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Skills Research Digest
Quarter 3 2018

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:

- Women in science, technology, engineering and maths related careers, including as engineering apprentices.
- International students in the UK – their impact, mobility and tail-off of numbers.
- The Fourth Industrial Revolution and the impact of automation on skills and jobs, with the focus on being better prepared for future challenges.
- Older workers and adult learning, including work-based learning, understanding their motivations and barriers, and the personal and wider benefits to be gained.
- Level 4–5 qualifications, increasingly seen as important for the economy.

** 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

The Chartered Institute for Personnel & Development (CIPD) published *Reforming Technical Education: Employers' views of T Levels*, the results of a survey of 2,000 organisations on young people's employability and England's new T levels*.

- 59% had recruited a young person for their first job in the last three years, rising to 73% among larger organisations compared with 40% among SMEs.
  - 67% of these had taken on a graduate; 25% a 16 year-old school-leaver; 45% a 17–18 year-old school-leaver and 46% a 17–18 year-old college-leaver.
- 40% reported that the school leavers were fairly or very poorly prepared for work compared with 36% of college leavers; the figure for graduates was 32%.
  - The main issues were: lack of world/life experience (78%); poor attitude/lack of motivation (71%); and lack of common sense (66%).
  - 42% lacked the required skills; 34% lacked literacy/numeracy skills; 15% were poorly educated.
- 35% had not offered any work placements in the last 12 months; 26% had provided work placements for undergraduates and 23% for school pupils; 21% had offered internships.
  - 26% thought it feasible to offer the 45–60-day placements that will be required for T levels; a further 22% would require an incentive.
- Asked which skills they would value most in someone with a T level, 46% cited core employability skills and broad sectoral understanding, while 22% said specialist skills and knowledge.
  - 44% thought the qualification would make a positive difference to employability, while 35% thought it would make no difference.

**T levels* are new two-year technical programmes for 16–18 year-olds designed with employers; from 2020, they will provide a technical alternative to A levels.*

SCIENCE, TECHNOLOGY, ENGINEERING & MATHS (STEM)

EngineeringUK published *Gender disparity in engineering*, a briefing examining female under-representation in the sector, both those coming into the profession and those working as engineers.

- Just 12% of those working in engineering are female, compared with 47% of the overall UK workforce, despite concerted efforts over many years to address this imbalance.
  - This disparity is largely a consequence of the rates of female participation in the engineering education 'pipeline'.
- Girls perform better academically in most GCSE and A level STEM subjects than boys and are more likely to progress into higher education (HE) generally; yet relatively few decide to study STEM at A level and even fewer progress to engineering apprenticeships or degrees.
  - Girls and women in England make up 50% of GCSE Physics entrants, 22% of A level entrants, 16% of engineering and technology first-degree entrants, and 8% of apprenticeship starts.
  - Existing studies suggest this in part reflects gender differences in understanding of and interest in the profession, as well as perceptions of self-efficacy and identity.
- Among young people surveyed in EngineeringUK's Engineering Brand Monitor, perceptions of and aspirations to the profession were significantly lower among girls than boys.
  - Girls were less likely to feel they could become an engineer if they wanted to, to think that being an engineer would fit well with who they are, or to consider a career in engineering.
  - They were more likely than boys to describe the profession as 'too complicated or difficult', 'dirty, greasy or messy' and a 'career for men'.
  - Many of these differences were observed among children as young as seven.
- Six months after graduating, male engineering and technology graduates are more likely to go on to work in an engineering-related role or find employment in the engineering sector than their female counterparts.

- Issues of retention and pay gaps are evident between women and men working in engineering occupations.
- 70% of girls surveyed said they would feel more confident pursuing STEM careers if they knew men and women were equally employed in these professions.

England's Skills Commission published *Women accessing careers in engineering*, the report of an inquiry into why women are under-represented within engineering courses at Levels 2–6.

- It looked at the structural and cultural barriers to participation, what has been done already to try to improve the situation and whether it has worked, including looking at overseas examples and at what should be done now.
- Recommendations include:
  - Unconscious bias training should be provided to all teachers, within a framework of whole school measures, on a routine basis as part of Qualified Teacher Status.
  - Ofsted criteria should include reporting criteria around challenging gender stereotypes.
  - The government should apply the learning on equality, diversity and inclusion (EDI) and procurement from the transport sector across all public sector procurement.
  - In the private sector, large employers should show leadership by including EDI requirements in their procurement from their immediate supply chain.
  - A central organisation should be funded to provide clear oversight of 'women in engineering' initiatives, to share learning and act as a point of contact for education practitioners; it would be good practice for government funded initiatives to be independently evaluated.
  - The Career Learning Pilot running in England should be used to investigate the most successful ways to retrain and engage adult women in engineering.
  - The Government Equalities Office should collect longitudinal data on employment outcomes of women engineering apprentices and graduates, by employer size, region and role type to better understand retention, highlight good practice and areas of concern; this data should be reported periodically in Parliament.

The recommendations do not do justice to this thoughtful report, which builds on the current trend of seeking to unpick some of our assumptions about pathways and approaches.

EMPLOYABILITY & CAREERS

The Office for National Statistics (ONS) published *Young people's career aspirations versus reality: What did you want to be when you grew up?* based on the UK Household Longitudinal Study.

- In 2015–16 the top five jobs that 16–21 year-olds wanted to do when they were older was unchanged from the top five jobs being sought by the same age group in 2010–11.
  - Artistic, literary & media, teaching & educational and health professionals all scored 8–11%; protective services scored 4% and nursing & midwifery scored just under 4%.
  - Less than 2% of 22–29 year-olds were doing any of those jobs in 2017, except for teaching & educational (4.4%).
  - Most 22–29 year-olds were working as sales assistants and retail cashiers (6.2%), also the top job category in 2011.
- 48% thought it was very likely they would go on to HE – 38% of 22–29 year-olds had a degree in 2017.
- Half of 16–17 year-olds expected to earn £35k by the age of 30 if they had achieved a degree, and £25k if not; the average salary of a 30 year-old in 2017 was £23,700.

Prospects Luminate published *Early Careers Survey 2018*.

- It provides a range of statistics on job hunting, work experience, apprenticeships and further study among GCSE, sixth form and college students, undergraduates, graduates and postgraduates.

The Organisation for Economic Cooperation & Development (OECD) published *Working it out: Career Guidance and Employer Engagement*, examining the features of good practice.

- Effective provision should:
  - provide regular opportunities for young people to reflect on and discuss their prospective futures

- allow students to consider the breadth of the labour market, particularly occupations of strategic economic importance, and those that are newly emerging and/or likely to be misunderstood
- undertake school-wide approaches, involving specialists plus teachers, school leaders, parents and people in work
- provide easy access to trustworthy labour market information and advice/guidance from well-trained, independent professionals
- challenge gender and ethnic stereotyping
- target the most disadvantaged for the greatest levels of intervention.

- Exposing students to the world of work successfully requires:
  - making the business case to employers and employees to demonstrate why they would benefit from participating, since the direct benefits may be limited
  - identifying barriers and obstacles for schools and employers, including technical, legal or information barriers.

Part of a broader OECD thematic study on work-based learning in vocational education and training (VET), with more reports due later in 2018.

Cedefop European Centre for the Development of Vocational Training published *Handbook of ICT practices for guidance and career development*, providing insights into how ICT can help people find training and jobs, increase their employability and develop their competences.

- Reaping the benefits of ICT-based innovation in career guidance usually requires a comprehensive innovation strategy, encompassing both technology innovation and process innovation.
  - A challenge for policymaking is to separate the 'hype' from the reality.
- Even where there has long been awareness of what ICTs can offer, fully embedding and mainstreaming current ICT-based solutions often requires consistent effort over many years.
- Going digital requires a sensible strategy of inclusive guidance: the trend towards the increasing use of ICT – particularly among young people – presents opportunities for widening access to lifelong guidance services to a broader client population.
  - This trend also presents opportunities for responding more flexibly to individual client needs.
- The evidence suggests that many organisations providing guidance services have started to develop multi-channel strategies, in terms of enabling effective self-service as demanded by users rather than in terms of pushing everybody online.
  - The wider debate around the digital divide has highlighted different levels of exclusion potentially faced by sections of the overall population as more and more services – public or commercial – are going to be provided via online media.
- A successful strategy requires:
  - a high level of cooperation with stakeholders
  - a detailed understanding of the current service processes, priorities and future direction of all stakeholders
  - awareness raising and promotion based on evidence that demonstrate the benefits of ICT in lifelong guidance practices
  - empowerment of career guidance practitioners and others who provide guidance services or support, such as parents or teachers
  - the user-driven design of a practice.

The Institutional Landscape

THE FURTHER EDUCATION & SKILLS SECTOR

England's Department for Education published *Good practice in Level 4 and 5 qualifications*, a literature review focusing on how or why courses have gained popularity and achieved good outcomes.

- Qualifications in scope were Certificate and Diploma in HE (CertHE/DipHE), Higher National Certificate/Higher National Diploma (HNC/D), Foundation Degrees, Level 4 and 5 Awards (L4/5), Certificates and Diplomas, and Level 4 and 5 National Vocational Qualifications (NVQs).
- Learners report difficulties in understanding the different pathways available and a lack of information available about related progression routes into HE and employment.
- Employers view L4/5 technical and vocational qualifications positively and generally accepted that they could support progression to further, higher-level study, or to develop technical skills.
- Good practice identified included:
  - The need for employer engagement in both design and delivery
  - Supportive learner induction processes including peer mentoring
  - Provision of coaching and mentoring from employers
  - Flexibility in a range of areas including: delivery modes and study patterns; progression routes and speed of progression; admissions requirements; assessment criteria and formats; and entry and exit points.

Cedefop published *The changing nature and role of vocational education and training in Europe Volume 3: the responsiveness of European VET systems to external change (1995–2015)*.

- Through detailed national case studies, the report provides insight into the responsiveness of national VET systems, particularly in relation to changes in demography, technology and the economy.
- The VET systems in all or most countries face common challenges:
  - Meeting the needs of the labour market and society when vocational institutions might to teach what they can rather than what they should
  - Increasing the attractiveness of VET to both would-be vocational students and employers
  - Securing a sufficient volume of students, especially where the number of young people is in sometimes sharp decline
  - Ensuring that the system can be responsive to technological changes, both in tackling skills obsolescence and meeting the demand for new skills
  - Ensuring that VET teachers have the technical knowledge and access to the latest technologies
  - Maintaining a balance between broad-based education and occupationally specific skills
  - Being able to do more when funding has been reduced.
- Common responses include:
  - Strengthening labour market and society ties with the VET system in specifying competences and curricula.
  - Finding new sources of students/learners, including through accrediting existing skills, including of migrants.
  - Moving to an outcome/competence-based system of initial VET.
  - Seeking to increase participation in apprenticeships and access to work-based learning.
  - Trying to increase the direct participation of social partners in VET to maintain industry currency.
  - Making substantial investments in skill anticipation systems; increasingly extending VET so that it is available at the post-secondary level and/or ensuring that VET at upper secondary level potentially provides the means to continue education at higher levels.
  - Developing and utilising qualifications frameworks to make the VET system more transparent.

HIGHER EDUCATION: APPLICANTS & STUDENTS

The Sutton Trust published its latest *Young People Omnibus Survey 2018*, based on the attitudes of 2,381 11–16 year-olds in England and Wales towards HE.

- 75% think it's important to go to university to get on in life, down from 78% in 2017 and a high of 86% in 2013.
  - 77% say that 'knowing the right people' is important for success in life.
- 77% think they are likely to go on to HE, but just 32% think it 'very likely', down from a high of 41% in 2009.

- For disadvantaged pupils it is 67% and for advantaged 79%; for girls it is 81% and for boys 73%.

- 46% of those likely to go on to HE are worried about the cost, rising to 58% among the least affluent.
  - 38% are worried about fees, 24% repaying student loans for up to 30 years, and 16% the cost of living as a student.

- Of those unlikely to go on to HE, the reason most cited is not liking this type of learning (58%), followed by financial reasons (44%) and not thinking that university is necessary to get the job they want (35%).

MiSoC, the Economic & Social Research Council (ESRC) Research Centre on Micro-Social Change, published *Student preferences over fees, grants and loans*, investigating England's loan system and wider views on loans and debt.

- Most students understood the principle of paying back a proportion of their income above a threshold and the 30-year maximum duration of repayments, and knew the current repayment threshold.

- Only 19% knew the interest rate charged during study, 42% the rate after study, and 29% the repayment rate above the threshold.

- Overall, students were:
  - against different fees being charged for different subjects, especially where this would entail lower fees for STEM courses
  - more averse to their debt continuing to grow after they have graduated than while they are studying
  - supportive of the principle of those from lower-income households receiving larger maintenance loans than those from higher-income households, even when shown that this results in a higher debt for the latter group
  - against receiving more support for living costs from the government through larger loans and/or reintroduced grants once they understand that this might be paid for through higher repayments
  - prepared to trade off higher debt at graduation in exchange for a higher repayment threshold and less steep interest rates after graduation.

UCAS published *Admissions patterns for mature applicants*, comparing the characteristics of groups of mature students (aged 21+) to those aged 18 applying for full-time undergraduate courses.

- There has been a decline in the number of mature students over the last three years.
  - 2017 saw a 9.8% decrease in UK applicants aged 26+ compared to 2016, largely due to a 23% fall in applicants for nursing courses in England; the number of students aged 26+ declined by just 0.1%.

