of research, delivering estimated returns equivalent to £28.9b in additional GVA, over £1,000 more income per household.

UUK published *Higher Education in Facts and Figures 2017*, covering:

- Students by country of provider, domicile, level of study and mode of study; application rates from disadvantaged 18 year-olds; and non-continuation rates.
  - 14% of undergraduates, 38% of postgraduates and 29% of academic staff are from outwith the UK.
- Qualifications awarded by mode of study and domicile; destinations of leavers; unemployment rates; and National Student Survey results.
  - Employment rates and median salaries continue to be higher for graduates than for non-graduates.
  - The overall student satisfaction at UK HEIs was 84%.
- Staff by nationality and contract level; academic staff; and staff salaries.
- Income and size of HEIs and income by source; teaching and research income; and operating expenditure.
  - 16% of research income came from sources outwith the UK.

Some, but not all, information is broken down by UK nation.

The Higher Education Academy (HEA) published *Transforming Assessment in Higher Education: A Case Studies Series*, to inform assessment and feedback policy and practices in universities.

- 18 case studies are presented under three priority areas:
  - Assessment literacy
  - Using technology-enhanced assessment
  - Enhancing student engagement through assessment.
- Assessment practice is an integral part of curriculum design and should be driving curriculum change, to support students to better manage learning requirements within and beyond HE.
- The key is ensuring assessment is fit for purpose, now and in the future.

PASCAL International Observatory published *Learning Initiatives to Connect the Urban and Rural*, a Policy Briefing on the role of cities and universities in developing and promoting learning initiatives to strengthen rural–urban interdependence.

- People in rural areas can only take advantage of the assets of where they live if they have better access to education and local employment; universities and community leaders need to work together for progress to be made in reducing regional disparities.
- Universities outside major cities have an obligation to help serve the people in their area, but the traditional campus-based model of teaching and research can be remote from those in outlying communities.
- Cities and their local and regional educational institutions should form partnerships to:
  - improve adult education at all ages
  - apply knowledge to local problems
  - help transfer inspiring and successful innovations from one context to another
  - build and maintain institutions that 'open doors' or 'gates', e.g. libraries and markets
  - enhance the assets of places and give value to local cultural traditions
  - document, evaluate and communicate what works and what doesn't.

The Euskidia (Basque) Department of Finance & Economy published *National higher education policies challenging universities' regional engagement activities* in its journal *Ekonomiaz*, examining the policy tension between the missions of teaching, research and regional economic development.

- Modernisation has encouraged universities to pursue a limited number of strategic missions and has incentivised them financially to do so.
  - We have seen the rise of the ideal of the 'world class university', which pursues research excellence as a strategic goal.
  - Concerns with teaching quality and access to HE see universities being pressured to streamline their teaching approaches to minimise dropout and study times.
  - Imposing multiple missions risks crowding out one or more of the less important missions, such as regional development.
- The massive expansion of HE in the last two decades has increased its geographical distribution, but has also created a national demand for a more strategic management of investment, resulting in three kinds of intervention: mergers; the emergence of particular ideal types of university; and the introduction of more strategic and instrumental management.
  - The aggregate effect has been to stimulate the presence of universities located in their region, while reducing their potential to be of their region.
- New public management was premised on a belief that if you provide simple incentives to complex organisations – like universities – they will find smarter ways to manage their complex resources.
  - However, the inverse occurs; university managers become increasingly adept at chasing simple incentives in straightforward ways, and in the absence of reward mechanisms for regional behaviours, they neglect these activities.
  - In countries that have incentivised particular kinds of engagement, such as England's HE Innovation Fund, there have been suitably instrumental responses resulting in engagement in the letter, if not its spirit.
- Ensuring the delivery of the regional mission as a promoter and enabler of excellence and quality needs a new approach to strategic decision making that encourages diversity and plurality.

The Workplace

APPRENTICESHIPS & TRAINEESHIPS

The World Innovation Summit for Education (WISE) Initiative and the University of Oxford published *People and Policy: A comparative study of apprenticeship across eight national contexts*.

- The country studies – Australia, Denmark, Egypt, England, Finland, Germany, India and South Africa – highlight acute distinctions in financing, institutional arrangements and learning approaches, and a wide range in quality.

- Countries with large, well-functioning systems generally have lower youth unemployment rates and fewer young people who are NEET.
  - However, apprenticeships rely largely on employers for their success, and are 'inherently fragile and vulnerable to political and corporate pressures', as well as to the rise of self-employment, the emergence of new skills and mass HE.
- When firms are making decisions collectively through well-established structures they are more likely to coordinate their investment strategies, with apprenticeship training viewed as a contribution to the 'pool' of sector talent.
- In some countries, including England, a policy discourse has developed wherein apprenticeships are seen as 'the answer' to poorly specified policy issues.
  - They are often viewed as a panacea for a wide range of policy ills: unemployment, skills shortages and mismatch, social exclusion and economic problems.
  - Influencing the scale of policy expectations is central to achieving a realistic definition of who and what apprenticeship is for, and what social and economic objectives it will deliver.
  - For example, prioritising social inclusion objectives creates tension with wanting apprenticeships to be seen as rigorous and high status.
- Apprenticeship policy also needs to have a stake in the in-company capacity of participating organisations to provide high-quality learning experiences.
  - In most EU countries the national government supports training programmes for in-company trainers, extending its policy into education settings that are harder to regulate.

The Learning & Work Institute published *Apprentice Pay – Sticking to the Rules*, a survey of 2,000 employers in Great Britain on their understanding of the minimum wage for apprentices.

- 22% had not heard of an apprentice minimum wage, from 26% in London to 17% in the North East.
  - 41% didn't know that minimum pay for apprentices aged 19+ increases in the second year of their apprenticeship.
- 54% did not know an apprenticeship required off-the-job training, from 54% in London to 67% in the North East.
  - 43% didn't know this training needed to be paid.
- A sizeable minority of those currently or recently employing apprentices were not aware of the rules.
  - 23% weren't aware that off-the-job training that forms part of apprenticeships needed to be paid.
  - 24% weren't aware that those aged 19+ were entitled to their age-related minimum wage rate in the second and subsequent years of their apprenticeship.
  - Awareness of the rules was highest in manufacturing and lowest in retail and hospitality.
- Businesses were most likely to get such information from their HR staff, government websites and education and training providers, suggesting training providers could do more to ensure employers and apprentices are clear up-front.

The Scottish Qualifications Authority (SQA) published *A Guide to Apprenticeships in the UK*.

- It aims to help people understand the differences in apprenticeship policy, such as types, levels and funding, across the four home nations.
- An overview is provided for each nation with links for further information.

SKILLS POLICY

The Government Office for Science published *Future of Skills & Lifelong Learning*, a 'Foresight' report setting out five challenges that, if addressed, would make continued learning a new way of life.

- Young adults in the UK have relatively poor literacy and numeracy and there are signs that we are falling further behind international competitors.
  - Literacy and numeracy performance varies between UK regions, with London and the South East achieving the highest scores.
  - Poor parental attainment reflects in the educational outcomes of the child, and breaking out of this cycle may require interventions that target both the parent and child.

