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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:

- A widespread focus on 'futures' – of education, jobs, work, careers, skills needs, institutions and cities; and on being better prepared for the challenges ahead.
- Related to that, analysis continues of the impact of artificial intelligence and automation, plus its use and potential for schools, colleges and universities.
- Complementing both of the above, a number of items examine the role of lifelong and adult learning, particularly accreditation, upskilling and reskilling.
- Brexit is an open or underlying basis for a number of items, including on talent migration – it is described as having 'ignited the debate on skills'.

* 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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16–19 EDUCATION

Innovation charity Nesta published [Educ-AI-tion Rebooted? Exploring the future of artificial intelligence in schools and colleges](#).

- It looks at three categories of 'AIEd' (artificial intelligence for education) tools:
 - Learner-facing: curate materials based on student need; diagnose strengths, weaknesses or gaps; provide automated feedback; facilitate collaboration.
 - Teacher-facing: automate tasks; provide insights on progress of a student or class; help teachers to innovate and experiment.
 - System-facing: help make or inform the decisions of school or system managers/administrators – the least widespread category with the fewest number of existing tools.
- Five 'wicked challenges' that AIEd could address:
 - Teachers burdened with excessive workload, affecting wellbeing, retention and recruitment
 - 'One-size-fits-all' learning, with inflexible learning pathways
 - Narrow assessment inhibiting teaching and learning
 - The difficulty of sharing insights between schools and colleges
 - Inconsistency of education provision and lack of social mobility.
- The report makes recommendations on:
 - How to help the sector grow and scale
 - How to improve the quality and effectiveness of AIEd tools
 - How to govern data, opportunities and challenges around AIEd
 - How to help schools and colleges to learn and evolve (just like we expect students to).

Centre-right think tank Policy Exchange published [A Qualified Success: An investigation into T-levels and the wider vocational system](#), asking whether the latest English attempt to bridge the academic/technical education divide shows signs of having learnt from past mistakes.

- The two most prominent attempts to introduce a new set of technical qualifications over the last 30 years – GNVQs and NVQs in the early 1990s; Diplomas in 2007 – ultimately failed, despite considerable political backing and financial investment.
- The reality of the 16–19 education system poses considerable challenges for T levels: if learner demand fails to materialise, schools and colleges aren't obliged to offer them.
 - Numbers could be too small to be viable; the lack of entry requirements could make it difficult to ensure they have the prestige of A levels; and some of the first schools and colleges to offer them have little or no experience of technical education.
- The need for thousands of work placements remains the biggest implementation challenge: only 8% of employers currently offer placements of the required duration; many employers are reaching 'saturation point' in work experience.
- England's Department for Education Permanent Secretary requested the first 'ministerial direction' to be issued by the Department for at least 30 years because he felt the timescale for their introduction was unrealistic.
- The lines between the different qualification pathways are blurred, making it difficult to navigate the system, and there is a lack of differentiation in purpose and characteristics; Tech Levels have a similar purpose and target audience, but will be scrapped in favour of T levels.
- Awareness is low among parents and employers, and it will take time to build trust.
- Teachers want to receive promotional materials and supporting documentation at least 15 months before they start teaching, but this won't happen for the first programmes due in 2020.
- The report recommends a bolder and more ambitious approach.

Policy Exchange was founded by Michael Gove, Nick Boles, Archie Norman and Francis Maude.

The Institute for Employment Studies (IES) published [Young people's education choices and progression to higher education: A comparison of A-Level and Non-A-Level students in Key Stage 5, their subject choices and transitions to university](#), based on data for pupils leaving English secondary schools.