- Mature students are more likely to live at home while studying full-time, and this likelihood increases with age.
  - 50% of 21–25 year-olds live at home, compared to nearly 80% of those aged 30+.
  - 18 year-olds are more likely to attend a university over an hour away from their home, with over 50% having a drive time of 70 minutes or more.

- Mature students are typically drawn to a small range of courses, with subjects allied to medicine (including nursing), education, and social studies the most popular; this may explain why 70% of mature students age 31+ undertaking full-time degrees are female.

- In 2017, entry rates for those aged 21–50 were highest in Scotland (1.88%), followed by London (1.49%) and Northern Ireland (1.27%).
  - However, due to differences in age distribution across the regions, entry rates vary by region for different age groups, with London having the highest rates for 36–50 year-olds.

- When the number of UK employment opportunities was at its lowest (2009–11), application rates for full-time undergraduate courses from mature students peaked.
  - Since 2015, the number of job vacancies has increased, while application rates for full-time study have declined.

The Higher Education Policy Institute (HEPI) published *David versus Goliath: The past, present and future of students' unions in the UK*, examining student representation in HE.

- Almost every university in the UK has a student union, however there is a dearth of research or reliable data on their form, role or achievements.
- Recommendations are made for government, regulators, sector bodies and providers, including:
  - Governing bodies should involve student unions in facilitating student involvement in university strategy, educational character and mission and assessment of institutional performance.
  - Student unions should collaborate on student employment strategy, help to develop a more representative research strategy, and consider developing a deeper understanding of friendship and its impact on success.

The Migration Advisory Committee published *Impact of international students in the UK*, commissioned by the Home Secretary in August 2017.

- It considers: UK policy towards international students and how it compares with 'competitor' countries; trends in numbers and where and what they study; and the impacts of international students during and after their studies.
- Among the findings:
  - More than 750k students come to the UK each year, mostly to study English; their average stay is a few weeks and a relatively small number require Tier 4 visas; the HE sector, often with courses lasting at least a year, makes up over 80% of student visas sponsored each year.
  - Students come from all over the world, with those from China the largest group in both HE and independent schools; 61 countries had at least 500 students coming to the UK for HE in 2016/17.
  - The number of international students in HE has grown by nearly 30% over the past nine years, though much more slowly in recent years.
  - In HE, they primarily take courses in business and admin studies, engineering and technology, or social studies.
  - The further education (FE) sector saw a boom following the introduction of the Tier 4 Points Based System, and a subsequent contraction when the rules were tightened and licences for many FE colleges ended.
  - International students attend institutions throughout the UK, though are more concentrated in some areas, with London, Scotland and the southeast popular destinations.
  - The UK is currently the second most popular destination for international students, although market share has declined slightly in recent years, particularly for students from India.
  - The UK has no cap on the number of international students, while many competitor countries have national strategies and targets for increasing numbers.
  - The UK's rights to work while studying are similar to other countries, though post-study work options are less generous than those offered by a number of competitors.
  - The most important factors for students deciding where to study are reported to be a high-quality education and a welcoming environment, though migration policies play a role.
  - England's Department for Education estimates the export value of international students to have been £17.6b in 2015; they are important to local economies, can provide a vital source of income for institutions and they have a positive impact on public finances.
  - Domestic students generally have a positive view of studying alongside international students, although some raise concerns about the quality of academic discussions and the attention they require.
  - The evidence available suggests there is no adverse impact on communities.
  - The majority leave the UK once their visa has expired, and the numbers applying for visa extensions for work have dropped sharply; most of those moving to a Tier 2 work visa move into STEM- or business-related jobs.
  - International students who leave the UK after study benefit from the UK's 'soft power' and foster ongoing business and research links.
- Policy recommendations include:
  - Retaining the current situation of no cap on the numbers of international students.
  - Government and the sector to continue to work together to grow the number of international students.
  - International students to remain part of the net migration statistics.

- Rules of work while studying and dependant rights to remain unchanged.
- Post-study leave period to be extended to six months for master's students, but to be reviewed more thoroughly.
- The 12 months 'leave to remain' after PhD completion to be incorporated into the original visa duration, replacing the existing scheme that allows the same rights but has to be applied for with associated visa costs.

The University College London (UCL) Institute of Education (IoE) published *The UK in the global student market: second place for how much longer?*.

- The number of international students entering the UK rose by less than 3% from 2011 to 2015, compared to almost 30% entering the USA.
  - In 2016, Australia surpassed the UK in the number of students it attracted from outside Europe, and numbers are growing at 12–14% a year, while the UK is standing still.
  - It is possible that Australia will have passed the UK in total international student numbers (both Europe and rest of world together) when data for 2018 is assessed.
  - Canada remains further behind the UK but its international student intake is increasing at a faster rate; it, too, might eventually catch and pass the UK.
- In 2015, almost a third of the UK's international students were from the EU.
  - After Brexit stops free movement and European students have to pay full international fees, rather than UK fees supported by tuition loans *[or no tuition fees if they're studying in Scotland]*, the number of EU students entering the UK is likely to decline sharply.
  - Germany, the Netherlands and France are the EU countries most likely to see increased international student numbers in the future if the number of EU students entering the UK drops.

Universities UK International (UUKi) published *Five little-known facts about international student mobility to the UK*, analysing some of the significant shifts in international student enrolments in UK HE.

- Declines in overall international student numbers (EU and non-EU) were first reported in 2012/13 – the first reduction in almost 30 years.
  - This was mainly attributed to the fall in undergraduate EU entrants whose tuition fees trebled in that year.
  - In 2014/15 fewer non-EU students started studying in the UK, and non-EU enrolments continued to stagnate in the following years, in stark contrast to high growth in Australia, Canada, Germany, New Zealand and the US.
  - EU student numbers, however, continued to recover and in 2016/17 they surpassed the levels recorded in 2011/12.
- The five 'little-known facts':
  - More than half of the UK's international students are in their first year of study in the UK, compared with 32% in the US and 36% in Germany, resulting in a high marketing effort being required.
  - The UK hosts the second largest population of postgraduate students in the OECD after the US; however, the longer duration of postgraduate degrees means 32% of the US postgraduate population is in their first year of study, compared with 68% in the UK.
  - There is a strong positive correlation between post-study work options and growth in international student enrolments: the UK's options are more limited and less clearly presented than those of its competitors.
  - Future demand for postgraduate researchers in the UK is uncertain; communicating the UK's commitment to research and international engagement is key to attracting prospective international researchers and their funders.
  - Over 60% of international students on UK programmes are studying overseas, with UK universities having been innovators in creating new modes of study for HE through transnational education (TNE) programmes.
- There is evidence that many countries that have been traditional sources of overseas scholarship-funded students are now placing greater emphasis on the development of their own institutions, offering an opportunity for the UK given its leading position as a provider of TNE.

- Greater support for TNE delivery overseas is likely to have a positive impact on the future positioning of UK HE with overseas governments and funding agencies, which are likely to seek reputable partners for their higher education institutions (HEIs).

The Quality Assurance Agency for Higher Education (QAA) published *Country Report: Hong Kong*, its latest review of UK TNE, including reports on nine partnerships and four case studies.

- UK degree-awarding bodies are the main providers of TNE in Hong Kong – over 70% of all non-local programmes lead to a UK degree.
  - 27,390 students in Hong Kong are studying for a UK award, down 10% since 2012, mainly due to significant changes in local demographics (under 24s have fallen from 41.7% to 22.9% of total population since 1986).
- Hong Kong is the fourth largest host country for UK TNE (after Malaysia, Singapore and China).
- Most local partners in Hong Kong have strong vocational orientation and business links.
- Overall, UK TNE in Hong Kong is relevant to the local market and employment needs, and meets the expectations of the UK Quality Code.

HIGHER EDUCATION: WIDENING PARTICIPATION

HEPI published *Targeted Tuition Fees: Is means-testing the answer?*.

- It considers the phenomenon of targeted free tuition (TFT), whereby governments effectively combine fees and student aid policies, so that lower-income students are not charged tuition fees.
  - The movement began in Chile in 2013, spread across North America and has now appeared in Italy, Japan and South Africa; it also existed in the UK between 1998 and 2006.
- Currently, TFT programmes are exclusively being used by countries trying to reduce fee burdens.
  - However, TFT can also be used to permit the introduction of fees for students from wealthier backgrounds without creating financial barriers for lower-income students.

Policy Connect and the UK All-Party Parliamentary Group for Assistive Technology published *Accessible Virtual Learning Environments: Making the most of the new regulations* to improve equal access to online content in FE and HE.

- The Public Sector Bodies (Websites and Mobile Applications) Accessibility Regulations 2018 are now law in the UK; the new regulations mean every university and FE college must have a strategy for making blended learning inclusive.
- Disabled students frequently struggle with inaccessible course content and have to rely on support staff; blended learning creates more flexible and creative approaches to education, including accessible design of online content via e.g. smartphones, Braille display, Kindle or as an audio file.
- Lecturers often lack the digital skills required to make accessible documents; demands on staff time and a lack of priority in staff training programmes contribute to this skills gap.
- The report calls for funding to train key staff who can then provide training and guidance within their organisation.

The Centre for Excellence for Looked After Children in Scotland (CELCIS) published *Going to University from Care*, the first in a new series of briefings that look *Beyond the Headlines*.

- There are more care experienced students at university than some headline figures suggest.
  - Routes to university are often indirect and achievements in FE can be overlooked.
  - There is a considerable 'school leaving age gap' between care experienced young people and their peers.
  - Using only school leaver destinations data does not present the full picture of care experienced people who go on to study at college or university later in their life.
- Care experienced young people face personal and financial barriers to fulfilling their potential, and stigma can be hugely detrimental to their experiences and aspirations.
  - It is important to be robust in how information and data is used to represent their diverse experiences and challenge negative stereotypes.
  - It is important for young people to declare their care experience.

GRADUATES & GRADUATE EMPLOYMENT

The Association of Graduate Careers Advisory Services (AGCAS) published *First-year student career readiness survey*, results of a survey of 2,008 students who started studies in 2017/18 at 18 universities in Great Britain.

- The levels of career readiness for UK students aged under 20 differed according to demographic background:
  - Female students were marginally more confident in goal-setting but less confident in identifying relevant employers and attending an interview.
  - Male students scored higher in most aspects of employability skills, with the exception of business culture awareness.
  - Students educated at private schools were much more confident in having appropriate conversations with professionals, delivering a presentation at a job interview and understanding the organisational culture of employers.
- All students relied on a wide range of people for advice about university course choice, but significantly more female students relied on parents/guardians or their spouse/partner.
  - Overall, white students had more social capital than students from other ethnic backgrounds; Asian students relied more heavily on tutors/teachers or careers advisers.
- Students from private schools participated more in community activities and benefited more from a wide range of people for advice about university course choice.
  - A third of first-generation students and a quarter of students from state schools had not been involved in any activities in their local community before going to university.
- A significantly higher proportion of students educated at private schools than state schools reported that careers support had been provided at school, widening the social capital gap.
- 71.6% of young students had done part-time work, 54% volunteering and 49.8% work experience/work shadowing in the last two years.
  - More female students had participated in career-related activities with the biggest difference lying in volunteering.
  - 75% of white students had done part-time work compared with 56% of Asian students.
  - A lower proportion of first-generation students and those from state schools had volunteered or undertaken work experience/shadowing, but they were more likely to have worked part time.
- Work experience and networking with professionals while at university were perceived as important, but participation in these activities was much lower than for most other activities.
  - Accessing careers service websites and attending careers fairs were perceived as less important, but participation was much higher.

The International Labour Office – the secretariat of the International Labour Organization (ILO) – published *Interns and outcomes: Just how effective are internships as a bridge to stable employment?*.

- New and emerging forms of 'non-standard' employment are beginning to dominate young people's early labour market experiences; internships are increasingly becoming an integral part of the school-to-work transition.
  - Little is known as to their effectiveness in providing a bridge to longer-term employment and/or employability.
- Key findings:
  - Internships, under certain conditions, can be associated with better post-internship labour market outcomes, contributing to integration into the labour market.
  - Not all internships enhance subsequent employment prospects and, on average, the effect of internships on the medium-term integration of young people into work appears to be modest.
  - There is overwhelming evidence that paid internships are associated with better post-internship labour market outcomes in the short term than unpaid ones.
  - More structured and formalised internships are associated with better post-programme outcomes; key factors include: payment of a stipend; a mentor; health insurance; similar working conditions to regular employees; and a sufficient duration to allow significant competencies to be acquired.

- Some features, like internship certification and undertaking an internship in a big firm, improve short-term employability and influence medium-term employment prospects.

Prospects Luminate published *What do graduates do? 2017/18*, an in-depth look at the Higher Education Statistics Agency's Destinations of Leavers from Higher Education survey.

- Overall, the graduate labour market appears to have remained robust despite the economic and political shocks of 2016.
  - After a sharp decline in the number of degrees awarded in 2015, there were 316,690 UK-domiciled first-degree graduates in 2016, up 1.4%.
  - The employment rate fell, but because of the slight rise in graduate numbers almost exactly the same number of graduates were in work compared with last year.
  - Unemployment also fell, due to a sharp rise in the proportion of graduates going on to further study – an apparent consequence of the success of the postgraduate loans scheme.
- 71.4% of employed graduates were in professional-level positions.
  - There were particularly large rises in the number entering nursing, graphic design, marketing, art, sports, cinematography and photography, finance and accounting, and coding and software development.
  - There were large falls in primary and nursery education, medicine, web design and civil engineering, all of which are suffering recruitment difficulties.
  - A fall in engineering employment is attributed to both a scaling back in recruitment for hard-to-fill positions and an increase in the number of apprentices being employed; however, most engineering graduates go into engineering roles and enjoy some of the best starting salaries.
- Self-employment increased to 5.2%, and was particularly important in the creative, computing and specialist education sectors.
- Brexit could require some serious adjustments to the business models of international organisations that employ a lot of UK graduates; at the same time, slowdowns in employment growth and reduced business confidence could render the next two years less favourable to graduate employment.
  - However, the long-term trends suggest that any future setbacks will be less severe for graduates.