- Workplace environments play an important role in developing these skills.

- Employers believe labour market entrants are not properly prepared for the workforce; the UK compares poorly against other countries.
  - Employers are looking for better literacy and numeracy, relevant qualifications and/or discipline-specific training, and more positive attitudes towards work.
  - Greater collaboration between employers and education providers may help to ensure that education-leavers are equipped with the skills that are in demand.
  - Work placements and experience can help individuals gain non-academic skills; however, only a third of employers offer these opportunities, predominantly in the South East of England.
  - Informal learning also has a part to play, including participation in peer-to-peer learning or sports and other extra-curricular activities.

- The UK has relatively large mismatches between the supply of and the demand for skills, implying that education providers are not offering – or students are not selecting – the courses that match with employers' skills needs, and that future skill needs are not being fully anticipated.
  - Improving the quality of and access to labour market information may help address this.

- Many places and sectors in the UK are in a 'low skills equilibrium', i.e. the availability of low-skilled jobs is matched by a low-skilled workforce, there are few incentives to gain higher skills, and employers adapt to but are constrained by the skills supply.
  - This can only be changed if supply and demand for skills are addressed together through close partnerships between employers and providers.

- Participation in formal learning declines with age: adult learning is in overall decline and is disproportionately taken up by wealthier, more highly skilled individuals; formal workplace training has also declined over the last 15 years.
  - While cost and lack of time are reported as common barriers for individuals of all skill levels, those with no qualifications are more likely to cite attitudinal barriers including lack of confidence, lack of interest, and feeling too old to learn.
  - Low-skilled individuals or those from poor socioeconomic backgrounds and minority groups, reap the greatest rewards from learning.

The UCL Institute of Education published *Routes to Opportunity: Addressing the non-university skills gap in England*, a literature review investigating the 'mid-level skills gap' and the difficulties workers over 25 can face in seeking to upskill or retrain.

- The mid-level skills gap in England is causing problems for employers, who are struggling to recruit to medium-skilled jobs.

- Over the last decade measures to address the gap, by enabling access to technical and vocational education for established workers, have been hampered by insufficient funds, scant implementation and a lack of follow-through.

- As a result, those who would benefit the most from upskilling or retraining – low-paid workers in unskilled jobs – are often unable to do so; this squanders human potential and misses an opportunity to address the gap.
  - Even where support and funding are available, e.g. through loans, potential learners are unaware such support exists.

- There is a pattern of underusing the skills and qualifications of women who work part-time, as well as a perception that many women are content with such a situation; remedying this could be another way to address the mid-level skills gap.

- Brexit is already discouraging skilled EU workers from staying in or moving to the UK; it is expected that hiring EU workers will become more difficult, which may exacerbate the situation further.

- Recommendations include: introducing individual learning credits; expanding FE maintenance loans; introducing a career review for all those aged 25+; and a 'career development sabbatical' of up to six months for retraining.

The OECD and ILO jointly published *Better Use of Skills in the Workplace: Why it matters for productivity and local jobs*, providing a comparative analysis of case studies in eight countries: the UK (East Midlands), Singapore, USA, Korea, Vietnam, Tasmania, Peru and the Philippines.

- Over the last two decades, OECD countries have faced a long-term decline in productivity, while gains in economic growth have increasingly accrued to those who already have the highest income and wealth.
- Skills have emerged as a key policy solution, but relatively little attention has been paid to the use of skills in the workforce and their alignment with business need, despite surveys showing these aren't being maximised.
- Key lessons from the analysis include:
  - Skills utilisation should be a priority across policies as well as the focus of targeted local interventions; Singapore, Vietnam and Peru use financing models to incentivise better use of skills.
  - The most successful changes at the enterprise level are often industry-led, particularly by employer groups or chambers of commerce; the Australian case study highlights the importance of such leadership in embedding activities systematically across an entire industry.
  - It can be helpful to work with an 'anchor institution' at local level that can offer specialised technical expertise on work organisation, job design, HR development practices, etc; the UK and USA offer examples of this.
  - SMEs have the most to gain in shifting to higher value-added production, but often lack the capacity for the necessary holistic approach; Korea demonstrates the potential use of targeted interventions.
  - Successful interventions need a multi-faceted approach integrating training, employment and economic development priorities – such approaches will look different depending on the type of provider/agency involved.

SKILLS GAPS & SHORTAGES

The CBI published *Working Together*, the results of its annual employment trends survey for 2017.

- 50% of UK businesses consider that the UK has become a less attractive place to invest and do business over the past five years, and 63% believe that it will become less attractive over the next five years.
  - The main current threat is skills gaps (79%), far ahead of access to labour supply (49%) and access to highly skilled migrants (43%).
  - Businesses are not optimistic that these threats will be tackled effectively in the years ahead.
- 93% see achieving a diverse and inclusive workforce as important or vital, with 70% introducing or extending flexible working opportunities, and 66% investing in training for line managers.
  - The main benefits are increased ability to recruit and retain (52%) and increased skills and capabilities (50%).
- 99% believe a flexible workforce to be vital or important to competitiveness, investment and job creation.
- 71% report cooperative employee relations currently, with 64% citing effective line management as a driver of employee engagement.
  - 83% highlight increased productivity and performance as a benefit of engaged workers.
- Achieving high levels of employee engagement (46%), improving leadership skills (44%) and retaining talent (35%) will be the top workforce priorities for businesses in the coming year.

21% of respondents were based in Northern Ireland, but the findings are not broken down by region.

The Institution of Engineering & Technology (IET) published *Skills & Demand in Industry 2017 Survey*, its 12th annual review based on findings from around 800 UK employers.

- 61% believe recruiting staff with the right skills is a barrier to achieving business objectives over the next three years; Brexit may compound this 'skills crisis'.
- 75% consider tackling the skills problem to be fundamental in making the UK Government's Industrial Strategy viable (*see page 29*).
- 39% increased their engineering and technical workforce over the last three years.
- 46% face difficulties finding people in the labour market with the right skills.

- 74% of these employers said the biggest challenge is recruiting at technician or skilled craft level.

- 59% have arranged or funded technical or job-specific training for staff over the last year.
- 51% plan to increase engineering or technical staff in the next three years (52% in 2016), particularly in IT and communications, energy and metals manufacturing.
- 30% have firm plans to introduce or increase digital technologies in the next three years.
  - 75% of these employers say they will therefore need to develop new skills in their existing workforce.
- 49% offer work experience for school pupils, 48% for FE college students and 37% for university students.
  - 81% say more employers need to offer work experience (down from 91%).
- 43% offer technical or engineering apprenticeships; 31% currently employ at least one apprentice.
  - 65% of those who don't employ an apprentice would be encouraged to do so if the young people applying were more motivated or better qualified.
- 70% are concerned with the supply or quality of young people entering or seeking to enter the sector with required skills (up from 68%).
  - 24% partner with colleges or universities to influence degrees and training content.
- Women only account for 11% of engineering and tech employees (up from 9%).
  - 15% of employers make additional efforts to attract and retain women (down from 34%).
- 87% don't have LGBT or black, Asian and minority ethnic diversity initiatives in place.