- The report examines the educational routes chosen by 650k pupils who left school in 2009/10 until 2012/13, including non-A level, A level or mixed Level 3 education.
- Findings and recommendations include:
 - There is a wide gap in progression to higher education (HE) for students after Key Stage (KS) 5; the difference is partly related to the KS5 school type attended, but mainly depends on the choice between following A level and non-A level routes.
 - Young people need to be well informed about how KS5 choices affect their education progression.
 - A larger proportion of A level students with low KS5 performance progress to HE compared to non-A level students with high performance; the latter are also less likely to attend Russell Group universities.
 - As non-A level qualifications are more often taken by students from disadvantaged backgrounds, the lower education progression from such routes is likely to adversely affect social mobility; improving targeted financial support for families would help to increase progression to A levels and further tertiary education.
 - Students with high performance in non-A level programmes would benefit from a tailored offer of tertiary education that builds on existing vocational and technical education and skills.
 - Higher apprenticeships can create further opportunities for tertiary education at Levels 4 and 5 or degree or equivalent, based on employer funding.
 - For both A level and non-A level students, an increasing specialisation in STEM subjects more often results in HE access.

SCIENCE, TECHNOLOGY, ENGINEERING & MATHS (STEM)

The Economic & Social Research Institute in the Republic of Ireland (RoI) published [It's not just for boys! Understanding gender differences in STEM, a Working Paper](#) on the subject choices of secondary school students who apply to attend college in Ireland.

- Findings suggest that 'overall achievement and comparative advantage are relatively unimportant determinants of the gender gap in STEM'; it is therefore important for policymakers to understand what underpins gender differences.
- In first preference rankings for all secondary school students who apply for college, about 13ppt of a 22ppt STEM gender gap is due to differential subject choices and grades in secondary school.
 - Subject choices are more important than grades; an estimated male advantage due to grades only explains about 3ppt of the gender gap.
 - Differences in overall achievement between girls and boys have a negligible effect; a gender gap of 9ppt remains even for those with identical subjects studied and grades achieved at the end of secondary school; however, this gap is only 4ppt for STEM-ready students.
 - Gender gaps are smaller among high-achieving students and for those who go to school in more affluent areas.
 - The definition of STEM is an important determinant of the conclusions reached: there is no gender gap in science; the large gaps are in engineering and technology; there is a smaller gender gap when nursing degrees are included.
 - Subject choices for RoI Leaving Certificate are the most important determinant of the portion of the gender gap that can be explained; boys are much more likely to do physics, design graphics, engineering, building construction and applied maths.
 - Even two years before college entry, there are systematic gender differences in decision-making that lead to boys being more likely to choose STEM subjects.

EMPLOYABILITY & CAREERS

The Centre for Research in Education, Inclusion & Diversity at the University of Edinburgh published a policy briefing on [Post-School Education for Marginalised Young People: Evidence from Scotland](#).

- The research was funded through the EU's Horizon 2020 research programme, as part of its ENLIVEN (Encouraging Lifelong Learning for an Inclusive & Vibrant Europe) Work Package 2, with the aim of comparing the opportunities available across a range of European countries.
- The work in Scotland aimed to broaden understanding of the types of programmes that young people who leave school with few/no qualifications engage with.
 - It looks at an employability programme and a basic skills activity agreement programme, and examines the learning activities, qualifications, skills and other opportunities these types of initiatives offer.
- Findings include:
 - Success is defined differently by key parties – policymakers and practitioners define it in terms of achieving qualifications, student retention and progression; young people define it in terms of qualifications plus the social aspects of educational engagement.
 - The focus of funding bodies on hard outcomes misses a large proportion of the work undertaken with, and the 'distance travelled' by, young people – a young person may have made significant progress towards a hard outcome, even if they were unable to secure a 'positive destination'.
 - The young person's relationship with their 'trusted professional' or course tutor is of critical importance, particularly in educational re-engagement.

The Organisation for Economic Cooperation & Development (OECD) published [Trends Shaping Education 2019](#), exploring major economic, political, social and technological trends affecting the future of education across all ages.

- The future is inherently unpredictable and long-term strategic thinking in education therefore needs to consider both the trends and the possible ways they might evolve.
- The report considers education's role in addressing the following trends:
 - The shift of economic power towards Asia, emergence of transnational networks and trade, increasing human mobility and the expansion of the global middle class.
 - Falling levels of civic participation, rising inequality and the increasing gap between rural and urban areas, along with the use of digital platforms to disseminate inaccuracies and confirm prior beliefs.
 - Increasingly complex security challenges, such as climate change, terrorist networks, data theft and personal insecurities around finances, work, perceptions of crime and child safety.
 - The impact of an ageing population – one getting both healthier and more vulnerable.
 - Increasingly individualistic cultures and the changing sense of belonging, changing patterns of work and life, the impact of digital markets on ownership and changing consumption habits.