The University of Leicester published *The employment trajectories of Science Technology Engineering and Mathematics graduates*, a study undertaken with the University of Warwick, funded by the Nuffield Foundation.

- Only a minority of STEM graduates enter high-skilled (HS) STEM occupations, even in shortage areas.
  - There are large numbers of STEM graduates who could potentially work in HS STEM roles, many with degrees in 'shortage' areas or related disciplines.
  - Simply increasing the number of students in the 'STEM pipeline' is unlikely to be an efficient way of providing employers with the graduate employees they want.
  - This is particularly the case in some subjects, such as biological sciences, that provide a very small proportion of the HS STEM workforce.
- The three key STEM shortage occupations (science, engineering and ICT professionals) attract only a minority of STEM graduates; the highest recruiting occupational groups are teaching and functional management.
- A substantial proportion of STEM graduates move out of HS STEM roles as their careers progress but few older workers move into HS STEM positions.
- The majority of HS STEM workers are non-graduates – the emphasis on participation in HE in recent decades may be overshadowing other routes into HS STEM jobs such as apprenticeships.
- Particular groups of STEM graduates – especially biological science graduates and those graduating from post-1992 institutions – are currently under-represented in the HS STEM workforce and could be a valuable source of potential employees if targeted effectively.
- There is little variation between the immediate and longer-term occupational destinations of STEM and non-STEM graduates in terms of graduate-level employment.
  - STEM employers are competing for workers in a context in which most graduates are able to find high-status, professional-level work.
  - STEM graduates have little advantage over non-STEM graduates in terms of securing graduate-level employment and most STEM graduates never work in HS STEM jobs.

The report concludes that the graduate STEM workforce is currently disproportionately recruited from traditional-age male graduates from high status institutions, with certain subject specialisms. Problems with the 'supply' of STEM workers are more likely to be explained by the willingness of graduates to pursue careers in STEM fields and the recruitment practices of employers.

The Institute of Labor Economics (IZA) published *The Effects of Professor Gender on the Post-Graduation Outcomes of Female Students*, exploring the STEM gender gap based on data from the careers of US Air Force Academy students.

- Women achieve around 50% of STEM bachelor's degrees, however over 70% of scientists and engineers are men.
- The effects of being assigned female maths and science professors on occupation and postgraduate education are examined.
  - For high-ability female students, being assigned a female professor leads to substantial increases in the probability of working in a STEM occupation and the probability of receiving a STEM master's degree within six years of graduation.
- Actively recruiting more female maths and science professors could have long-lasting effects on the career paths of women, especially those of high ability.
  - Gender-based teaching styles may affect student academic performance.
  - Post-graduation effects are consistent with the argument that female professors serve as lifelong role models.
  - Interventions aimed at encouraging female professors to interact and mentor their female students could, over time, substantially narrow the STEM gender gap.

The UCL IoE published *Elite universities, fields of study and top salaries: Which degree will make you rich?*.

- It describes the results of research into the degrees taken by people born in England and Wales in a single week in 1970 who were in the top 5% of earners at age 42.
- After taking into account a wide range of factors, including school-level educational attainment, childhood cognitive scores and social background, there were clear differences in the advantage gained from degrees in different subjects and from different institutions.
- Degrees in law, economics and management (LEM) were the most likely to lead to top salaries.
  - A LEM degree from an elite university was the most rewarding of all, with graduates having a 6.5 times greater chance of joining the top 5% of earners compared to non-graduates.
  - Those who took LEM subjects at a non-elite university were 4.5 times more likely to become a top earner than those without a degree.
- Those who studied STEM subjects at both elite and non-elite universities had three times the odds, and those who took a degree in other social science, arts and humanities (OSSAH) at an elite university were 2.6 times more likely to be top earners at age 42.
- OSSAH degrees from non-elite universities were the least lucrative.
- Women had a third of the chance of gaining a top salary compared to men, and made up 24% of the top 5% of earners.
- Although only 6% had a private education, they made up a quarter of the highest earners at 42.

The findings suggest that promoting access to the most lucrative fields of study may have more potential to widen access to high salaried jobs than promoting access to elite institutions.

CESifo published *Labor-Market Returns to Higher Vocational Schooling*, examining the returns to vocational master's degrees established in 2002 in Finland.

- The programmes were introduced in a three-year government trial, with 20 polytechnics allowed to run six different programmes, with a total enrolment of 300 students per year.
  - During the initial trial period, there were only programmes in business and administration, social welfare and health care, and technology and trades – all areas of rapid transformation that need lifelong learning; other programmes were added subsequently.
  - The trial was seen as successful, and the programmes have expanded substantially – around 4,300 students enrolled in 2016.

- The programmes are designed for completion in two to three years of part-time study, with contact days, independent work and online learning combined with work; the associated thesis is often a project closely linked to the current employer's needs.

- Attendance is associated with higher earnings of 8% or more, five to six years after entry.
  - Earnings gains are similar by gender and age, but are marginally higher for health programmes than for business or technology and trades programmes.

The ONS published *Analysis of the jobs and earnings of young non-graduates working in the UK* in 2017, drawing comparisons with graduates' jobs and earnings.

- 78% of non-graduates aged 22–29 were employed, compared with 90% of graduates of the same age.
  - Non-graduates were more likely to be 'inactive' – not available or looking for work – mostly because they were long-term sick, or looking after the family or home.

- 12% were working in a graduate job – a role where the tasks typically require knowledge and skills gained through HE – compared with 54% of graduates.
  - The graduate jobs most commonly taken by non-graduates were in sales, HR and retail and wholesale management, where it may be easier to 'work your way up' without formal qualifications.
  - Apprenticeships are also more established in retail and sales, enabling on-the-job training for school leavers.

- Overall, 61% worked in four job types: elementary (e.g. cleaner, security guard); skilled trade (e.g. plumbing); care; sales and customer services; in contrast, 58% of graduates worked in professional or associate professional jobs.

London Economics published *Estimating the returns to part-time undergraduate degrees: Final Report for The Open University*.

- The net graduate premium achieved by a typical English-domiciled student completing a part-time undergraduate degree at The Open University, with A Levels as their highest level of prior attainment, is £52k for men and £34k for women.
  - The premium for a degree holder with five or more GCSEs as their highest level of attainment is £93k for men and £49k for women.

HIGHER EDUCATION: TEACHING, RESEARCH & INSTITUTIONS

Universities UK (UUK) published *Patterns and trends in UK higher education 2018*, presenting a comprehensive range of data and analysis on the changing size and shape of UK HE over the last ten years.

- Demand for university places from 18-year-olds has increased, with those from less advantaged backgrounds 49% more likely to apply than a decade ago.
  - Northern Ireland has the highest application rates (47.5%) and disadvantaged application rates (25%) of the four nations.

- More than 400k international students came to study in the UK – 19% of all students.

- Only 2.8% of graduates were unemployed in 2017, compared to 5.3% of those without a degree.
  - In 2017, the average salary for graduates in the UK was £33k, compared to £23k for non-graduates.

- International staff made up 20% of university staff and 30% of academic staff in 2017, and are critical for some subjects such as engineering where they make up 43%.

- The total income of UK universities was £35.7b, only half of which came from tuition fees.

Most of the datasets are not broken down by nation.

UUKi published *Higher Education 2018: International Facts and Figures*.

- This snapshot of the international dimensions of UK HE provides an overview of:
  - International students in the UK – where they come from, what level they study at and which subjects
  - International students who study for UK degrees outside the UK

- The UK sector's provision for students who want to study outside the UK on outward student mobility schemes
- The international staff choosing to live and work in the UK – where they come from and what they do
- The collaborations, funding and partnerships from across the world that benefit research
- UK HE engagement across the world by region.

The QAA published *Student Engagement in Quality Assurance and Enhancement*, a Briefing exploring the approaches taken across the UK.

- Student engagement is about ensuring that students are involved in how the standards and quality of HE programmes are set, maintained and enhanced.
  - This can happen at programme level, institutional level, or across the quality assurance system.
- Some principles are shared across the UK, for example the way key elements of engagement are listed as core and common practices in the UK Quality Code.
- Student engagement is embedded in different ways in the four UK nations, partly due to different regulatory needs.
  - Northern Ireland and England have the same or similar approach, however Northern Ireland's quality review arrangements are under review and may not align with England in future.

England's Office for Students (OfS) published *Evaluation of the National Teaching Fellowship Scheme* (NTFS), by Sheffield Hallam University.

- The NTFS was launched in 2000 by the Higher Education Funding Council for England (HEFCE) with contributions from the Higher Education Funding Council for Wales (HEFCW) and the Northern Ireland Department for the Economy (DfE).
- It is a nomination-based scheme for individual excellence, and celebrates those who have made an outstanding impact on student outcomes and the teaching profession in HE.
  - The NTFS is perceived to be qualitatively different to other awards, based on sustained sector-wide impact recognised by peers, rather than a criterion-referenced award attainable by anyone achieving a pre-set benchmark.
- Universities have on average a 27.5% success rate of obtaining NTFS awards, and HE colleges (including specialist institutions) have a success rate of 26%; FE institutions have a success rate of just 1%.
- The NTFS was valued by those institutions that contributed to the evaluation, and participating institutions would recommend the scheme to non-participants.
  - The survey and case studies provide evidence of positive benefits to individuals in receipt of an award, and survey responses commended it as a national measure of teaching excellence in a competitive market.
  - Eligible non-participating institutions said they would seek to engage with the NTFS in future.
- Respondents noted that the NTFS had played a part in enhancing the status of teaching and learning within a changing policy context, in line with the original aims of the scheme.
- The NTFS retains value as an exemplar award for staff, providing a career ladder and potentially providing the sector with new ideas for innovation drawn from the exceptional work of NTFS Fellows.
  - However, some institutions need to raise their awareness of NTFS winners and be more instrumental in how they are used to directly enhance the student experience.
  - Institutions need to consider carefully the return on NTFS investment – the high level of support currently provided is a cost to institutions.
- Overall, the NTFS remains valued and should be continued in some way, albeit reformed so that the wider UK sector feels the impact of NTFS' work.
  - The scheme should be administered more effectively and transparently so that all parts of the sector can experience a sense of ownership.

HEPI published *Cracking the code: A practical guide for university free speech policies*, suggesting that ensuring freedom of speech on campuses 'preserves the essence of higher education'.

- Mandatory codes of practice protect freedom of speech in universities and colleges in England and Wales but not in Northern Ireland or Scotland.
  - Universities in Northern Ireland are not obligated to have a code of practice, and are not bound to implement the Prevent duty; researchers were unable to find any policies on freedom of speech from institutions in Northern Ireland.
  - Scottish, English and Welsh HEIs are required to have systems to assess and mitigate risks around external speakers and events on campuses.
  - Some Scottish universities have policies on external speakers and events to cover their obligations under the Prevent duty.

Advance HE's Leadership Foundation for HE published *Let's talk Value; How Universities Create Value for Students, Staff and Society* *[an email address is required to access the full report]*.

- The debate about the value of universities should go beyond contact hours or research grants won, and should be more richly informed.
- Universities and those who influence the sector can develop significantly more effective ways to articulate and report on the outcomes and value they create.
  - The paper calls for action to develop ways of measuring and articulating the broader outcomes of university activities and the value they create.

WORKFORCE ISSUES

Advance HE's Equality Challenge Unit published *Research Insight – The gender pay gap in English higher education* and *Actions to mitigate the gender pay gap in English higher education* *[login is required to access the full report]*.

- Public pay gap statements from 122 English HEIs were examined.
  - The vast majority of HEIs believe that the overrepresentation of males on senior contract levels is one of the key factors influencing their gender pay gap.
  - Large HEIs were significantly more likely to cite 'vertical occupational segregation' as a reason – i.e. the clustering of men at the top and women at the bottom of occupational hierarchies.
- 88 gender equality initiatives were identified to mitigate the pay gap.
  - The actions mentioned most frequently involved flexible working options, leadership training and mentoring and unconscious bias training for staff.
  - On the whole, the types of actions implemented tended to be unrelated to their total number of staff, mission group (e.g. membership of the Russell Group, University Alliance or MillionPlus) or Athena SWAN participation (Advance HE's Charter recognising the advancement of gender equality).

The Workplace

APPRENTICESHIPS & TRAINEESHIPS

The Centre for Vocational Education Research (CVER) published *Do Apprenticeships Pay? Evidence for England*.

- Administrative data is used to track students through their schooling and into the labour market and the payoff to apprenticeships for young people is analysed in the short term (when they are around 23 years old) and after a few years in the labour market (around 28 years old).
- Overall, apprenticeships generate a positive return in the labour market for young people.
  - This is not driven purely by selection; increasing opportunities for young people to access apprenticeships seems to be a worthwhile policy, especially since these returns are experienced by individuals who leave school with low to medium qualifications.
- However, there is huge variability in the returns to apprenticeships, largely driven by the sectors in which people specialise, and is a particularly important source of the gender earnings gap for those educated up to Level 3 (i.e. upper secondary education).