Cedefop published a briefing note on *Skills anticipation: looking to the future*.

- Skills anticipation and matching is not manpower planning or crystal ball gazing – it is ensuring that an understanding of how jobs, skills and learning needs are changing informs decisions on how to address possible future skill mismatches.
  - This helps to promote economic development through targeted skills investments by individuals, countries, regions, sectors or enterprises.
- Methods vary and all have strong and weak points; the main ones are skill assessments, forecasting and foresight.
  - Different methods can shed light on short-, medium- and long-term issues and support macro-, meso- and micro-level policymaking.
- Skills governance matters, and is shaped by different traditions, practices and administrative structures.
  - For example, the regional element is strong in Belgium and Denmark; the Republic of Ireland (RoI) is one of the countries with a more centralised approach.
  - No single governance model can ensure effective skills anticipation, but key principles are: clear policy aims; use and ownership of results by all stakeholders; dissemination to ensure wide-ranging impact; and sustainable financing.
- Comprehensive skills strategies that integrate skills anticipation can help exploit its potential, such as *Ireland's National skills strategy 2025*.
  - Broader strategies that integrate all the components – education and training, qualifications and accreditation, active labour market policies and guidance – are lacking across the EU.
- Many examples are given of how particular countries use skills anticipation to support different education- and training-related and other policy areas, and how they go about implementing it.

Cedefop's project Governance of skills anticipation and matching systems: country reviews aims to help member states overcome the challenges.

The Economic & Social Research Institute published *Educational attainment and skill utilisation in the Irish labour market: An EU comparison*, examining the skills mismatch of current employees in the RoI with those required, and the sources of future skilled labour.

- Greater skill utilisation and skilled migration are needed to support a productive and competitive economy.

- Just over 10% of full-time Irish employees rate their job as highly skill intensive across literacy, numeracy and ICT skills; skill intensity is relatively high in literacy and numeracy, but low in ICT.

- A relatively low number of employees feel their skills are matched to their job.
  - 46% say their skills are greater than those required, the fourth highest rate of skill underutilisation out of 28 EU countries.
  - Only around 8% say their skill levels are below what is required.

- Better aligning peoples' skills and their jobs could boost economic growth; policymakers must consider new approaches that harness the education and skills already acquired by workers.

- Potential sources of future skilled labour supply include:
  - High-skilled migrant workers – 57% of foreign-born full-time workers in RoI have tertiary-level education, the third highest share in the EU; this is seen as the most important source (immigrants accounted for 18% of employees in RoI in 2016, up from 5% in 2002).
  - The unemployed – these are predominately male, younger and with higher levels of education.
  - The inactive, those from outside the labour force, unemployed and not looking for work – these are predominantly female, aged over 45 with relatively low levels of education; as older women retire they are expected to be replaced by younger women with higher levels of education.

Lloyds Bank published the fourth *UK Business Digital Index 2017*, a survey of 2,000 small businesses' and charities' online behaviour and attitudes to digital technology.

- Basic Digital Skills are defined as: managing information, communicating, transacting, creating and problem solving.

- The data sample for Northern Ireland was relatively small; however, findings include:
  - 65% of small businesses have full Basic Digital Skills (compared to the UK average of 59%).
  - 20% say being online is not relevant (UK: 23%), 25% lack skilled staff (UK: 27%), 15% lack the time to go online (UK: 28%).
  - 35% have concerns about online security (UK: 32%).
  - 33% see trading overseas as a key benefit of being online, the highest in the UK (32% in London).
  - 59% of charities in 'North', including Northern Ireland and Scotland, have full Basic Digital Skills (the highest in the UK).

The British Council published *Languages for the Future: The foreign languages the UK needs to become a truly global nation*.

- The report considers the outlook for the supply and demand for language competence, and looks at the linguistic dimension of a variety of economic, geopolitical, cultural and educational factors.

- The same five languages top the list as in the 2013 report: Spanish, Mandarin, French, Arabic and German.
  - They are some way ahead of the next five: Italian, Dutch, Portuguese, Japanese and Russian.

- The UK nations approach language education policy in different ways, but all should recognise that the language deficit remains a threat to our overall international competitiveness, influence and standing in the world.
  - Investment in upgrading the UK's language skills, which give unparalleled access to cultural knowledge and understanding, will pay important dividends; this task will involve individuals, businesses and employers as well as the four UK governments.
  - It requires a bold new cross-government, cross-party policy to improve language learning for a transformed 'global Britain'.
  - Recommendations include each nation appointing a cabinet-level language champion.

The OECD published *How much will the literacy level of the working-age population change from now to 2022?*, looking at the likely trends across countries participating in its Programme for the International Assessment of Adult Competencies (PIAAC).

- Two forces will drive the change in literacy proficiency of the adult population between 2012 and 2022:
  - Demographic changes – these can't be influenced

- The development of individuals' skills over time – these can be influenced, and depend on the intensity of learning activities, ongoing and regular use of skills and biological ageing.

- Modelling suggests that, mainly driven by the demographic component, literacy proficiency should increase in all countries.
  - In England and Northern Ireland (scored together for PIAAC), the increase will be one of the smallest of the countries taking part, because there is little difference in proficiency between their 55–65 year-olds and 17–24 year-olds.

THE IMPACT OF AUTOMATION

The CIPD published *The impact of emerging technology on the future world of work*, summarising the findings of a rapid evidence review by Loughborough University of the academic literature since 2011.

- The extent of robust academic knowledge on the topics examined is embryonic.
  - Because of fast-paced developments and the emergent nature of this field, just over 40% of papers in the review detailed original empirical evidence.
  - More than 50% consisted of literature reviews, which typically ended by making predictions regarding possible future scenarios; analysis based on brief anecdotes of unknown quality; or pure speculation and reflection.

- While evidence suggests that technology is augmenting what people are doing and enabling some degree of role expansion for employees, the ability to generalise findings is limited.

The McKinsey Global Institute published *Jobs Lost, Jobs Gained: Workforce transitions in a time of automation*, assessing the number and types of jobs that might be created under different scenarios to 2030, and comparing that to the jobs that could be lost to automation.

- The extent to which automation technologies, including artificial intelligence (AI) and robotics, displace workers will depend on pace of development and adoption, economic growth and growth in demand for work.
  - 60% of occupations have at least 30% of constituent activities that could be automated, but new occupations will be created.
  - Scenarios across 46 countries suggest that between almost zero and one-third of activities could be displaced, with advanced economies more affected than developing ones.
  - Productivity growth enabled by technological progress could increase the demand for work and workers, as well as rising incomes and consumption, ageing societies, investment in infrastructure and energy, and many other trends.

- Some advanced economics might need to invest more in infrastructure and construction – beneficial in their own right – to reduce the risk of job shortages.