The final page of each chapter presents plausible but unexpected ways in which current trends may evolve.

The OECD published [Envisioning the Future of Education and Jobs: Trends, data and drawings](#).

- The report is a collaboration with Education & Employers, and draws on OECD publications such as *Trends Shaping Education* [see above] as well as Education & Employers' [Drawing the Future](#) survey published in January 2018.

The World Innovation Summit for Education (WISE) and the Qatar Foundation published [Preparing the new generation for the future of work: A survey of European youth, employers and universities](#), the results of its January 2019 survey.

- The survey covered 2,500 18–25 year-olds in Belgium, France, Germany, Spain and the UK; 381 recruiters; 192 educationists; and four education experts.
- Among the findings:
 - 78% of young Europeans are optimistic about the way people will work in 10 years, although those from more privileged backgrounds are generally more optimistic than others.
 - Technological progress is the most likely aspect to make people optimistic, including its potential to individualise learning pathways (educationists) and support flexible ways of working (recruiters).
 - The most worrying aspect of the future of work for all three groups is their own country's economic outlook.

- Around three quarters of each group feel well prepared for the fourth industrial revolution, and both recruiters and educationists think that young people are well prepared.
- Challenges for the future of education and training include:
 - Schools and universities have primary responsibility for preparing young people for their first job, but employers have primary responsibility for preparing them for their future at work.
 - This will require: on-the-job training, improved bridges between schools and the business world and a different attitude towards skill-based and technical work.
 - Only 48% of young people and 49% of educationists think that their country's education system prepares them for work, dropping to 23% of recruiters.
 - Work experience should be a priority, followed by career advice, project-based learning and teacher training.
 - All three groups – including recruiters – feel that employers place too much importance on qualifications; soft or people skills are more important, and particularly flexibility and adaptability.

The Institute of Labor Economics (IZA) published [*The Intergenerational Transmission of Teaching*](#), examining the influence of parents' occupations, race and gender on a young person's decision to become teacher.

- The role of parental influences on occupational choice was examined, in particular whether the children of teachers are disproportionately likely to become teachers themselves, and whether this influence varies by race or sex.
 - The study focused on the USA where the teaching force remains around 80% white and mainly female, despite 'aggressive attempts' to recruit black and minority ethnic teachers.
- Findings include:
 - There appears to be 'something unique' about teaching, as there is relatively strong intergenerational transmission of the profession, even when compared to similar professions.
 - Overall, children whose mothers are teachers are 9ppt more likely to enter teaching than the children of non-teacher mothers – this rate of 'occupational transmission' is significantly larger than for several comparable professions.
 - The transmission of teaching from mother to child is about the same for white children of both sexes and for black daughters, and larger for Hispanic daughters; however there is virtually no transmission from teaching mothers to black sons.
 - Limited data suggest that the sons of fathers who are teachers are more likely to enter teaching than the sons of non-teachers, however there is no transmission from teaching fathers to daughters.

Nesta published [*Imagination unleashed: Democratising the knowledge economy*](#), setting out an inclusive approach to enabling participation in the knowledge economy, including through changing the way we educate young people.

- The report is the result of wide-ranging discussions with politicians, researchers and activists, exploring the ideas of Brazilian philosopher and politician Roberto Mangabeira Unger.
- By many measures, the knowledge economy is booming, but participation is confined to particular firms, places and people, which helps to explain:
 - stagnant productivity, as the benefits of new methods are not spreading to smaller firms
 - inequality, as the gap between booming metropolises and the rest widens
 - political disenchantment, as voting patterns increasingly reflect how much people participate in the knowledge economy.
- Human potential is also being confined as long as the vast majority of people, even in the richest countries, are excluded from forms of economic activity that give adequate expression to their imaginative powers and humanity.
- There is an alternative approach that democratises the knowledge economy, rather than simply compensating the 'losers'.
- It requires action to, among other things, reform education for young people and throughout life, in order to cultivate the mindsets, skills and cultures relevant to future jobs; this demands four basic elements:

- Priority should be given to analytical skills and, more generally, the powers associated with the imagination: students need to be able to critically evaluate what they learn and imagine ways in which their knowledge could be applied.
 - Curricula should be interdisciplinary and dialectical, giving students the opportunity to engage with different subjects and methods from contrasting points of view; the aim is to form a mindset that normalises radical doubt and intellectual experimentation.
 - Education systems should promote cooperation in teaching and learning instead of authoritarianism and individualism; wide-ranging experiments in cooperative practices would aim to develop high levels of trust and collaboration.
 - Education systems must give space for the creativity of teachers to create a pedagogic vanguard – thousands of teachers and educational activists committed to develop such a programme and to make it work.
- Although this style of education contrasts with the broad direction of policy in some advanced countries, others, such as South Korea, Singapore and Finland, offer examples and emerging practices that show how a different approach might be realised.

The Institutional Landscape

THE FURTHER EDUCATION & SKILLS SECTOR

The Association of Colleges with UK college sector leaders, including the Northern Ireland College Principals Group, published [*Developing a Four Nations College Blueprint for a Post-Brexit Economy*](#).

- The discussion paper sets out the central role colleges can play to meet economic, labour market and skills challenges.
- Recommendations:
 - A lifetime learning entitlement to accredited education and training to at least Level 3 equivalent, fully funded by the UK Government and devolved governments.
 - A new social contract guaranteeing fair funding for full- and part-time students in further education (FE) and HE.
 - A national fully funded training programme in skills shortage occupations, or retraining for skilled employees in at-risk jobs.
 - Employer tax incentives to release staff for workforce development, to retrain and upgrade their skills, on a part-time basis.
 - A better jobs deal: support and training for younger workers in low-skilled and insecure jobs.
 - A college innovation fund to support SMEs to adopt new technology and business practices, to help improve productivity, with skills support for the workforce development needed to secure the business improvements.
 - A common framework of transferable standards and qualifications for apprenticeships and higher technical skills to ensure mobility of labour and progression.

A new Four Nations College Alliance is being created, and a new [*Independent Commission on the College of the Future*](#) will review and advise on colleges' long-term future role.

The Ministry of Justice published [*Justice Data Lab analysis: Reoffending behaviour after support from City & Guilds*](#).

- The analysis looked at the behaviour of 5,768 people who registered for one of six City & Guilds courses while in prison at some time between 2011 and 2016.
 - Those who participated in a construction, hospitality or maths & English course were less likely to reoffend and committed fewer re-offences than those who did not register for any course.
 - Those undertaking a City & Guilds course were also more likely to experience longer gaps before reoffending.

HIGHER EDUCATION: APPLICANTS & STUDENTS

The Institute for Social & Economic Research (ISER) published [Information, Expectations and Transition to Higher Education](#), examining how information about university shapes education aspirations and choices, and the role of parental education.

- Parents' income and the availability of scholarships affects a young person's expectations about going to university, however whether at least one parent has a degree has a bigger influence.
- Both children and parents who expect higher gains from having a degree are more likely to expect they or their children will apply for university.
- Parents tend to underestimate the financial benefits of having a degree, so information on this could increase applications from all groups.
 - A very light-touch information intervention, such as showing some statistics about population earnings and employment to families, is powerful enough to make parents' expectations more accurate, with these changes still visible six months later.
- Overall, the report recommends providing students and their parents with better information about:
 - Available financial aid
 - The requirements for university admission
 - How to interpret test results by offering clear and precise feedback, and a more informative and finely-tuned grading system
 - Graduate earnings.

The Higher Education Policy Institute (HEPI) and Kaplan International Pathways published [The UK's tax revenues from international students post-graduation](#), by London Economics.