A practical implication is that careers information for students should pay careful attention to the type of apprenticeships available rather than to encourage students to take any type of apprenticeship.

The CVER published *Labour Market Outcomes of Older Versus Younger Apprentices: A Comparison of Earnings Differentials*.

- Despite the growth in the number of apprentices in England over the last decade, completing an apprenticeship is still associated with a significant increase in earnings among recent apprentices.
- The results consistently show that individuals who began their apprenticeship when aged 19–24 receive a larger increase in their daily earnings post-completion, relative to non-achievers, than individuals who began their apprenticeship when aged 25+.
  - For women apprentices at Advanced and Intermediate level, and for men at Intermediate level, older apprentices achieve lower differentials than younger apprentices within the same framework.
  - One possible reason is that older apprentices are more likely to already work for their training employer before starting their programme, and it is more likely therefore to be 'top-up' training.
- Male apprentices at Level 3 tend to be undertaking apprenticeships in frameworks that have lower earnings differentials on average, such as business administration.
- From a national point of view, it is important that the growth in apprentice numbers does not continue to be dominated by older apprentices in such lower value frameworks, if apprenticeships are to provide the high value-added training required to raise technical skill levels in the economy.

The Institution of Mechanical Engineers (IMechE) published *Never Too Late: Profiling Female Engineering Apprentices* in England.

- A range of features were associated with female engineering apprentices:
  - Above average academic achievement and a broad range of academic interests including STEM subjects.
  - They prefer hands-on study, have typically had paid employment pre-18, and are highly debt-averse; they don't see a degree as a prerequisite for a successful career.
  - They are less likely than male engineering apprentices to be inspired by 'tinkering' and more likely to be inspired by creative crafts and arts-related activities.
  - Family history can have a significant influence on their choice of career; careers provision in schools was particularly poor in meeting their needs and most apprentices had based their decision on their own research.
  - They are more likely to come to engineering late and less likely to have always wanted to be an engineer.
- There may be a missed opportunity to target significant numbers of girls who, with a higher level of awareness and nurturing, might be attracted to engineering apprenticeships.
  - The window of opportunity remains open for longer than had been thought – up to and beyond the late stages of a school education.
  - Efforts focused on primary and early secondary education should be complemented by career-oriented information programmes targeting later stages of schooling, emphasising messages likely to resonate with the values, attitudes and broad interests of female students.

The Young Women's Trust published *Equality at work? Positive action in gender-segregated apprenticeships*, with a focus on the construction, engineering and ICT sectors in England.

- In spite of confusion around the boundaries and legality of positive action, the majority of those participating favoured its use in apprenticeships and employment more generally.
  - However, it was only considered effective if used appropriately, robustly and knowledgeably.
- There is a lack of mainstream use of positive action in the workplace for reasons including fear of the best person not being recruited or of legal liability for 'reverse discrimination' and a belief that inclusive practice was more appropriate and effective.
  - Fear of 'getting it wrong' was linked to a lack of clarity and guidance around legislation and definitions of positive action.
- The most frequently referenced obstacle was the lack of resources for SMEs to undertake robust and effective positive action.
  - SMEs were seen to have very little awareness of positive action and were unlikely to see the potential consequences of gender disparity as a priority.

- The procurement process was considered to be the most effective means of engaging SMEs with positive action, but could only be used as a driver if larger organisations and the public sector lead by example.

- An holistic approach is needed to include adherence to wider good practice in equality and diversity and measures that promote work-life balance and flexibility for women with children.

- There were mixed views on job adverts encouraging or targeted at women; female role models were seen as vital, particularly within an education setting; and gendered mentoring and networking were seen as effective, although there were concerns about potentially closing down systemic knowledge.

- Section 159 of the Equality Act 2010 allows employers to choose someone from an under-represented group when faced with two candidates of equal merit, known as the 'tiebreak' principle.
  - Very few participants understood the detail or how this would apply in relation to their own sector or remit.

- Overall, it was felt there was a clear need for guidance aimed at employers, although this should not encourage a standardised approach that might be seen as tokenistic.

Cedefop published *Apprenticeship schemes in European countries: A cross-nation overview*, looking at apprenticeship training and the changes that apprenticeships are undergoing.

- 30 relevant schemes were identified across 24 of the EU member states plus Iceland and Norway, two of which are not linked to the national qualifications frameworks.
  - Nine are umbrella work-based learning schemes, or those composed of sub-schemes differentiated by level of education, governance, occupation and type of qualification.

- The schemes are fundamentally different in their strategic function and purpose, resulting in differences in the way they are defined and located in national education and training systems.
  - Group A: Apprenticeship as an education and training system – aims to develop full competence and capability in an occupation or trade and has distinct occupational qualifications, making it distinct from school-based VET, even if the latter has compulsory work placements.
  - Group B: Apprenticeship as a type of VET delivery within the wider VET system – aims to provide diversity and bring people into the labour market through qualifications that are not specifically associated with apprenticeships (this is the most popular group).
  - Group C: Apprenticeship as a hybrid system – aims to offer young people a way of achieving a qualification by bringing them into the labour market, and is strongly linked with social inclusion and employment.

- The multitude of national reforms suggests that most countries are still trying to fit apprenticeships to existing characteristics of education and training as well as industrial relations.
  - Some – such as England, with its Trailblazers – are moving from Group B to Group A.
  - Others are shifting within Group B, from specific programmes to partial pathways, and combining school-based and apprenticeship-type delivery, as in the Netherlands.

- This raises questions about what apprenticeships are, what they stand for and their value on the market.
  - In principle, they are deemed the highest valuable type of VET delivery; in practice, by dissociating qualifications from apprenticeships, such assessment cannot be acknowledged or fully reached and made a commodity in the market.
  - The result is that apprenticeships may not be valued beyond the company that provided the placement, with losses for all parties involved.

- It seems essential to rebuild the broken link between apprenticeship as a valuable type of VET delivery and the qualification it leads to.
  - To make apprenticeship a trademark with a transparent recognised value on the labour market, qualifications associated with it should signal the way they have been achieved and guarantee quality for all, irrespective of the training company.
  - This also implies that apprenticeship learning outcomes, a significant proportion of which are to be achieved in the company, should be focused on resilient competences, rather than half-life knowledge and short-life skills.

Learning & Work Institute (L&W) published *Supporting People with English Language Needs to Access Apprenticeships: A Guide for Employers, and Providers of ESOL [English for Speakers of Other Languages] and Apprenticeships*, based on interviews with stakeholders.

- The guide was produced as part of a wider project for England's Department for Education to understand and address barriers to apprenticeships for those whose first language is not English.
  - It aims to raise awareness of the ways in which ESOL learners can benefit from and progress to an apprenticeship.
- A focus on meeting ESOL learners' needs in the workplace can benefit employers and training providers.
  - ESOL apprentices are often highly motivated and may have professional, technical and vocational skills from their employment or training overseas.
  - Considering such candidates may help employers recruit from a wider pool of applicants.
  - It can be an advantage to employ bi- or multilingual staff.

SKILLS POLICY

The Economic Statistics Centre of Excellence published *An Open and Data-driven Taxonomy of Skills Extracted from Online Job Adverts*, in association with the ONS, based on over 10,500 skills mentioned in 41m UK job adverts between 2012 and 2017.

- A skills taxonomy provides a consistent way of measuring skill shortages and can help workers and students learn more about the skills needed and their value.
  - Machine learning was used to hierarchically cluster the skills; the more frequently two skills appeared in the same advert, the more likely they ended up in the same branch of the taxonomy.
  - The final taxonomy has three layers: layer 1 – six clusters of broad skills; layer 2 – 35 sub-clusters; layer 3 – 143 clusters of specific skills.
  - It also captures links between skills, aggregated job titles, and salaries mentioned in the adverts.
- Data-driven skills taxonomy can contribute to more responsive and evidence-based policymaking.
  - Information on the demand for, and salaries associated with, particular skills, competences and knowledge areas can help policymakers prioritise investment in skill development.
  - These insights could inform policies for reskilling and supporting job transitions from occupations at risk of decline.

Hays published *Investing in the Skills of Tomorrow; Avoiding a Spiralling Skills Crisis* in partnership with Oxford Economics, rating 33 economies.

- The index is based on seven indicators: education flexibility, labour market participation, labour market flexibility, talent mismatch, overall wage pressure, wage pressure in high-skill industries, and wage pressure in high-skill occupations.
- Globally:
  - Economic growth is not translating into improved labour productivity or higher wages.
  - There is an increasing mismatch between the skills workers possess and those desired by employers, highlighted by a growing number of open job vacancies and a higher rate of long-term unemployment, with the largest rises coming from within Europe.
  - Labour productivity levels have 'flatlined' since the financial crisis; many economies are stuck in a low growth trap, where weak productivity growth has led to reduced investment in labour and capital, possibly the result of macroeconomic forces such as an ageing population and reduced investment in education and training.
  - Women remain less likely to participate in the labour market and less likely to find skilled employment.
- In the UK:
  - Firms are finding it increasingly hard to hire skilled staff but weak productivity growth is hampering wages.
  - A fall in the UK's long-term unemployment rate suggests skills mismatches are becoming less of a problem.
- Key skills in demand include those of data scientists, cyber security analysts, front-end developers, part-qualified accountants and building surveyors.
- Recommendations include:

- Ensuring readiness for technological disruption through training and education.
- Embracing diversity in all its forms, including because it makes business sense.
- Increasing investment in new technologies and infrastructure.

UUK published *Solving future skills challenges*, looking at the extent to which the post-18 education and funding system in England can meet the skills challenges posed by the Fourth Industrial Revolution, Brexit and an ageing population.

- In 2016, 440k new professional jobs were created, yet there were only 316,690 first-degree UK-based graduates, leaving a recruitment gap more than double that of 2015.
- 65% of children entering primary schools today will ultimately work in new jobs and functions that don't currently exist.
- Nearly 50% of the subject knowledge acquired during the first year of a four-year technical degree is outdated by the time students graduate.
- The greatest demand for skills over the next three to five years will be for people with higher-level skills where there is already a much higher employment rate.
- By 2030, it is estimated that there will be a UK talent deficit of between 600k to 1.2m workers in the financial and business sector, and technology, media and telecommunications sector.
- In the future:
  - Increasing demand for higher-level skills will be across a range of subjects, with humanities being as important as science and engineering, and across a range of levels, from sub-degree to postgraduate.
  - Subjects and skills will need to be combined and re-learnt throughout working life and the difference between academic and vocational qualifications, which is already blurred, will become less relevant, whereby a 'whole-skills' approach needs to be adopted.
  - Subject-specific skills will need to be underpinned by a range of transferable skills.
  - Work experience will be invaluable to developing learners who can apply their knowledge and skills to real-world problems and move easily between learning and working.
  - To succeed, learners will also need to think like employees, and employees will need to think like learners.

IZA published *Globalization, Structural Change and Innovation in Emerging Economies: The Impact on Employment and Skills*.

- The paper provides a critical overview of the key drivers that an emerging country may encounter in its attempts to move to a higher-income status, and the possible impact on employment and skills.
  - It includes technology transfer, labour-saving technological progress and skill-enhancing trade.
  - It explores the concept of skill-biased technological change – a shift in production technology that favours skilled over unskilled labour, by increasing its relative productivity and demand.
- Policymakers should be aware of the possible labour-saving and skill-biased nature of technological change and globalisation, and plan accordingly.
  - Labour market, education and training policies are crucial, able to maximise job creation, to overcome a possible skills shortages and to smooth out income inequality.
  - Capability building, structural change and technological upgrading should be considered as the most important drivers for successful growth, maximising job creation and minimising skill mismatch.
  - Education policies should focus on providing the necessary basic competences needed by the labour force to build proper and updated capabilities.
  - Policies should target advanced sectors and technologies.

IZA published *Geography of Skills and Global Inequality*, analysis of the factors underlying the evolution of the worldwide distribution of skills.

- Low access to education and sectoral misallocation of skills substantially impact income in poor countries.

- Assuming the continuation of recent education and migration policies, findings predict this will lead to stable disparities in the world distribution of skills, slow-growing urbanisation in developing countries and a rebound in income inequality.
  - The predictions are sensitive to future education costs and to internal mobility frictions.
- The geography of skills explains a significant portion of development disparities between countries and regions, particularly due to differences in the (national) average level of schooling.
  - Although migrants are positively selected in terms of their education level, international migration has little effect on the world distribution of skills and income.
- Policies targeting access to all levels of education, education quality and sustainable urban development are vital to reduce demographic pressures and global inequality in the long term.

SKILLS GAPS & SHORTAGES

England's Department for Education published the results of the 2017 biennial UK-wide *Employer Skills Survey* (ESS) drawing on responses from over 87k employers.