- 75–375m workers (3–14% of the global workforce) will need to switch occupational categories, while all workers will need to adapt as their occupations evolve.
  - HE attainment, social and emotional skills, creativity, high-level cognitive capabilities and other skills that are hard to automate will all be required.
  - Income polarisation could continue in advanced economics, while, if reemployment is slow, frictional unemployment could rise in the short term, putting downward pressure on wages.

- Policymakers and business leaders need to embrace automation's benefits while addressing worker transitions.
  - Economic dynamism is a priority – economies that are not expanding don't generate job growth; mid-career job training and enabling worker redeployment will be essential, challenging current educational and workforce training models and business approaches to skills.

The CBI published *Disrupting the Future: How businesses can embrace artificial intelligence, blockchain and the internet of things*, with skills emerging as a top concern for companies.

- 80% of businesses believe that AI will enhance efficiency, provide the data to make smarter decisions and predict the future, and help them differentiate their business.
  - However, only a third of pioneer businesses – early adopters and champions of digital innovation – say their company has the skills and capabilities needed to adopt AI technologies.

- The problem is even more acute for firms that have a 'follower' mentality when it comes to innovation.

- Blockchain technology removes the need for an intermediary to verify and exchange information about a transaction, creating trust and transparency and unparalleled security.
  - A lack of skills is again a critical barrier, with businesses needing access to global talent to fill skills gaps and help them compete internationally.
- The internet of things (IoT) provides real-time intelligence, builds closer relationships with suppliers and customers and creates new revenue streams.
  - Cyber security is critical and needs to be made a boardroom priority.

The Institute for Public Policy Research (IPPR) published *Managing Automation: Employment, inequality and ethics in the digital age*.

- It argues that public policy should seek to accelerate automation, while building new institutions to ensure its dividends are broadly shared.
- Automation will produce significant productivity gains that will reshape specific sectors and occupations; in aggregate, however, these gains are likely to be recirculated, with jobs reallocated rather than eliminated, economic output increased and new sources of wealth created.
- Work will be transformed rather than eliminated:
  - A decline in the numbers of some kinds of jobs in some sectors are likely to be offset by an increase in demand for labour in other sectors and other kinds of jobs.
  - An estimated 60% of occupations have at least 30% of activities that could be automated already; as tasks are automated, work is likely to focus more on areas of human comparative advantage over machines.
  - Polarisation between 'lovely' jobs and 'lousy' jobs is a serious risk as the demand increases for creative, cognitive, planning, decision making, managerial and caring skills; the quality of work should therefore be a key focus of policy.
- If the benefits are shared, automation can help build an economy where prosperity is underpinned by justice and greater equity.
  - Without policy intervention, the economic dividends are likely to flow to the owners of technologies and businesses and the highly skilled, as income shifts from labour to capital and the labour market polarises between high- and low-skilled jobs.

The OECD published *Computers and the Future of Skill Demand*, which uses a test based on its PIAAC to compare computers with human workers.

- The test assesses literacy, numeracy and problem solving with computers – three skills that are widely used at work and are an important focus of education.
- Although more workers are using literacy skills now than two decades ago, a smaller proportion of the workforce is highly proficient in literacy, suggesting that growth has come among those with low or moderate levels of proficiency.
  - This is in contrast to analysis that suggests more workers now work with high skills because more have jobs with high wages.
- A comparison of computer performance with that of adults with different proficiency levels suggests that 62% of OECD workers are using the PIAAC skills at levels that computers are close to reproducing, with 13% using them at a higher level and 25% not using them at all.
- There are many limitations to the study, but it offers some preliminary conclusions:
  - Pressure to use computer capabilities across the PIAAC skills is likely to reverse the pattern of workers increasingly using low- and mid-level literacy skills, and demand for those who are no better than computers will decrease, making them less valuable for many work tasks.
  - There are no examples of education systems that prepare most adults to perform better than the computers' level, so it is likely that employment prospects will depend on other types of skills.
  - Further work is needed to assess computer capabilities across all skills used at work, so that helpful policy responses can be developed.

TRAINING & DEVELOPMENT

England's Department for Education published *Continuing vocational training survey: CVTS 5*, the results of a five-yearly survey commissioned by the EU, based on telephone interviews with 3,315 UK organisations with ten or more employees.

- The explores the management and organisation of CVT, the role of social partners, assessment of skill or training needs, incentives for enterprises to provide CVT, costs and financing.
- 86% of employers provided their staff with some form of CVT in 2015 (up from 80% in 2010).
  - 67% provided courses, as opposed to less formal approaches such as workshops, job rotation, on-the-job training or self-directed learning.
  - Of the less formal methods, guided on-the-job training was by far the most significant, provided by 63% of all employers; 34% reported self-directed learning (up from 24%).
- 44% provided CVT courses internally; 57% provided CVT courses delivered by an external provider.
- 30% of employees participated in CVT courses (down from 31%).
- The average number of hours spent on courses by organisations was 1,100 (up from 600); per employee it was 9.2 (up from 7.7); per participant it was 30 (up from 26).
  - 36% of all hours were devoted to mandatory training (up from 26%); 31% led to a nationally-recognised qualification (up from 30%).
- 51% reviewed skill needs regularly as part of their overall planning process (up from 43%); 41% reviewed skills needs on an 'as and when needed' basis (down from 42%); 8% did not assess their skill needs (down from 14%).
  - Employers most frequently identified team-working, job-specific skills and customer handling as important to the future development of their organisation.
  - Employers secured the skills they needed by training existing staff (93%), reallocating responsibilities to other staff (91%), recruiting new staff with the skills needed (85%), and training newly recruited staff (83%).
- 66% formally assessed CVT outcomes, of whom 74% used certification after tests; 71% assessed behaviour or performance; 66% assessed the impact of training on performance; and 57% undertook a satisfaction survey.
- Organisations also supplied information on initial vocational training, focusing on government-recognised apprenticeships.
  - 24% employed apprentices, of whom 43% paid training providers – 51% for 16–18 year-olds, 74% for 19–24 year-olds, and 19% for those aged 25+; average fees were highest for 16–18 year-olds (£2,600), falling to £2,000 for those aged 25+.
  - 53% plan to offer apprenticeships in the future – 65% in production/construction and 49% in services; those providing CVT were significantly more likely to expect to offer apprenticeships (56% vs 34%).
  - 91% of those already offering apprenticeships plan to offer them in the future; 41% did not offer them in 2015 and 36% had never offered them.
  - Of those who don't employ apprentices, 43% didn't see them as relevant to their organisation; 16% had no vacancies or need; 12% said they weren't available or suitable.

No breakdowns are provided for Northern Ireland. International results will be published by Eurostat in due course.

The Federation of Small Businesses published *Learning the Ropes: Skills and training in small businesses*, based on a survey of 1,200 members in England.

- 50% say that technical skills are the most important for achieving future business growth, but interpersonal skills, such as communication (38%) and self-management (32%) are also key.
- 52% have recruited in the last 12 months, of whom 30% have faced skills shortages.
  - Skilled trade occupations, such as chefs, IT engineers and construction workers, reported the highest number of skill shortage vacancies.
- 46% lack full proficiency within their workforce, with the highest gaps in wholesale and retail trade (57%), information and communication (48%), and professional, scientific and technical activities (46%).