- In 2018, the Migration Advisory Committee decided not to recommend a separate, longer post-study work period for international students because it had found some evidence of surprisingly low earnings among graduates who remained in the UK.
 - It recommended a proper evaluation, which might provide evidence that would warrant a change of advice.
- Overall, there are sizeable economic contributions made by those international graduates entering and remaining in the UK labour market post-graduation.
 - The total contribution in the 2016/17 cohort is estimated to be £3,173m in present value terms, comprising: £1,043m income tax; £716m employee National Insurance contributions; £822m employer National Insurance contributions; £592m VAT contributions.
 - First degree holders contributed £1,119m; Master's graduates £1,591m; PhD graduates £300m; international students obtaining other undergraduate qualifications £163m.
 - EU-domiciled graduates in the cohort are expected to generate £1,181m for the UK Exchequer (£108,000 on average per graduate); non-EU-domiciled graduates £1,992m (£104,000 on average per graduate).
- Rather than displacing domestic graduates, international graduates play a key role in filling acute skills shortage vacancies in many sectors, and reducing labour market gaps.
- The adverse taxation impact associated with the 2011 restriction of post-study work rights for non-EU-domiciled students is estimated at £150m per cohort, giving a total negative economic impact in the region of £0.75bn.

The Northern Ireland Department for the Economy (DfE) published a response to the Migration Advisory Committee's call for evidence on the economic and social impact of international students in the UK – see page 37.

IZA published [Peer Diversity, College Performance and Educational Choices](#), examining the impact of university classes with a mix of foreign language and English-speaking students.

- The effect of 'ethno-linguistic classroom composition' on educational performance, educational choices and post-graduation migration is studied.
 - The sample examined involved undergraduate economics students at a London university in the top 30 universities worldwide for its share of foreign students.
 - Each cohort of around 200 students was split almost 50:50 between English speakers and students from non-English-speaking countries.

- Non-English-speaking students:
 - They benefited from a larger diversity and from increased interaction with English-speaking peers.
 - In more diverse classes, their educational choices became more similar to those of their English-speaking peers.
 - Those who were assigned to seminars with higher numbers of non-English peers in the compulsory stages of their course were more likely to leave the country post-graduation.
 - It is important to avoid segregation along ethnic lines when providing education for international students.
- Current levels of internationalisation do not impose a threat to native education; English-speaking students were largely unaffected by the ethno-linguistic composition of seminars.

IZA published [*Maxed Out? The Effect of Larger Student Loan Limits on Borrowing and Education Outcomes*](#), based on data from all public universities in Utah, USA.

- Student loan balances are large and growing, however there is relatively little evidence about their effects on borrowing and educational outcomes.
- The study looked at the impact of higher loan limits on credit, grade point average (GPA), persistence and graduation.
 - It considered how eligibility for higher student loans affects borrowing and educational outcomes for enrolled college students, and examined the effect of access to credit.
- Access to higher loan limits increased borrowing for at least 26% of borrowers; however there was no evidence that eligibility for additional loans affects student GPA, persistence or graduation.

HIGHER EDUCATION: WIDENING PARTICIPATION

[*Social mobility in the slipstream: first-generation students' narratives of university participation and family*](#) was published in the *Educational Review*.

- In recent years, increasing research attention has been devoted to 'first-generation' or 'first-in-family' university students.
 - However, while there is growing research on parental involvement and influence, there has been only cursory recognition of the effect students can have on their own families and the familial support they can offer.
- While some of the eight students in the research showed a conscious responsibility for siblings' educational plans and aspirations and were proactive in seeking to transform their expectations, others were just hopeful that siblings would feel encouraged to follow in their footsteps.
 - In all the narratives, however, the students' experiences of university were affecting their families.
- First-generation students are often seen as 'risky', but these narratives acknowledge the potential they offer in terms of widening participation and support among under-represented groups.
 - Rather than focusing only on the downward, intergenerational transmission of educational aspiration and social mobility, future work needs to explore the intra-generational impact, and the possibilities of upward transmission of educational ambition.
 - Universities also need to engage more thoroughly with their students' families, becoming sites for learning interaction, experience and role-modelling based on the family unit.

The IES published [*Improving access for the most able but least likely: Evaluation of the Realising Opportunities \[RO\] Programme*](#), focused on widening access to research-intensive universities.