- Recruitment activity has continued to grow, with 20% of UK employers having vacancies at the time of the fieldwork, up 1ppt on 2015; employers reported a total of 1.007m vacancies, up 9%.
  - Northern Ireland had the large proportional increase in vacancies (18%); Wales was unchanged.
- 33% of vacancies were considered hard to fill, often due to a lack of the required skills, qualifications or experience among applicants.
  - The number of 'skill-shortage vacancies' has risen 8% to 226k, similar to the rise in vacancies overall.
  - England and Scotland had a similar prevalence as the UK as a whole; Wales has seen a 3ppt increase in density; Northern Ireland has seen density rise by 7ppt to 21%.
  - Only 6% of employers experienced such 'skill-shortage vacancies', but impacts included: increased workloads for other staff; loss of business or orders; delays in new product/service development; and difficulty introducing new working practices.
- Both technical and practical skills and people and personal skills were lacking among applicants.
  - On the technical side, there was a lack of digital skills, skills related to operational aspects of the role, and a lack of complex analytical skills.
  - The main people and personal skills lacking related to self-management skills, management and leadership, and sales and customer handling.
- 11% of vacancies were hard to fill for reasons other than skills issues, such as unattractive terms and conditions or remote location; this was an increase of 18% – far higher than the rise in vacancies overall.
  - 34% of the employers affected had attempted to recruit EU nationals, rising to 53% in the hotels and restaurants sector.
- 13% of employers reported skills gaps in their workforce (down from 17% in 2011), and around 1.27m staff lacking full proficiency (4.4% of the total UK workforce – down from 5.5% in 2011).
  - England has seen the density of skills gap fall, while in Wales (5.0%) and Scotland (4.7%) it has remained the same; in Northern Ireland it has increased slightly to 3.8% (+0.5ppt).
  - 59% of skills gaps were down to lack of skills in time management and prioritisation of tasks.
- 85% of employers with skills gaps had taken steps to address them, usually through increased training; 14% had looked to recruit EU nationals.
- The proportion of gaps caused by a lack of proficiency in advanced or specialist IT skills fell from over 27% in 2015 to 19% in 2017.
- 35% of employers had employees with higher skills and qualifications than were needed for their role (underutilisation), up 5ppt since 2015; 8.7% of the workforce was underutilised (+1.6ppt).
- 66% of employers had provided staff training in the past 12 months, for 62% of their staff – both figures in line with previous surveys; however the total number of training days had decreased from an average 6.8 days to 6.4 days.
- 9% of employers are regarded as 'high-performance working', adopting at least 14 of 21 high-performance working practices covered in the ESS – up from 8% in 2015.

This is just a brief overview of a 200+ page report. Separate country reports in the form of data tables and slide packs are also available for Northern Ireland, England, Scotland and Wales.

The Open University published its annual *Business Barometer July 2018*, investigating the extent and nature of the UK skills shortage, and its impact on organisations of all sizes *[an email address is required to access the full report]*.

- Data is collated from 950 senior business leaders in UK organisations, including 150 organisations in Northern Ireland.
- 62% admit there is a skills shortage in their workplace, and 61% report that their organisation has struggled as a result, either financially or in terms of resource.
  - 61% think that the skills shortage has worsened in the last 12 months, but with the 'Fourth Industrial Revolution' starting to take hold and the UK preparing to leave the EU, there is yet more upheaval and uncertainty on the horizon.
  - Shortages vary around the regions: 81% of employers in the North East say they currently have a skills shortage in their organisation, 74% in the South West, 70% in the North West, 71% in the East Midlands, 53% in the South East, 44% in the East of England.
- Over the last 12 months: 64% of employers have spent more on recruitment than in the past to find the right skills; 63% recruited at a lower level than intended; 56% increased the salary on offer; 51% left a position vacant; and 47% hired temporary staff.
  - Among SMEs, 54% say they are at a disadvantage because they can't afford to increase salaries, and 68% say that skilled workers move to larger organisations that are able to offer higher salaries.
  - Businesses in Northern Ireland are spending an estimated £162m on recruitment, training and temporary staff costs.
- 56% had issues with managerial roles and a further 17% with hiring qualified leaders; in London 72% struggled to hire managers, compared with 46% in Yorkshire.
- Management skills are the most lacking in job applicants (40%), followed by leadership skills (35%) and technical or operational skills (35%); 28% report a lack of IT skills and 23% industry-specific skills, while 20% report a lack of 'soft' skills.

Cardiff University published *Skills Trends at Work in Britain: First Findings from the Skills & Employment Survey 2017*, a study of 3,300 20–65 year-old workers in Great Britain, backed by ESRC funding.

- The evolution of job skills, the changing importance of postgraduate qualifications and gender gaps in job skills over the last 20 years are examined.
  - Skills trends are contrasted with faltering technical and organisational change.
- The growth of skills demand has slowed and even reversed in some domains since 2012.
  - Literacy and numeracy skills have declined in importance.
  - Graduate-level jobs have not expanded significantly.
  - Required workplace learning and training have continued to decline.
- Gender gaps in job skills have narrowed, and reversed in graduate-level jobs.
  - By 2017, a greater proportion of women than men worked in graduate-level jobs.
- Technical change has become gradually less skill-biased since 2001, while organisational change has become more skill-biased.

Other reports published as part of the series are Productivity in Britain: The Workers' Perspective *and* Fairness at Work in Britain*; three more reports are to be published in October 2018.*

The Edge Foundation published its second bulletin on *Skills Shortages in the UK Economy*.

- It collates key data from other surveys and studies *[including those covered by this* Digest*]*.
  - This edition focuses on the digital sector; the third will look at creative industries.
  - It also highlights data from TechUK – there are an estimated 600k tech vacancies in the UK, predicted to reach 1m by 2020.

City & Guilds Group and the Work Foundation published *Constructing the Future: How the skills needed for success in the workplace are changing*, about the construction industry.

- Almost 2m people work in the construction industry in the UK and it represents 8% of the UK's GDP.
  - It is highly fragmented and investment in skills and training is limited to regulatory requirements.
  - Only agriculture scores lower in terms of high-performance leadership and management.
  - Pre-Brexit access to cheap labour has curtailed the need to invest in new technologies or training.
- The Fourth Industrial Revolution presents challenges and opportunities for the sector.
  - Reskilling in preparation for the introduction of new technologies will require a culture change across management and the current workforce.
  - It will be able to reposition itself and address its image and gender issues, especially with young people.
  - Future cohorts of workers will need to be increasingly tech savvy.
  - New technologies will impact on traditional methods.
  - Training levies need to be used wisely to upskill the current workforce, making it fit for the future; they must be accessible to all business sizes across the industry.
- Major workforce and skills challenges will include:
  - Developing leadership and management skills and behaviours appropriate for a high-performing, collaborative and digitally-enabled industry.
  - Attracting more, and a wider range of, young people into the industry and ensuring they develop the skills required.
  - Continually developing the skills of the existing workforce, having appropriate incentives and provision to engage the smallest businesses and self-employed, and creating industry-wide arrangements for recognising bite-size learning achievement.
- Opportunities include:
  - Digital optimisation and wider technology, with the potential to offer significant improvements in operating efficiencies and productivity.
  - New materials.
  - Offsite construction.
- Representatives of the industry, training providers, educational technology experts, equipment providers and awarding organisations need to collaborate to ensure high-quality and relevant learning provision that:
  - builds leadership and management skills and behaviours appropriate for a more digital, high-performance and lean industry
  - develops changing technical and digital skills
  - enhances 'soft' transferable skills and knowledge with sustainability
  - develops knowledge and understanding for those entering from other sectors
  - fully utilises immersive and other emerging forms of learning
  - captures innovative skills recognition methods, including for bite-size learning that does not lead to a qualification.
- Careers materials and activities need to reflect the diversity of activities within, and changing nature of, the industry and the opportunities this is creating.
  - Far more opportunities are needed for young people to experience the industry, including via a digital platform.

The OECD published *Making skills transparent: Recognising vocational skills acquired through work-based learning*.

- It looks at how mechanisms that give formal recognition to vocational skills might be developed, describes the benefits of skill recognition and identifies the contexts in which those benefits are most likely to be realised.
- For the individual, skill recognition can shorten the path to a qualification, reducing costs for learners, which is particularly helpful to low-qualified adults and motivates workers to learn at work.
  - Qualifications can open access to regulated occupations and signal the skills of potential recruits to employers

- They can lead to higher wages as well as non-monetary benefits, like higher self-esteem.

- For employers, people benefiting from skill recognition often improve their productivity, can fill vacancies and may show increased loyalty.
  - Some of the benefits only fall on employers collectively, creating a pool of skilled and qualified workers.

- For society, qualifications make skills more transparent, which should make the labour market more efficient.
  - Skill recognition can encourage lifelong learning and increase efficiency in skills development and foster equity.

- Skill recognition has particularly high potential to add value in occupations where holding the right qualification is required or widely expected to obtain jobs or promotion.
  - It also has possible major benefits where there is untapped potential of partially skilled labour and where 'traditional' pathways to skills do not satisfy demand for skilled labour.

- Skill recognition may enable people – particularly experienced adults – to access an education or training programme.
  - Some countries are implementing initiatives to provide targeted support for such learners, for example in helping them develop skills for learning in an academic setting.

- Those who already have some skills may benefit from a shorter programme; several OECD countries have apprenticeship schemes that allow for reduced duration.
  - Schools or colleges may have inadequate incentives to recognise skills through course exemptions, e.g. if it reduced tuition income, and funding reform can help remove such barriers.

- Qualifications can be awarded without a training programme, either through direct access to the final qualifying exam – which some apprenticeship schemes offer – or by validation of learning outcomes.
  - Validation can be demanding, as it requires a person to identify, articulate and prove their skills.

Cedefop launched its *European Skills Index*, a composite indicator measuring countries' distance to an 'ideal' performance, based on the highest achieved by any country over a period of seven years.

- The index comprises three pillars – skills development, activation and matching – and draws on 15 individual indicators.

- The Czech Republic scored highest (75), followed by Finland, Sweden and Luxembourg (70+); together with Slovenia, Estonia and Denmark, these countries form the top 25% with results above 67.
  - Half of the countries, mainly from Western, Central and Eastern Europe, achieved scores in the range 45–62.
  - The remaining 25%, most from the South and Southeast, scored below 45.

- The UK scored 52 – 71 for skills activation, 54 for skills development and 30 for skills matching.
  - The low score for skills matching is caused by qualification mismatch rather than skills underutilisation, since the UK scores very well on the long-term unemployment indicator.

A briefing note explains the methodology and the headline findings.

Cedefop also announced its redesigned Skills Panorama website is now faster and easier to navigate.

CESifo published *Where Do You Come from, Where Do You Go? Assessing Skills Gaps and Labour Market Outcomes of Young Adults with Different Immigration Backgrounds*, analysing migrants' numeracy and literacy skills using Programme for International Student Assessment (PISA) and Programme for the International Assessment of Adult Competencies (PIAAC) data from 12 OECD countries.

- Differences in educational performance between first-generation immigrants, second-generation immigrants and natives matter – they can be a barrier to entering the labour market or an added value to entering the host country.
  - It is well-known that integration of immigrants in the labour market is key for a successful immigration policy.

- There is some convergence of the skills gap between second-generation immigrants and natives over time.

- The gap in literacy skills among first-generation immigrants and natives and among first-generation and second-generation immigrants has increased over time.
  - Demographics (gender and language) and family background contribute to the achievement gaps between different groups.
- School variables, such as autonomy and accountability factors, contribute to decreasing skills gaps of young adults with different immigrant backgrounds, in particular to numeracy gaps.
- Whether or not a young person comes from an immigrant background does not appear to affect the chances of studying in a STEM field or working in a STEM sector.

DIGITAL SKILLS

Nesta published *Which digital skills do you really need? Exploring employer demand for digital skills and occupation growth prospects*, based on a study of 41m job adverts.

- Previous Nesta research predicted that about 10% of workers are in occupations that are likely to grow as a share of the workforce and 20% will shrink, with the outlook uncertain for the remaining jobs.
  - Although unsettling, there is an opportunity for employees in uncertain or shrinking occupations to improve their prospects by investing in the right skills.
- The overall demand for digital skills does not tell us much about an occupation's growth prospects – the occupations that are least likely to grow have a higher digital intensity; however, there are noticeable differences between occupations when the type of digital skills required is factored in.
  - Skills related to using software for administrative purposes (e.g. payroll, accounting, supply chain or sales) are more prevalent in occupations that are predicted to decline.
  - Digital skills used in animation, engineering, education and computing are more prevalent in occupations that are predicted to grow.
  - Some occupations, such as teaching and catering, are likely to grow but are not currently digitally intensive; other occupations such as artists and telecoms engineers both require digital skills and are likely to grow.
  - There are digital skills in supply chain management, procurement and HR management that offer a relatively high salary, but are used primarily in occupations that are likely to shrink, making these skills potentially less important in years to come.

The Good Things Foundation published *The economic impact of Digital Inclusion in the UK*, the report of a research update by the Centre for Economics & Business Research (Cebr).

- It is estimated that there will still be 6.9m digitally excluded people in 2028.
- The benefits of supporting those people to become digitally skilled are estimated to be:
  - £1.1bn in time saved
  - £571m in earnings
  - £313m in increased employment
  - £1.1bn in cost savings due to online shopping
  - £400m in extra spend on recreational activities due to reduced social isolation
  - £141m in savings to the NHS due to use of its online services
  - £487m in savings to government due to more people using its online services
  - £1.5bn to companies due to a reduction in digital skills shortages.
- The investment required to support the skills development of 694k people a year over a ten-year period is estimated at £1.2bn.
  - Costs to individuals of at least having access to a smartphone are estimated at around £373m over ten years.
- The estimated Net Present Value for the ten-year investment is £21.9bn, implying a cost-benefit ratio of £15 for every £1 invested.

Jisc published *Digital experience insights survey 2018: findings from students in UK further and higher education*.