- Incomplete staff training (42%) and newness to the role (36%) are the most common reasons for skills gaps.
- On-the-job training is most common, offered by 70% during the last 12 months.
- The most common type of training organised for staff is technical skills training (49%), both on- and off-the-job.
- 24% have not provided any training for their staff in the last year, and 27% of business owners have not provided any training for themselves in the last year; time, resource and cost are the most common barriers.
- 23% of small business owners believe that leadership and management are the most important skills for future growth; however, relevant training has only been undertaken by staff in 18% of businesses, and by 17% of business owners, in the past year.
- 26% of business owners lack confidence in their basic digital skills, with sole traders more likely than businesses with employees to classify themselves as 'unconfident' (18% vs 8%).
- 22% believe that a lack of basic digital skills among their staff is preventing them from becoming more digital, while 25% don't consider digital skills to be important to the growth of their business.

IZA published *Not for the Profit, but for the Training? Gender Differences in Training in the For-Profit and Non-Profit Sectors*, looking at the probability, duration and intensity of firm-sponsored training, based on Canadian employer–employee data.

- Women in the for-profit sector are less likely to receive classroom training, and receive shorter classroom training courses.
  - There was no evidence that gender gaps in training are driven by lower probabilities of accepting training offers, child or family commitments, weaker labour market attachment or worker self-selection.
  - There was some evidence that differential training outcomes are influenced by women's level of education (skill).
- The reverse is true in the non-profit sector; women are more likely to receive both classroom and on-the-job training, and attend longer classroom training courses.
- Gender differences in expected changes in wages and training opportunities between the two sectors can explain much of the higher probability of women being employed in the non-profit sector.
- Gender differences in training explain some of the gender wage gap in the for-profit sector, which is twice as large as in the non-profit sector.

The Learning & Work Institute published *Evaluation of the Skills Escalator Pilot*, a project that aimed to support working people on low income gain better-paid and more stable employment.

- The pilot service comprised: direct marketing to eligible individuals; one-to-one support from an adviser, structured around a personalised action plan; a core offer of referral to existing skills provision, paid for by the service; wrap-around support from other existing services; and direct employer engagement.
- Three-quarters of the participants were women, mostly aged 30–50; a third were lone parents; most lived in private rented accommodation and the rest in temporary accommodation; a quarter had limited English; starting qualifications ranged from entry level to degree level, and many had overseas qualifications not recognised in the UK.
- Of 362 clients, a third took up a training course.
  - English for Speakers of Other Languages (ESOL) courses were the most common, with other popular courses including teaching; accountancy/book-keeping; beauty, fitness and wellbeing; childcare; and IT.
  - 34% of those who undertook training increased their earnings within the evaluation timescale, compared with 11% of those who didn't take it up.
  - Training also increased self-esteem, sense of purpose, confidence and job performance.
- Clients reported that earnings increases transformed their lives through improved standards of living, housing situation and the ability to address financial worries; clients also felt they presented a more positive role model and had a better perspective and sense of direction.

- Participants were more likely to remain in work than those in a matched comparison group, although there were limitations to the matching process.
- The estimated public value return on investment was £3.41 for every £1 spent.
- The key features that enabled the outcomes were: personalised and flexible support based on in-depth needs analysis; funded training provision, with all types of training eligible; wrap-around advisory support, providing a high-quality client/adviser relationship.
  - Key factors in successful implementation were adviser skills and capacity, and effective partnership working.

The report covers the first two years of the project and two London boroughs; European Social Funding has since allowed it to continue for another two years, and to be extended to two further boroughs.

The CIPD published *The future of technology and learning*, exploring the strategic aims and uptake of digital learning in organisations based on analysis of Towards Maturity Benchmark Study data.

- The report outlines the factors influencing technology uptake, including learner attitudes and skills, and the changing expectations of technology.
  - Self-direction and digital literacy differ between individuals and across contexts, which in turn can affect the uptake of digital content; technology alone cannot address barriers such as lack of time to access learning.
- It describes adult learning theories, compares the effectiveness of online and offline learning, and identifies the factors associated with successful use of technology for learning.
  - The learning process and instructional method of technology is strongly related to positive outcomes, as they are with offline learning.
- It examines technology trends in organisations, and what drives technology adoption.
  - Mobile, collaborative and game-based learning are key emerging technologies; used effectively, they have the capability to improve access to learning and enhance knowledge transfer.
- It identifies the barriers and supporting factors that influence technology uptake, and provides critical questions for practitioners about future learning strategies.
  - A framework is provided through which to evaluate technology and ensure the tools used address real learner challenges and align to business goals.
  - The factors identified are: organisational context, learner needs, purpose of implementation, learning design principles and evidence, and technology trends.

The European Commission published *Business cooperating with vocational education and training providers for quality skills and attractive futures*, by Panteia, LSE Enterprise and Oxford Research, exploring examples of cooperation between VET and businesses.

- 12 case studies include the UK's Tech Partnership, the global 'Nestlé needs YOUth' programme, and the Step Ahead initiative run in the UK, Slovakia and Czech Republic.
- Three dimensions are identified as classifying VET–business cooperation:
  - The VET process: curriculum development, VET delivery and feedback loop.
  - The topics of cooperation: matching supply and demand, work-based learning, digital skills, innovation, entrepreneurial skills, mobility, social inclusion and raising awareness.
  - The level of cooperation: individual, local/regional, sectoral, national, European and global.
- Findings and recommendations to policymakers include:
  - VET–business cooperation can contribute to the quality and attractiveness of VET.
  - In all case studies, there are strong economic arguments for businesses to cooperate with VET providers, including the need for sufficient graduates with the right skills and experience.
  - Businesses can play a key role in helping VET programmes to branch out and reach a specific target group of learners not previously reached.
  - 'Making it easier' for businesses, especially SMEs, to cooperate is a strong facilitator for the development of effective VET–business cooperation.
  - Public institutions at all levels should recognise the potential of VET–business cooperation and stimulate and facilitate its development.

- Governance systems should allow for sufficient flexibility to adapt VET–business cooperation to the specific needs of businesses.

EMPLOYMENT: RIGHTS, RESPONSIBILITIES & WAGES

The CIPD published *Understanding and measuring job quality: Part 1 – Thematic literature review*, proposing a usable and meaningful approach.

- Dimensions of job quality in the literature largely reflect the disciplinary traditions of the researchers, e.g. orthodox economists focus on pay, while behavioural economists focus on participation in decision making.
- A further debate considers whether job quality dimensions should be restricted to the characteristics of the job or reflects the preferences of the worker.
- While there is no agreed measure, six key dimensions emerge: pay and other rewards; intrinsic characteristics of work; terms of employment; health and safety; work–life balance; representation and voice.

IZA published *More Education, Less Volatility? The Effect of Education on Earnings Volatility over the Life Cycle*, examining data for employed men following an increase in the minimum school leaving age from 15 to 16 in 1972 in England and Wales.