- 80% of HE students access lecture notes or recorded lectures at least weekly, while 60% of FE students use digital devices to make notes or recordings at least weekly.
- 94% of HE students own a laptop, compared with 64% of FE students – 80% overall use a smartphone for learning.
- 74% of FE and 88% of HE students rated their institution's digital provision as above average.
  - 72% of FE and 74% of HE students rated the quality of digital teaching and learning on their course as above average.
- 64% of FE and 73% of HE students agreed that they are more independent in their learning when digital is used.
- Only 50% of FE and 69% of HE students thought digital skills would be important for their chosen career.
  - Only 41% of students in HE and FE agreed that their course prepares them for the digital workplace.

Participating institutions included two from Northern Ireland, providing 665 of the 39,533 responses.

THE IMPACT OF AUTOMATION

The Institute for Public Policy Research (IPPR) Scotland published *Preparing for automation and ageing: A successful 21st century skills system in Northern Ireland and Scotland*.

- The skills system needs to be more coherent, flexible and adaptive, and based on collaboration not competition.
- 'Genuine lifelong learning will be central to our future success'.
  - A sustained focus on mid-career workers is particularly needed, with the principle of boosting career progression rates.
- Measures of success for young people include:
  - More young people retained in the skills system for longer.
  - More young people reaching genuinely positive destinations.
  - Fewer young people exiting the skills system with no, or low, qualifications.
- Measures of success for mid-career learners include:
  - More employees of all ages and stages in the skills system.
  - Increased career progression rates, particularly moving those in low paid into higher paid jobs.
  - New proactive skills programmes for those at risk of being displaced out of the labour market, providing progression to new careers.
  - Prior learning tracked and recognised across all parts of the system and throughout careers, with proactive career-long advice and guidance.
- Measures of success for employers include:
  - More employers investing in skills, with higher total investment, to boost productivity.
  - Increased levels of skills utilisation with more public funding contingent on employer action.
  - Greater investment in workers in SMEs and the gig economy, the low-skilled and self-employed.
- Measures of success for as a whole include:
  - Everyone engaged in meaningful learning, education and training throughout their careers, to maximise and realise their potential.
  - Widespread adoption and embedding of new technologies in the delivery of learning.
  - New responsive and modular curricula implemented and shared across the skills system.
  - Increased take-up of digital skills learning across the system and across all age groups.
  - 'Smart' information, advice and guidance that tracks learning and is tailored to individuals.
  - More equal access and outcomes for learners from all backgrounds and groups.

Policy Network published *Work in the Digital Age: Challenges of the Fourth Industrial Revolution*, a freely downloadable digital book.

- The enormous growth in the rate of IT computing power, storage capacity, connectedness and software applications is transforming employment, disrupting businesses and challenging labour regulations.
  - Businesses and governments grapple to contain the quasi-anarchic deployment of apps, data analytics and new forms of business and employment.
  - Employees scramble to be, or to stay, connected.
  - A proliferation of digital platforms is creating new kinds of good and poor quality jobs and businesses opportunities.
  - Positive and pessimistic scenarios abound of an increasingly fragmented, digitalised and flexible transformation of work across the globe; it is hoped this will boost economic growth, raise productivity levels and create an inclusive new vision of social integration for all in the digital age.
- Contributors examine a range of existing empirical examples to assess the policy challenges that arise from the transformation of work in the digital age.
  - They discuss the effects of labour disruption, including the rising levels of wealth inequality, low social mobility and increasing regional disparities within and between countries.
  - They consider how to unlock the vast economic potential of new technologies and the implications for policy innovations at firm, governmental and societal levels.
- Global perspectives are provided from Canada, the US and India, and country case studies from EU member states:
  - High digital density – Denmark, Finland, Sweden and the Netherlands
  - Medium digital density – Belgium, UK, Ireland, Austria, German, Spain and Portugal
  - Low digital density – France, Central/Eastern Europe, Slovenia, Latvia, Poland, Italy and Greece.

The OECD published *Job Creation and Local Economic Development 2018: Preparing for the Future of Work*, examining the impact of technological progress on regional and local labour markets.

- The geographic distribution of occupations at high risk of automation varies widely across regions and within countries.
  - Regions with a lower share of jobs at risk are those that have highly educated workers, a strong tradable services sector and are highly urbanised; regions with low productivity growth and high unemployment are more likely to be affected.
  - Policymakers face difficult trade-offs between fostering automation to increase productivity, and managing short- or medium-term employment losses from automation.
- To address the equality gap arising from this uneven impact, policymakers should consider both worker skills and firm upgrading.
  - Engaging employers in skills development is important to identify the skills required; policies that facilitate the transition to new economic activities with higher value added are also essential.
- Technological changes in the nature of work may also be contributing to increases in temporary and part-time work in most OECD countries.
  - Temporary work is more frequent among female, young or low-educated workers, while low-skilled workers are more likely to be in temporary work in rural areas.
- Some groups may find themselves increasingly excluded from the labour market or stuck in unemployment, low-wage jobs or non-standard work.
  - Policies to integrate disadvantaged groups will be critical for social cohesion and to address inequalities.
- Higher levels of productivity and higher rates of inclusion tend to go together, supported by locally tailored responses.
  - Labour market inclusion of vulnerable communities and disadvantaged groups can be strengthened by producing pre-employment skills and training, involving the target group in programme design and delivery and embedding these efforts in community-led development.

Part I contains three thematic chapters, focusing on the regional and local dimension of job automation, non-standard work and inclusion in labour markets. Part II comprises 36 country profiles.

The World Economic Forum published *The Future of Jobs Report 2018*, an update of its report published in 2016 and the first of a rolling five-year outlook.

- Findings represent the current understanding of HR leaders, mainly of large multinational employers, of factors informing their planning, hiring, training and investment decisions to 2022.
- The Fourth Industrial Revolution is creating a 'perfect storm' for labour markets around the world.
  - As workforce transformations accelerate, the window of opportunity for proactive management of change is closing fast; business, government and workers must plan and implement a new vision.
- Key findings include:
  - Four technological advances are set to dominate as positive drivers of business growth: high-speed mobile internet; artificial intelligence (AI); widespread adoption of big data analytics; and cloud technology.
  - Adoption of technology is expected to accelerate, including the internet of things, app- and web-enabled markets, machine learning and augmented and virtual reality; 85% expect to expand their adoption of big data analytics.
  - A broad range of recent robotics technologies are at or near commercialisation and attracting business investment interest.
  - Almost 50% expect to have modified their geographical base of operations by 2022; 74% of these say their foremost consideration is the availability of skilled local talent.
  - Almost 50% expect automation to lead to a reduction in full-time workforce; 38% expect to grow their workforce to new productivity-enhancing roles; over 25% expect to create new roles.
  - A significant shift is expected from work tasks conducted by humans to move to machines.
  - Emerging and growing jobs are expected to offset declining jobs, creating a net positive outlook.
  - There is growing skills instability, with the skills required to perform most jobs shifting significantly.
  - 54% of employees will require significant re- and upskilling; about 35% of these are expected to need extra training of up to six months, 10% of over a year.
  - Skills continuing to grow include: analytical thinking and innovation, active learning and learning strategies, technology design and programming.
  - Skills that will retain or increase their value include: creativity, originality, initiative, critical thinking, persuasion, negotiation, attention to detail, resilience, flexibility, complex problem solving, emotional intelligence, leadership, social influence and service orientation.
  - Companies highlight three strategies to manage skills gaps: hiring new permanent staff already possessing relevant skills, automating tasks completely, and retraining existing employees.
  - Employers aim to prioritise re- and upskilling on staff in high-value roles (54%), high-performing staff (41%), and staff most at risk of being affected by technology (33%) – i.e. those most in need of reskilling and upskilling are least likely to receive training.
- It provides information on the relative scale of trends by industry and geography, and on the expected time horizon for their impact to be felt on job functions, employment levels and skills.

The UK is one of 20 countries profiled in the report.

IZA published *Determinants of Automation Risk in the EU Labour Market: A Skills-Needs Approach*.

- Advancements in AI, robotics and new technologies, e.g. nanotechnologies, 3D printing and bioengineering, have heightened the concerns of workers at all skill levels.
  - Around 14% of EU adult workers face a very high risk of automation; the distribution of high 'automatability' is skewed towards routine jobs with low demand for core, digital and social skills.
  - The risk of job displacement by machines is higher among males and lower-skilled workers; it is prevalent in private sector jobs that fail to provide remedial training to employees.
- Professional and interpersonal services provision, such as health care or education, is relatively insulated from the risks of automation.
- With many advanced economies struggling with low productivity, the advancement of digitalisation and AI has significant promise for expanding efficiencies in a wide range of occupations and for new economic activities or emerging markets.
- Challenges for policymakers and stakeholders include:

- Ensuring those whose jobs will soon change from a 'semi-analogue to a digital world' can do so with as little disruption as possible; they will need to acquire relevant skills, be able to access an adequate welfare safety net, and exhibit a high degree of adaptability.
- Education systems and training and lifelong learning programmes will need to focus more heavily on key competences and soft skills.
- Building high-quality skills anticipation systems to prepare for emerging jobs and in-demand skills.
- Putting in place safeguards so that there is adequate trust, transparency and governance in the interpretation and use of AI-generated intelligence in policy decisions.
- Highlighting the need for stronger lifelong learning policies at EU level.

- The move towards a new desirable 'future of work', such as a post-work or full employment society instead of polarised labour markets, cannot rely only on more or better (re)skilling policies.
  - A range of innovation, competition and employment policies will have to be implemented, with forward-looking skills strategies to ensure equitable access to the profits and opportunities of digitalisation and automation.

TRAINING & DEVELOPMENT

The Centre for Education Economics published *Human capital and business stay-up: the relationship between education, skills and entrepreneurial success*, drawing on analysis of OECD PIAAC data.

- Existing research suggests that general human capital – such as the number of years of schooling – increases high-quality entrepreneurship.
  - Education in business and scientific subjects may be especially important, as it may result in better use of management practices.
  - Training programmes designed to improve business 'stay-up' *[survival]* rates or to improve performance more generally appear to have been successful to the extent they improve management skills specifically.
- PIAAC data indicate that, in comparison to general programmes, qualifications in business, social science or law are more strongly related to firm size; there are also positive – but weaker – relationships between firm size and training in STEM subjects.
- While some entrepreneurs will obtain the training they need in the context of full-time formal education, many will obtain it through relevant adult education and training.
- There are large differences in the take-up of job-related adult education and training among business owners in different countries, but there is also considerable capacity to increase training in all countries.
  - To stimulate investment in training, governments should: provide tax relief for small-business owners to invest in learning focused on improving their businesses; and identify more precisely what works through sponsoring randomised trials of promising training approaches.
  - While investment in human capital is not the only measure necessary to improve entrepreneurial success, it is likely to be a key factor.

IZA published *Flexible Work Organization and Employer Provided Training: Evidence from German Linked Employer-Employee Data*.

- It examines the hypothesis that flexible work organisation involves greater skill requirements and therefore an increased likelihood of receiving employer provided training.
- Findings include:
  - Employees are more likely to receive training when their jobs involve greater decision-making autonomy and task variety – two characteristics of flexible working.
  - The training associated with workplace flexibility is disproportionately oriented towards employees with a higher level of formal education.
  - There is some evidence of an age bias – those over the age of 55 are often excluded from the training needed for decision-making autonomy, however there is no age bias associated with the link between task variety and training.
  - There is no evidence that workplace flexibility widens the training gap between women and men.

The European Commission published *Early activation and employment promotion*, on the effectiveness of services designed to support jobseekers and remove barriers to employment.

- Services in 11 European countries including the UK were examined, using academic articles as evidence.
  - Services offer intensive support, including counselling at the start of an unemployment period, and various training programmes.
- Findings include:
  - Personalised intensive job counselling is a highly effective way of getting jobseekers back into work; it is generally effective in reducing unemployment in the short term, particularly among high-skilled workers.
  - The evidence for the effectiveness of training programmes and measures aimed at those who are affected by 'group dismissals' (redundancies) are inconclusive.

OLDER WORKERS & ADULT LEARNING

The House of Commons Women & Equalities Committee published *Older people and employment* following an enquiry.

- The talents of more than 1m people aged 50+ who want to work are being wasted because of discrimination, bias and outdated employment practices.
- Recommendations for government, employers and recruitment firms include:
  - Promoting access to mid-life career reviews should form an important part of a proposed mentoring scheme for employers.
  - The Department for Business, Energy & Industrial Strategy should develop a national skills strategy with a focus on lifelong learning; it must challenge assumptions that certain forms of training are only for young people, and look at ways to make access to training and skills development a truly lifelong opportunity.
  - Thinking ahead: Exploring support provided by employers to help staff plan for their future.

The Institute for Employment Studies (IES) published *Thinking Ahead: Exploring support provided by employers to help staff plan for their future* on behalf of the Centre for Ageing Better and the Calouste Gulbenkian Foundation, examining what large employers are doing to support employees from mid-life to retirement.

- Researchers examined what support employers are delivering and why, via qualitative research with 25 large employers, five stakeholders and five training providers.
- Employers offered support in three main areas: finances, health and wellbeing, and careers and working life, with the first two areas being more commonly delivered than the third.
- Delivery methods included:
  - Information, awareness raising and education, plus skills development to help employees navigate transitions in some workplaces
  - Strengthening capability to support others, such as training employees to be career coaches or mental health first-aiders
  - Changes to employment policy and practice
  - Networks and peer support.
- Employers used the services of a range of organisations to deliver the support, including training providers and providers of health and wellbeing services.
- Employers sought outcomes from their interventions, including: increased take-up of learning/development opportunities; better employee engagement; higher staff retention; reduced staff absence rates and ill health; and increased productivity.
- Employers' reasons for interventions included:
  - The retention of (valued) skills – they were particularly motivated to retain staff whose skills and experience they had invested in, and to consider ways to transfer knowledge as employees approached retirement.
  - The changing skills and age profile of the workforce, plus changes to employees' caring responsibilities and to their health and fitness.