- The analysis looked at earnings volatility via the effects on earnings variability, earnings cyclicality and frequency of real pay cuts of employed men.
- Results suggest that education shelters men from the adverse effects of earnings shocks.
  - More education leads to lower earnings variability at younger ages.
  - More educated men are less affected by wage cyclicality, and appear less likely to experience real pay cuts.
- However, there is little evidence that education affects earnings volatility of older men, finding no discernible benefits for those aged over 40.

Global Education Systems & Outcomes

The World Economic Forum (WEF) published *The Global Gender Gap Report 2017*, which provides country rankings that enable comparisons across regions and income groups.

- 144 countries are benchmarked on their progress towards gender parity across four dimensions: educational attainment; economic participation and opportunity; health and survival; and political empowerment.
- On average, countries have closed more than 95% of the gap in educational attainment, a slight decrease on last year; however, on economic participation the gap remains wide, with only 58% of it closed.
  - However, 82 countries have increased their overall gender gap score, an improvement on last year.
- The UK comes 15th in terms of the overall gender gap, with a score of 0.770; Iceland is top at 0.878, while Yemen is last at 0.516.
  - For educational attainment the UK is 36th at 0.990; 27 countries, including Australia, Canada and RoI, share first place at 1.000.
  - For economic participation and opportunity, the UK is 53rd at 0.705; Burundi is 1st at 0.911.

The OECD published *Educational Opportunity for All: Overcoming Inequality throughout the Life Course*.

- The report finds that all countries have ample room for improvement to ensure better learning outcomes for all at every stage, and gaps found, e.g. at age 15, only widen as young people move into adulthood.
  - Providing equitable learning opportunities early in life is critical, but so are opportunities for adults in today's volatile labour markets – particularly for those who lack the resources to participate in learning.

- Given the size and economic significance of the working population, governments, employers and local communities need to pool their efforts to offer programmes that focus on improving employability through education, training and practical job training.
  - Support should be targeted at the most vulnerable, with barriers removed and delivery methods found that are innovative and flexible.
- Equity must be made an explicit priority of lifelong learning, and progress needs to be rewarded systematically in order to motivate policymakers, school leaders, teachers and local authorities.
  - Specific goals are needed at every level, and budgets need to be aligned with the educational challenges.
- Although a coordinated whole-government and stakeholder approach is the best way to address inequality, ministries and local authorities often work in silos, implementing fragmented and shifting policies and services.

The European Commission published *Education and Training Monitor 2017*, plus 28 country reports; most but not all of the report focuses on school education.

- EU and country progress is measured on six EU Education & Training 2020 targets:
  - The share of early leavers (aged 18–24) from education and training to be less than 10%.
  - The share of 30–34 year-olds with tertiary education attainment to be at least 40%.
  - 82% of recent graduates from upper secondary to tertiary education (aged 20–34) who are no longer in education or training to be in employment.
  - At least 15% of adults (aged 25–64) to participate in formal or non-formal learning.
  - At least 95% of children to participate in early childhood education and care.
  - The underachievement of 15 year-olds in reading, maths and science to be below 15%.
- The lead theme for this report was 'inequality in education' and the important role of education in 'building a fairer society'.
  - In 2016, only 44% of 18–24 year-olds who had left school at lower secondary level were employed.
  - The unemployment rate for 15–64 year-olds was much higher for those with basic education (16.6%) compared to those with tertiary education (5.1%).
  - 33.9% of 30–34 year-olds living in the EU but born outside it were low skilled compared to 14.8% of their peers born in the EU.
- Investment in education across the EU has recovered from the financial crisis and increased slightly (up 1%).
- Most of the UK report looks at the nation as a whole and England specifically, with comments about the different systems in the devolved nations.
  - Details relating specifically to Northern Ireland include the new traineeships and apprenticeships system, the careers strategy and the *Employment Strategy for People with Disabilities*.

Additional material can be found on a dedicated webpage.

Cedefop, the European Training Foundation (ETF), UNESCO and the UNESCO Institute for Lifelong Learning published volume 1 of *Global inventory of regional and national qualifications frameworks [NQFs] 2017*.

- Countries around the world are reforming their systems to improve the readability, quality and relevance of qualifications, with learning outcomes-based frameworks playing an increasingly important role.
- Volume 1 discusses key trends and policy issues, covering the purposes and impact of NQFs, NQFs as catalysts for lifelong learning, and NQFs promoting international and global communication and cooperation.

IPPR Scotland published an *International Comparator Study* to inform the Scottish Government's Independent Review of Student Financial Support in Scotland (*see page 33*).

- Findings are presented from a review of systems for student financial aid in five countries: Australia, Finland, Germany, RoI and South Korea; it also includes a general discussion of the relationship between financial aid and student participation, retention and experiences.

- Most countries do not separate HE and VET student aid as sharply as the UK nations – in some cases, a single system covers both; the UK's complete separation of student living costs support and social security is also relatively unusual.
- Countries also vary in the degree to which 'young' students are treated by policy as independent adults or as 'adult children' receiving parental help.
- Features of 'good practice' in designing financial support systems for students, associated with better outcomes in widening participation, student retention, and/or positive experiences for students include:
  - Simple systems for accessing funding work better than complex ones, e.g. bringing together financial support across VET and HE, and linking student support and social security systems.
  - Providing affordable accommodation or housing allowances as an element of student financial support.
  - Paying aid in small, regular sums (monthly or fortnightly) may make it easier for students to manage their money.
  - Universities offering 'work study' schemes as a formal element of aid, e.g. with jobs on campus and/or related to the student's programme, to help reduce tensions between jobs and study.
  - Offering merit-based awards which could be limited to poorer students; awards may recognise exceptional attainment or simply require minimum levels of progress.

Eurydice published *National Student Fee and Support Systems in European Higher Education – 2017/18*, an overview of the main features and information about individual countries.

- Information is provided for 42 systems, including for Northern Ireland and the other UK nations.
  - Details include the fees and financial support available to students in public or government-dependent private HEIs in short cycle, first and second cycle.
  - It describes the range of fees charged to national, EU and international students and the categories of students required to pay, and those that may be exempt.
  - It explains the public support available as grants and loans, tax benefits and family allowances.
- 'No fee for home and/or EU students' policies exist in four countries; universal fee policies apply in 12.
- 14 systems apply the same fee policy to all students – either no full/part-time first cycle students pay fees (in Germany, Greece, Finland, Sweden and Norway), or all pay fees (including in Northern Ireland, England and Wales).
- All 42 systems provide at least one type of direct support (grants/loans) and 50% also provide indirect support (family allowances/tax benefits).
  - Grants are the most common form of student support, and the most significant in influencing students' perception of their financial security during studies.

Two new publications by Eurydice examine the structure and duration of 43 education systems in 38 countries participating in the EU's Erasmus+ programme.

- *The Structure of the European Education Systems 2017/18: Schematic Diagrams* looks at mainstream education from pre-primary to tertiary level.
- *Compulsory Education in Europe – 2017/18* details the duration, and starting and leaving ages, and distinguishes full-time and part-time compulsory education and training.

Government

Following its green paper in January 2017, the UK Department for Business, Energy & Industrial Strategy (BEIS) published *Industrial Strategy: Building a Britain fit for the future*.

- Four 'grand challenges' focus on being at the forefront of: the artificial intelligence and data revolution; the global shift to clean growth; the future mobility of people, goods and services; and meeting the needs of an ageing society.
  - Each grand challenge will have expert advisors from industry and academia working alongside ministers, led by a 'Business Champion', all appointed early in 2018.

- Five 'foundations of productivity' are: ideas, infrastructure, people, business environment and places.
  - **People**: to generate good jobs and greater earning power for all; key policies include the new technical education system; additional investment in maths, digital and technical education; and a new National Retraining Scheme.
  - **Places**: to have prosperous communities throughout the UK; key policies include Local Industrial Strategies and a Teacher Development Premium.
- A number of the Challenge areas offer significant opportunities for Northern Ireland's businesses and universities including:
  - Services 4.0: Belfast is ranked as the UK's number one destination for fintech and cybersecurity, and is home to first-rate examples of industry and academia collaboration in the Capital Markets Collaborative Network.
  - Energy revolution: Northern Ireland currently has significant research capability and expertise within its universities and colleges, including Ulster University's Centre for Sustainable Technologies and the Centre for Advanced Sustainable Energy at Queen's University.
- Underpinning the strategy, a joint programme of work with the ONS, academics and other stakeholders will identify gaps in the evidence base, and devolved administrations will help to ensure the strongest possible data are held and used across the UK.

Prime Minister Theresa May launched the Government's new Ethnicity Facts & Figures website.

- The aim is to gather a wide range of existing UK data in one place and make it available to the public, specialists and charities.
- Data are available on education, skills and training, plus crime, justice and the law; culture and community; health; housing; and work, pay and benefits.

NORTHERN IRELAND

The Department for the Economy published findings from the third annual *Survey of Further Education College Leavers*, 2015/16 – part of its monitoring of the quality of FE provision and its relevance to the needs of the Northern Ireland economy and the learner.

- 5,989 individuals were surveyed by telephone around six months after course completion, to provide a snapshot of the immediate added value of achieving a FE qualification.
  - They were asked: how they had heard about their course; why they had taken it; their main activity before taking it and six months after completion; and what they thought were the main non-economic benefits of their achievement.
- Key findings include:
  - 47.6% were in employment six months after achieving their qualification, up from 39.1% before their course began; the proportion in learning had fallen from 44.7% to 36.8%.
  - 95.1% agreed that completing their course had had a positive impact, in particular: 'boosted confidence' (84.6%); 'made new friends /met new people' (83.5%); and 'increased self-esteem' (69.7%).
  - 51.8% of those in employment said their qualification was relevant to their current job; 24.2% said they could not have obtained/stayed in their employment without completing the course.
  - Of those who had remained with the same employer since before the course, 56.9% said they were better at their jobs, 25.7% said they had more responsibilities, and 13.2% had been promoted; most thought their course had at least to some extent contributed to their progress.
  - 86.2% of those still in learning had been in learning before the course; 82.6% were studying towards a higher level qualification.
  - 5.5% classified themselves as unemployed six months after completing their course (down 2.2ppt from the 2013/14 cohort).

ENGLAND

The Department for Education published *Careers strategy: making the most of everyone's skills and talents*, putting a thriving careers system at the heart of social mobility; key reforms include:

- At least one meaningful encounter a year with employers for everybody in Years 7–13, including STEM employers – any extra financial support will be targeted at Opportunity Areas and 'cold spots'.
- Revised statutory guidance will be published in January, setting out how all schools/colleges can meet the Gatsby Benchmarks:
    1. A stable careers programme (embedded; understood by everybody)
    2. Learning from career and labour market information
    3. Addressing the needs of each student
    4. Linking curriculum learning to careers
    5. Encounters with employers and employees
    6. Experiences of workplaces
    7. Encounters with FE and HE
    8. Personal guidance (internal or external trained adviser).
- All this will be driven in schools by a dedicated Careers Leader; every school will be expected to publish the name of their Careers Leader from September 2018.
- There will be a communications strategy to ensure better understanding of options, especially around technical education.
- HEIs will be expected to do more to make sure students from disadvantaged backgrounds make best use of their university careers services, including by offering mentors, access to alumni networks or specialist careers outreach programmes.
- The National Careers Service – which provides information for young people, as well as direct support for adults – will have a new website in 2018, making sure all government careers information is available in one place.

The Department for Education published *Unlocking Talent, Fulfilling Potential: A plan for improving social mobility through education*, which includes two 'ambitions', relating to post-16 and adult learning and support:

- High-quality post-16 education choices for all young people.
    - Plans include strengthening technical education, investing in FE and improving access for disadvantaged young people.
- Everyone achieving their potential in rewarding careers.
    - Issue a 'call to arms' among 'opportunity makers' in business to connect education and employment, and develop a new partnership with employers, to: provide careers encounters for young people; offer work placements; be part of regional Skills Advisory Panels; offer more apprenticeships; support staff retraining; increase diversity in recruitment; and enable progression.
    - Improve careers guidance and experiences, particularly in 'career cold spots' through the Careers Strategy along with an Essential Life Skills programme – extra-curricular activities for young people in the 12 Opportunity Areas.
    - Ensure those in lower-paid work are able to retrain – introduce a National Retraining Scheme, currently being piloted to test flexible and accessible learning; full funding for adult basic digital courses; maintenance loans for part-time undergraduates and financial support for postgraduates.

There is a strong focus on 'place', with an overarching ambition of 'no community left behind'. Support will be targeted on the Opportunity Areas, each of which has produced its own delivery plan. Plans are also being developed to extend the impact of Opportunity Areas to other parts of the country.

The Education Policy Institute (EPI) and Pearson published *Educating for our Economic Future*, the second report on England's system by an independent advisory group on skills.

- A number of recommendations made in the first report (2014) have been reflected in government policy: employers are helping to raise the standing of technical and professional education; curriculum reform has drawn on international practices; a National Careers Service has been developed; and the Department for Education is now responsible for all phases of education.
    - However, challenges remain, and have been amplified by the EU referendum.
- The system must strike a balance between equipping students with a general education to prepare for further study and giving them more job-specific skills.
    - Few other successful systems force learners to specialise so much at 16 or to drop native languages and maths.