- Greater employer support could be encouraged by e.g. focusing on the benefits of interventions to improve the health and skills of their workforce, and increasing understanding about the links between longer working lives, health at work, productivity, engagement and motivation, and ability to (re)train.

England's Department for Education published *Adult Participation in Learning Survey 2017*, of 5,000 adults in Great Britain, undertaken by L&W.

- In terms of participation:
  - Women, people from higher social grades, those from black, Asian and minority ethnic backgrounds and those closer to the labour market are more likely to be participating in learning.
  - Those who left full-time education at 16 or under, those with higher levels of disadvantage and those who live in areas that have the highest levels of multiple deprivation are least likely to be participating.
  - Each age group has a significantly higher participation rate than the next oldest group, with one exception: the 25–34 group have slightly lower rates than the 35–44 group.
- 75% of learners took up their main learning for work or career-related reasons, and 24% for leisure or personal interest.
  - Those aged 65+ and the retired are more likely to be motivated to learn for leisure or personal reasons.
- 55% participate in work-related learning and 41% independently; 34% learn in a formal educational establishment and 6% in a community or voluntary organisation.
- 67% of people's main learning leads to a qualification; more than nine out of ten learners aged 17–24 say their learning will result in a qualification.
- 29% of adults have their learning paid for by their employer; 22% pay the fee directly; 22% don't pay any fees; and 8% take out a loan.
- Work and time pressures are the most frequently cited barriers; among those who haven't been in learning for at least three years, feeling too old or lacking interest are more likely to be cited.
  - 38% say nothing is preventing them; a similar proportion say that nothing would make them more likely to take up learning.
- Given a choice of doing an apprenticeship, taking a vocational qualification at college or studying for a degree, most would choose the vocational qualification, followed by university.

England's Department for Education published *Decisions of adult learners*, a qualitative study involving interviews with 70 learners, and focus groups with 16 adults not in learning.

- For every learner, there exists a complex and unique relationship between their own perceptions of the personal benefits and personal costs of learning.
  - The trigger to participate in learning for each adult comes at a tipping point where personal benefits (or 'pros') outweigh personal costs (or 'cons').
  - This balance exists throughout an adult's learning journey, from before they consider learning through to the completion (or termination) of their course, and back again to considering learning.
  - An adult is tipped into or out of learning as the balance between costs and benefits changes.
- There were four stages of decision-making: pre-contemplation; contemplation; determination; and maintenance.
- There were 12 main influences, which varied by the stage of the decision for learning, and point towards opportunities to encourage adults into learning, including:
  - Interventions that raise the profile of learning in adults' consciousness and encourage them to consider it as a possibility
  - Communications that create a national culture in which adult learning is an ordinary part of life, where learning is something that adults cannot help but know about and come across
  - Peripheral communications, positioned in spaces adults will encounter as they go about their everyday lives, including channels they are likely to encounter at times of life disruption, such as GP practice or pension providers
  - Communication sources that ask questions and gently encourage self-reflection, rather than actively marketing adult education

- Information and support so potential learners understand how learning will alter their daily lives, including assurance that they can cope with the demands of learning.

England's Department for Education published *Barriers to learning for disadvantaged groups*, based on 37 in-depth interviews undertaken by L&W.

- Motivations for learning among adults are wide-ranging and influenced by personal, social and economic circumstances, and past experiences.
  - Extrinsic motivations particularly related to job progression; intrinsic motivations were connected with health and wellbeing, confidence, and the enjoyment of learning.
- All adults faced at least one of a range of situational, institutional and dispositional barriers, but the most disadvantaged learners were more likely to face the cumulative effect of multiple barriers.
  - These groups included: people in receipt of benefits; people with disabilities and health conditions; single parents; and participants whose first language is not English.
  - A set of practical and circumstantial factors often need to be in place to facilitate learning, connected with overcoming some of the barriers, such as cost, childcare, awareness of opportunities and employer support.
- Being motivated to learn, and learning being made easy or easier, was not always sufficient for learning to happen.
  - Learning was often triggered at the intersection between larger shifts – life changing and traumatic events such as bereavement – and smaller, pragmatic, situational experiences such as the discovery of an affordable course.
  - Learning was triggered at the point when it became apparent, sufficiently accessible and worth it.
- A range of avenues might support more adults to learn, including overcoming practical barriers such as cost and childcare, and strongly and inclusively conveying the value of learning.
  - Participants advocated awareness raising campaigns that highlight that learning is for everyone and making information available in public forums so that people encounter it as they go about their everyday life.

The OECD published *Numeracy practices and numeracy skills among adults*, a working paper drawing on the Survey of Adult Skills, a product of the PIAAC.

- Adults who feel proficient in numeracy perform numeracy tasks more often, and adults who engage in numeracy are more likely to maintain or improve their performance.
- However, the intensity of the use of numeracy in everyday life tends to decrease the further adults get from having completed their studies; this is accentuated if they work in an environment that doesn't involve numerical tasks.
- Adults who engage little in maths-related activities experience a decline in their skills, and are the least likely to have professional training that might update or improve their skills.
  - This can lead to them being more likely to be unemployed or earn lower wages, as well as potentially affecting their health and budgetary management.
- There is a need to encourage practice-based adult education in numeracy and the use of computer tools, and to put particular emphasis on the basic level of maths of the entire population at the end of secondary education.

Learning Link Scotland published *The professional learning of Scotland's adult educators* by the University of Stirling on behalf of the Strategic Forum for Adult Learning, based on a consultation in 2016–17.

- There are gaps in professional learning opportunities for adult educators in Scotland, including:
  - Qualifications at Scottish Credit & Qualifications Framework levels 7–8 in mental health, adult guidance, prisoner education, family learning, digital technologies and learner voice.
  - There is no adult learning or education degree-level qualification recognised by the General Teaching Council for Scotland.
  - Practitioners need more opportunities to network, collaborate, reflect on and share practice, including in engaging communities, and planning and evaluating learning with learners.

IZA published *The Wider Benefits of Adult Learning: Work-Related Training and Social Capital*, an evaluation based on data from the German Socio-Economic Panel.

- Work-related training represents the largest portion of adult education in OECD countries.
- In addition to having positive effects on the labour market, work-related training increases participation in civic, political and cultural activities.
  - Participating in local politics, volunteering in clubs, organisations and community services, artistic and musical activities, and attending classic and modern events show improvements after training.
  - Results are much stronger for females than for males.
- Civic/political participation increases most strongly for affluent individuals – those who are highly educated and working in better-paying occupations – thus limiting the expectation that participation in work-related training improves the civic/political participation of the disadvantaged.

EMPLOYMENT: RIGHTS, RESPONSIBILITIES & WAGES

The Resolution Foundation published *Opportunities Knocked? Exploring pay penalties among the UK's ethnic minorities*.

- Over the past 20 years ethnic minority groups have made substantial gains in relation to education and employment.
  - The share of ethnic minority men and women with degrees has overtaken that of white men and women.
  - Between 1996–97 and 2016–17 the employment rate among black and Pakistani/Bangladeshi men grew by over a quarter, while it doubled among Pakistani/Bangladeshi women.
- The average hourly pay gap between white men and Indian women was 14% in 2016–17; between white and black men it was 19%.
- This requires careful interpretation: the personal and work-related characteristics of different gender and ethnic groups in the UK vary widely, and many of these compositional differences will influence employment and pay, often pulling in different directions.
- Key findings:
  - In most instances, accounting for compositional factors substantially reduces raw pay gaps experienced in the labour market; however for most groups, penalties in excess of 5% remain.
  - Penalties are largest for black male graduates (17%) and for Pakistani/Bangladeshi non-graduate men (14%).
  - There is less variation in the size of penalties between graduates and non-graduates than there is between different ethnic groups themselves.
  - Penalties tend to be smaller among women than among men.
  - Penalties have remained stubborn for graduates but moved in different directions for non-graduates.

The CBI published *Front of Mind: Prioritising workplace health and wellbeing*, drawing on a survey of and interviews with UK businesses.

- Most firms say they are not taking action because they do not know what works and could not see the benefits for others that have invested.
- Three steps that UK firms leading the way are taking, and that other employers can learn from:
  - Prioritising health and wellbeing from the top, with senior leaders demonstrating commitment to the organisation's strategy, and line managers being given training to support their team.
  - Targeting action towards early interventions, by promoting free mobile health apps to enable staff to control their own health and wellbeing, and providing comprehensive private medical insurance.
  - Embedding good health and wellbeing by creating a culture that reinforces positive messages and prioritises health and wellbeing – working with external organisations to raise awareness; giving physical and mental health equal focus and resource; considering people's needs inside and outside the workplace; and giving people experiencing poor health the option to work flexibly.

***BMJ Open* published *Is manager support related to workplace productivity for people with depression: a secondary analysis of a cross-sectional survey from 15 countries*, by London School of Economics & Politics (LSE) researchers.**

- Employees who conceal their depression take more days off work than their openly unwell counterparts.

- Working in an environment where managers felt comfortable to offer help and support to the employee, rather than avoid them, was independently associated with less absenteeism.

The Carnegie UK Trust published *Measuring Good Work: The final report of the Measuring Job Quality Working Group* with the RSA Future Work Centre.

- In February, the UK Government's Good Work Plan committed to enacting a recommendation from the Taylor Review of Modern Working Practices to identify a set of metrics for measuring and reporting annually on success in improving work in the UK.
- The Working Group agreed 18 priority measures under seven headings:
  - Terms of employment – job security; minimum guaranteed hours; underemployment
  - Pay and benefits – actual pay; satisfaction with pay
  - Health, safety and psychosocial wellbeing – physical injury; mental health
  - Job design and nature of work – use of skills; control; opportunities for progression; sense of purpose
  - Social support and cohesion – peer support; line manager relationship
  - Voice and representation – trade union membership; employee information; employee involvement
  - Work-life balance – over-employment; overtime (paid/unpaid).

Eurofound published *Digital age: Employment and working conditions of selected types of platform work*.

- 'Platform work' is described as 'a form of employment that uses an online platform to enable organisations or individuals to access other organisations or individuals to solve problems or to provide services in exchange for payment'.
  - Other terms used in the EU include 'gig economy' (most common in the UK and Republic of Ireland (RoI)), 'sharing economy' and 'platform economy', though these tend to have a broader meaning.
- Ten common types of platform work are identified and explored in detail:
  - On-location platform-determined work – low-skilled work allocated by the platform and delivered in person
  - On-location worker-initiated work – low- to moderately-skilled work where tasks are selected and delivered in person
  - Online contest work – high-skilled online work, where the worker is selected by the client by means of a contest.
- Key policy pointers include:
  - The absence of a common, shared understanding of platform work results in a lack of comparable data, which tends to muddy the policy debate; adopting a common operational definition would facilitate the monitoring of developments and help to streamline the policy debate.
  - Monitoring developments in the platform economy is increasingly important, with the rapid growth in the number of platforms and affiliated workers and changing business models.
  - Policy measures should take into account the heterogeneity of employment and working conditions across different types of platform work to ensure they are fit for purpose; any measures should target larger platforms primarily, to support healthy competition and innovation.
  - The heterogeneity of the platform economy should be recognised in debates on workers' employment status and in efforts to regulate it.
  - Dispute-resolution mechanisms should be encouraged to ensure that the use of algorithms and the lack of local presence of the platform do not put workers at a disadvantage.
  - Rating systems should be fair, transparent and transferrable across platforms to allow workers to be active on multiple platforms and to ensure equal opportunities.
  - Improving the information on tasks provided by the platforms could help workers to avoid wasting time on unpromising tasks.
  - EU member states could promote participation in the platform economy for side-earnings with simple tax rules for workers, helping to legalise earnings that previously went undeclared and encouraging new economic activity.

Henley Business School at the University of Reading published *The Side Hustle Economy* 'white paper', on the growing trend for employees in the UK to have a secondary business or job.

- A 'side hustle', an imported term from New York and Silicon Valley, is a secondary business or job that generates, or could generate, extra income.
  - Side hustlers have: a job and their own business/a side business in different spheres; a self-employed business and a side business in different spheres; a secondary job in a different sphere from their main job.
  - A study of 500+ business leaders and 1,100 adults in the UK found 25% of workers are running at least one business project alongside their full-time job; this is predicted to rise significantly by 2030.
  - 73% of people who start a side hustle do so to follow a passion or explore a new challenge, however side businesses can contribute 20% to the individual's income.
  - 25% of side hustlers work 50 hours/week (almost 13 hours more than the average UK worker) but report feeling happier and more content in their main role.
  - It is more common among men (30%) than women (21%), however the gap is closing as over 62% of side-hustling women started up in the past two years (compared to 48% of men).
- The growth is exponential – 53% of the UK's side businesses were created in the last two years.
  - Growth is possibly due to a change in attitudes towards work, and advances in technology which make it easier for people to run a business online.
  - By 2030 the number of people with side hustles is predicted to rise to 50% of the UK population.
- Business leaders who are supportive of the trend believe there are benefits:
  - 49% think it helps to retain their best people, 50% that it helps them attract top talent, and 60% that it makes their staff more productive and happier.
  - Other benefits include boosting employee skills, aiding innovation and building on networks.
- 54% of business leaders are uncertain of the benefits and over 50% have no formal policy for it.
  - This could cost UK businesses £340m/year if top talent leave for jobs with more supportive employers.
- Recommendations include businesses setting up a formal policy for side-hustling in employment contracts, and encouraging open, honest dialogue between employer and employee.