- Reforms to technical education offer a genuine opportunity to improve upon a complex and not always fit-for-purpose VET system.
  - However, it is important to provide positive progression routes for the many young people looking to develop knowledge of industries without closing off options.
- Expansion of apprenticeships is welcome, but they should not be validating existing skills among older workers, and standards need to be sufficiently broad and deep to enable upward and lateral movement, while also addressing specific skills shortages.
- In order for students to confidently navigate the range of options open to them, they need access to high-quality, independent careers education, information, advice and guidance.
- It is important to ensure the right balance between three-year undergraduate degrees and other forms of post-secondary education, including shorter tertiary qualifications and technical training.
  - Funding should help young people make decisions based on what works for them and for the economy, rather than arbitrary decisions about what forms of education to prioritise.
- With employers increasingly looking for 'soft' skills, arbitrary distinctions between boosting knowledge and building wider skills are unhelpful.
- A commitment to lifelong learning should be at the heart of any credible skills strategy; research evidence points to a clear link between lifelong learning, national prosperity, reduced inequality, improvements in emotional wellbeing and societal cohesion.
- Strong ICT skills offer opportunities to overcome the disadvantage of having low formal qualifications in the English job market, but such skills are increasingly being demanded in combination with other higher-order skills such as problem solving, social skills and literacy and numeracy.
  - Employers need to be better at exploiting their employees' digital skills to harness the potential of new technologies to drive business growth, innovation and broader societal development.
- Schools play an important role in financial literacy development through the teaching of maths.
- The UK has relatively low rates of employment-based training, although overall rates of training have tended to compare better with those of other advanced economies; but there are deep inequalities in access according to income and prior education, and provision has fallen in recent years.

The report makes a number of recommendations both for urgent action and for longer-term policy development.

SCOTLAND

The Scottish Government published *Science, Technology, Engineering and Mathematics – Education and Training Strategy for Scotland from 2017–22*, aiming to inspire enthusiasm for STEM among all sectors of society, to grow STEM and to drive economic growth.

- An implementation group chaired by the Minister for Further Education, Higher Education & Science will oversee delivery and publish an annual progress report; it will be supported by an external Advisory Group.
- Key actions include:
  - Improving the supply of STEM talent to the teaching profession
  - Addressing unconscious bias and gender stereotyping
  - Prioritising STEM in the expansion of apprenticeships
  - Increasing access to public science engagement events
  - Creating positive STEM role models, mentors and coaches
  - Delivering up-to-date advice and information on STEM careers
  - Delivering enhanced STEM professional learning
  - Maintaining excellence in STEM research and building links with industry
  - Tackling inequity in STEM learning and careers
  - Improving participation in STEM FE and HE courses and apprenticeships
  - Promoting the opportunities and benefits of STEM learning and careers
  - Delivering up-to-date advice and information on STEM careers.

An Evidence Base and evidence report were also published.

Skills Development Scotland published *Jobs and Skills in Scotland: The Evidence*, an overview of the current labour market, skills shortages and gaps, underemployment, employer investment in skills, and future projections.

- Critical focus areas for the future labour market are productivity, demographic shifts, inclusive growth, and the changing nature of work.
- Greater alignment is needed between skills investment and the needs of the economy.
- Focus is needed on creating good quality jobs and skills utilisation, ensuring these lead to increased earnings and greater prosperity.
- Continued vigilance is needed on potential tightening in the labour market and uneven impacts on specific regions and sectors.
- An informed debate is needed on the nature of future skills, focused on flexibility and agility.

The Scottish Government published *A New Social Contract for Students: Fairness, Parity and Clarity*, the final report of an Independent Review of Student Financial Support in Scotland to assess whether students receive 'a fair and effective package'.

- Recommendations on fair funding, parity, clarity, and costs to implement include:
  - Setting an entitlement to a Minimum Student Income of £8,100 in FE and HE.
  - Delivery through a mix of bursaries and student loans, with means-testing of bursaries to target those from the poorest backgrounds.
  - Making student loans available in FE, written off in full for those moving from FE to HE.
  - Creating a common funding system across FE and HE, with local face-to-face support.
  - Ensuring flexibility for students on when they would receive financial support.
  - Creating a single online information portal for all students.
  - Providing special support payment for students on benefits in FE and HE, similar to the approach in Northern Ireland, England and Wales.

WALES

[No relevant material sourced for this quarter's release.]

REPUBLIC OF IRELAND (RoI)

The Department of Education & Skills published *STEM Education: Policy Statement 2017–2026* and *STEM Education: Implementation Plan 2017–2019*.

- The vision is: 'In line with our ambition to have the best education and training service in Europe by 2026. Ireland will be internationally recognised as providing the highest quality STEM education experience for learners that nurtures curiosity, inquiry, problem solving, creativity, ethical behaviour, confidence and persistence, along with the excitement of collaborative innovation.'
- The areas of policy development and action span four pillars, each with relevant outcomes by 2026:
  - Nurture learner engagement and participation: includes uptake of Leaving Certificate STEM subjects to increase by 20% and among females by 40%; quality career information available; and increased school and college partnerships, including with business and industry and the wider STEM community.
  - Enhance early years practitioner and teacher capacity: including STEM CPD and an inquiry-oriented approach to teaching and learning.
  - Support STEM education practice: including high-quality and up-to-date curricula; a 20% increase in extra-curricular STEM activities; and partnerships with arts education and with business, industry and research.
  - Use evidence to support STEM education.
- The implementation plan is for Phase 1 – Enhancing, and will be followed by plans for Embedding (2020–22) and Realising (2023–26).

The OECD and European Commission published *Supporting Entrepreneurship and Innovation in Higher Education in Ireland*, reporting on a detailed study to assess strategies and practices in RoI's HEIs and the support provided by government.

- HEIs are playing a fundamental role in fostering entrepreneurial career paths for students and staff, driven by senior management.
- Evidence was found of very successful practices that stimulate and reward leadership at all levels, and create proper support structures and incentives for staff and students.
  - A strong emphasis is placed on supporting teachers to teach entrepreneurship, with CPD activities supported by the Campus Entrepreneurship Enterprise Network and National Forum for the Enhancement for Teaching & Learning in Higher Education.
- Areas for improvement include:
  - Increasing start-up support for students and alumni who wish to found a new venture.
  - Reviewing current employment control restrictions in HE to allow for enhanced engagement activities with business and society.
  - Continuing support for HEIs to establish collaborative and mentoring links with innovative and entrepreneurial HEIs abroad.
  - Enhancing collaboration between policy structures and state agencies.
  - Broadening the scope for multi- and transdisciplinary research initiatives in research priorities.
  - Introducing a system-wide exercise to document and assess the impact of entrepreneurship and innovation.

The QAA published *Country Report: The Republic of Ireland* as part of its series examining UK transnational education (TNE); this report is associated with a review of UK TNE in RoI in 2017.

- RoI is the second largest host country for UK TNE in Europe after Greece – 11,621 students are studying for a UK award in RoI, although numbers have fallen 26% over the past five years due to tightening of overseas provision in RoI.
  - 56% of TNE students in RoI are registered with Oxford Brookes on the BSc in Applied Accountancy course in collaboration with the Association of Chartered Certified Accountants.
  - University of Ulster and Queen's University Belfast have TNE students and programmes in RoI (*the University of Ulster's partnership with Irish Times Training, Dublin, is one of ten partnerships examined in the report*).
- UK universities and RoI partners have created flexible opportunities that cater for skills needs not currently met by local providers.

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