International Comparisons

The OECD published *Education at a Glance 2018: OECD Indicators*, its annual compendium of data on the structure, finances and performance of education systems in 46 OECD and partner countries, plus a *UK country note*.

- Among the key findings for the UK:
  - High tuition fees are offset by a well-developed system of financial support, but only 40–45% of loans are expected to be repaid by students in England *[in Scotland tuition fees for domestic (and EU) students are covered in full by the Scottish Government]*.
  - Unemployment rates are below the OECD average for all levels of education, but, as in most countries, the penalties on the labour market for the less qualified are severe, especially for younger workers.
  - Graduates have among the lowest unemployment rates in the OECD, but 28% in England and 24% in Northern Ireland say they are overqualified for their job, compared with 14% across the OECD.
  - The UK has one of the highest enrolment rates of adults aged over 40 in education, and an above average percentage of students over 20 in vocational programmes.

The OECD also published a Handbook for Internationally Comparative Education Statistics*, covering the methodologies used for its comparative indicators.*

The OECD published *Education Policy Outlook 2018: Putting Student Learning at the Centre*.

- The OECD and several education systems have identified bridging different types of performance gaps as policy priorities – socioeconomic, immigrant, minority, special education needs and gender-specific background, as well as performance differences among students across regions.

- Policies to support education success for all are the largest group of policies reported by participating OECD education systems.

- Connecting population groups outside of the education system to the labour market appears to remain a policy priority in participating education systems, with priorities including:
  - Reducing high levels of skills mismatch, as well as early school leaving rates
  - Facilitating the school-to-work transition for students
  - Decreasing levels of youth unemployment and the number of young people neither employed nor in education or training.

- Another focus is on improving students' learning opportunities and keeping them longer in the education system, specifically:
  - Raising the attractiveness of VET
  - Creating or strengthening apprenticeship programmes
  - Increasing equal access to and quality of tertiary education
  - Enhancing the internationalisation of HE.

The report includes snapshots of education policy in member countries, including the UK.

Government

NORTHERN IRELAND

The DfE published *Barriers to participation and progression in education: A review of the evidence*, comprising a literature review and feedback from three open-day consultations.

- Key messages include:
  - Support must be tailored to the needs of the individual due to the wide spectrum of barriers that may be faced by any given person and the effect of external factors such as local labour market conditions.
  - A complex and cross-cutting policy response is required, along with greater collaborative working to address issues relating to health, social inclusion, poverty and access to transport.
  - Many issues would be better addressed when young people are at nursery or primary school, rather than waiting until they reach secondary and/or tertiary education.
  - There is a duplication of services and 'recycling' of people in the system, i.e. being enrolled on multiple courses at the same level.

- Possible actions for the DfE:
  - A review of current provision including in local government and other departments and their arm's-length bodies with a view to eliminating duplication and ensuring a clear progression pathway post school.
  - A review of existing guidance and information to ensure easy access to information on the services and support currently available.
  - Develop suitable strategies, in conjunction with the Department of Education, aimed at early intervention and facilitating the move from secondary education to FE/HE and vocational training.
  - Investigate the development of a 'wrap around' service for young people, which takes a holistic approach to addressing the particular barriers they face and provides individually tailored solutions.

The IPPR published *The skills system in Northern Ireland: challenges and opportunities*.

- Compared to the rest of the UK, Northern Ireland has higher economic inactivity and levels of people with no qualifications, lower productivity, by far the lowest career progression rates, and lower than average median income.
  - The economy is populated with SMEs and high numbers of microbusinesses.

- The skills system must operate in this context, but can also be central to addressing social inequalities – low pay, high levels of poverty and low levels of career progression.

- The skills system has been through a period of change in recent years, with a range of new strategies designed to meet employer demand and to boost skill levels, including:
  - College mergers, the apprenticeship levy, programmes like Higher Level Apprenticeships and the innovative Assured Skills scheme, and the inclusion of colleges within innovation strategies.
- Insights include:
  - Solving low pay and low progression rates should be a key measure of success.
  - The system needs to focus on mid-career learning.
  - Moving on from only targeting youth unemployment to improving life chances for young people.
  - Schools and colleges should focus on those most at risk of leaving school with no qualifications.
  - Recent positive reforms provide a foundation to build on.
  - An outcomes-focused approach could help to bring greater coherence.
  - A two-pronged approach is needed to boost skills demand and supply.
  - Learner and employer engagement needs to be improved; the apprenticeship levy provides an opportunity for greater business engagement.
  - Employers, particularly SMEs, could play a greater role in training.
  - Technological change and automation are likely to mean that employees face multiple jobs, employers and careers.
  - Skills funding is unlikely to improve over the short or medium term.
  - Automation, Brexit and the changing nature of globalisation will mean huge changes.
  - A more strategic approach is needed for migration within existing powers.
  - Political instability is hindering the skills system's ability to adapt and anticipate change, but there is a role for the leadership of employers, learners, third sector and trade unions through social partnership to drive a new skills agenda.

ENGLAND

HEPI published *Filling in the biggest skills gap: Increasing learning at Levels 4 and 5*, exploring the reasons for a fall in the number of learners taking qualifications at these levels.

- The origin of England's shortage is in the shortfall of learners progressing from lower levels – the proportion of young learners who don't progress beyond Level 2 is 36.4% and a further 20.9% of all learners don't progress beyond Level 3.
  - A strong FE offer is needed to enhance Level 2 and 3 programmes, along with more effective promotion of Level 4 and 5 qualifications that would ensure they are better understood and more visible.
- The funding system – which is a disincentive for both learners and providers when it comes to stand-alone Level 4 and 5 education – could play an important role in ensuring the system:
  - is accessible to all
  - is supported by a funding system that provides value for money and works for students and taxpayers
  - incentivises choice and competition across the sector
  - encourages the development of the skills needed by the economy.
- HEIs with the necessary infrastructure and staff should be encouraged to increase Level 4 and 5 provision, particularly as the most significant declines have been among mature and part-time learners.
  - They should also receive a direct funding premium, and there should be greater flexibility in the student loan system, so that students can step on and off the educational pathway.

SCOTLAND

The David Hume Institute published *Wealth of the Nation: Scotland's productivity challenge*, funded by the Scottish Policy Foundation and Baillie Gifford, with research by the Fraser of Allander Institute.

- Despite a skilled workforce and no shortage of strategies, Scotland's productivity performance underperforms compared with many advanced economies.
- Five international case studies of success in increasing productivity were examined:
  - Sweden (high skill, high value); Ireland (internationalisation); Australia (negotiating major economic reform); Greater Manchester (acting as one city-region) and London (transforming school results).
- Common themes identified included:
  - A prominent focus on skills, providing access to opportunity for individuals and a boost to the productivity of the community as a whole.
  - A focus on the evidence to acknowledge and understand the problem is necessary to diagnose and face up to problems, then to develop and sustain a response.
  - Consensus and collaboration across political divides, policymakers, business and trade unions to build consensus and collaboration; without it, any progress will be fragile.
  - Reform underpinned by strong and credible institutions, which must be independent of day-to-day politics, command the confidence of people across the country and be able to hold decision-makers to account.
  - A concerted effort to deliver over a long period of time.

The Construction Industry Training Board (CITB) published *Local Construction Skills Needs for Scotland*.

- Nearly 6,400 extra workers are estimated to be needed in 2018, a shortfall of 3% on current employment.
  - There are construction skills pressures, a shortfall of workers, and training pressures in specific areas of the country.
  - There are potential shortages in painting and decorating and plumbing trades.
  - Support staff are needed for the supply chain, including IT specialists, researchers, lawyers and procurement experts.
- Recommendations include developing regional skills action plans and putting the right training infrastructure in place.

CITB published Construction Skills Network: Labour Market Intelligence 2018–2022 – Industry Insights Northern Ireland *in February 2018.*

WALES

HEPI published *Is 'progressive universalism' the answer? The new student funding arrangements in Wales*.

- The new arrangements have won plaudits for, among other things, their progressive universalism.
  - Under the new system, full-time tuition fee loans are rising to £9k; students were previously entitled to a fee grant worth around £5k which reduced their tuition fee and loan to around £4k.
  - In the old system, students were guaranteed different levels of total maintenance support depending on their background; all full-time, first-time undergraduates will now have an entitlement to £9k, irrespective of household income.
  - Previously, the maximum maintenance loan (£6,900) was less than double the minimum (£4,300); now, students from the richest families are expected to borrow around nine times more than students from the poorest households to cover their living costs.
- Under the new system, among new graduates emerging from full-time three-year courses who have been living away from the family home:
  - Those from the lowest-income households can now expect around £30k of debt in total (+20%).
  - Those from the highest-income households can expect £51k of debt in total (+40%–85% depending on household income).
- The new system results in a number of 'trade-offs' that have not received much attention:
  - While the overriding principle of income-contingent student loan systems is that the amount you pay depends on your earnings after leaving university, upfront means-testing means the total amount left owing depends a great deal on parental income.

- Because different parents in similar income brackets have varying propensities to support their student children, even people from similar backgrounds will be left with different levels of debt.
- Although the support package is regarded as progressive, the poorest students will actually be worse off in terms of cash-in-hand under the new compared to the old system.

The fact that Wales and England now have tuition fees and loans high enough to cover the entire costs of teaching many subjects without upfront subsidies, while Northern Ireland also has substantial fees and loans, could suggest high fees are becoming more, not less, embedded in the UK.

REPUBLIC OF IRELAND (RoI)

The RoI Higher Education Authority published *The Internationalisation of Irish Higher Education*, exploring the extent to which institutions have become internationalised and the range of strategies and approaches developed to attract and retain international students.

- There has been an explicit policy commitment for the development of the RoI as an international education centre for over 20 years, with overall levels of success.
  - Most actions focused on increasing the recruitment of international students, with targets exceeded.
  - International students were influenced by the RoI's location in Europe, cheaper tuition fees and the ease of application through institutional websites, seen as advantages over other countries.
- Outward mobility is seen as important in contributing to successful internationalisation at home – Irish students who studied abroad have a shared experience with international students in Ireland and are often more supportive as a result.
- Areas identified as challenges or in which improvements could be made include:
  - The cost and suitability of available accommodation and the integration of international with domestic students are some of the biggest challenges.
  - Institutions are not internationalising to the fullest extent, constrained by a lack of resources.
  - In many HEIs there is a lack of clarity concerning the future direction of internationalisation.
  - In some cases, internationalisation efforts have been 'symbolic' and fail to meet international students' needs.
  - There are mixed feelings among faculties across HEIs towards internationalisation: many feel the time and effort invested is not valued by their institutions; some also do not see the value in internationalising curricula; some feel international students can create a more challenging teaching and learning environment.
  - Most HEIs do not provide funding for internationalisation of teaching and learning, and most faculties do not receive intercultural training.

SOLAS (Further Education & Training Authority) published *Supporting Working Lives and Enterprise Growth in Ireland: 2018–2021 further education and training policy framework for skills development of people in employment*, and a *Background Paper* on the research and consultation undertaken.

- In developing the framework, research and case studies included examining drivers of change general and specific to the RoI, the policy context, and international lessons.
- The new policy sets out areas of support, including for:
  - vulnerable groups in the workforce, including those whose skills level is below Level 5 on the National Framework of Qualifications and need more opportunities to advance and/or to sustain their employment
  - employees in jobs with a low skill requirement, 50+ years of age, or in sectors/occupations at risk of economic displacement
  - SMEs who need assistance to identify and meet skills needs, develop their training expertise and invest in and develop their workforce
  - industry sectors with particular skills needs, due to emerging opportunities or economic vulnerabilities.
- It sets out a vision for the workplace, where:
  - upskilling during an employee's working life is considered normal practice and has a direct correlation with enhanced job security, higher earnings and autonomy at work

- RoI and multinational firms systematically invest in the development of their staff and benefit through improved productivity and competitiveness
- provision in FE and training which supports employee development is flexible, high quality, accessible and relevant to the changing needs of employees, the economy and industry.

The Department of Education & Skills published *Review of National Training Fund* (NTF) by Indecon International Research Economists.

- The NTF was set up in 2000 to help raise the skills of those in employment, and those preparing for employment, and for research into existing and likely future skills requirements of the economy.
- There are 14 recommendations under four key areas, including supporting investment in HE for close-to-labour-market skills programmes in areas of skills need; upskilling as a target theme in HE funding programmes; and enhancing enterprise engagement.

The Expert Group on Future Skills Needs published *Ireland's €5 billion Hospitality Industry: Skills, Careers, Growth 2018*, the final report of the Hospitality Skills Oversight Group set up in 2016.

- The hospitality sector is one of the largest employers in the Irish economy; the accommodation and food services sector accounts for around €5b of total gross value added.
- The priority areas included: promoting careers in the sector; auditing hospitality-related courses and facilities in FE and HE; and developing apprenticeships and traineeships.
  - The provision of training and education needs to be streamlined.
  - Businesses need to develop quality systems to provide training, recruitment and retention plans that can assist in the education and training provision locally.
- Failte Ireland is expected to set up a follow-up group to manage the future training and development requirements of careers in hospitality.

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