- The RO programme aims to encourage year 12/13 school students from disadvantaged backgrounds and good academic attainment to consider going to research-intensive universities.
 - 17 universities in England are currently involved, led by Newcastle University.
 - Students who successfully complete the programme and apply to an RO partner university can receive an 'alternative' offer up to two grades lower than the standard offer for the course.
- Of the 6,000 starters to date:
 - 99% achieved eight or more GCSE passes at A*-C/9-4 grades; 91% have parents with no experience of HE; 66% come from areas with the lowest HE participation rates based on polar quintiles; and almost 33% have been eligible for free school meals.

- 84% applied to university at the end of year 13 – double the overall proportion of 18 year-olds who apply to university.
- As a result of the 'alternative' offer, up to 430 students have taken up a place at an RO university that they otherwise might not have obtained.
- The average drop-out rate across the first five cohorts was 4%, compared with 6% for all students.
- 70% of the most recent cohort knew more about research-intensive universities at the end of the programme, 57% knew more about student life, and almost 50% were better prepared for living away from home and managing their finances.
- 80% of the most recent graduates obtained a First or 2:1 degree, compared to 76% of all students.

The Scottish Government published [Commissioner for Fair Access – Discussion paper: Disabled students at university](#), exploring representation, entrant trends, retention and degree outcomes by disability group.

- The paper aimed to stimulate conversation in the wider public by presenting data and evidence 'accessibly and objectively'.
- The number of first degree entrants with a mental health condition/Autism Spectrum Disorder (ASD) in Scotland has trebled over the last five years; they now comprise over 3% of entrants.
- Disabled people are still likely to be under-represented at university despite recent increases in disabled entrants.
- Retention rates are lower for some disability groups, particularly those with mental health/ASD or multiple impairments.
- Degree outcomes for disabled students are slightly worse.
- Socioeconomic deprivation has a larger effect on degree outcome than disability status.

England's Office for Students (OfS) published [Understanding and overcoming the challenges of targeting students from under-represented and disadvantaged ethnic backgrounds](#).

- Within UK HE, many of those from black, Asian and minority ethnic (BAME) backgrounds experience barriers to equitable outcomes.
 - These are partly structural: BAME students are more likely to come from deprived areas and areas of low HE participation and from low socioeconomic backgrounds, and are more likely to be first-in-family to access HE.
 - Experiences of the school system, educational outcomes and experiences of racism are also contributory factors.
 - Factors located within HE include those related to: curricula and learning; relationships between staff and students and among students; social, cultural and economic capital; and psychosocial and identity factors.
- Access, retention, success and progression rates vary between different ethnic groups, but the vast majority of providers treat BAME students as a homogenous group, resulting in misdirected targeting of interventions or resources.
- Key research findings include:
 - Targeting is largely focused on outreach and access; interventions in relation to retention and success are few and those related to progression almost non-existent.
 - The vast majority of providers that target, do so at more than one ethnic group and target cross-cutting disadvantages alongside ethnicity.
 - Reasons for not targeting include: not seeing it as a priority; uncertainty as to how to address inequalities; a lack of evidence of what works; and difficulties in accessing or sharing data.
- There is also:
 - A lack of: discussion about racism and discrimination; effective mechanisms to capture implicit racial bias and/or discrimination; BAME leaders and/or critical minds in leadership positions.
 - A lack of understanding of targeting and the belief that it and/or positive action is illegal.
 - A lack of transparency as to how HE providers are spending money in this area.

- The perpetuation of deficit models based on racist stereotypes; a lack of inclusion of BAME students in the design, development and implementation of interventions; a lack of diversity in the curriculum.

The OfS also published [guidance](#), which includes case studies of effective targeted interventions.

England's OfS published [Understanding effective part-time provision for undergraduates from under-represented and disadvantaged backgrounds](#), an independent report offering recommendations for the OfS and policymakers.

- The number of part-time HE students in English providers fell by 171,630 between 2006/07 and 2016/17, while full-time students increased by 61,410; high-tariff providers experienced a particularly sharp decline in their part-time student numbers.
 - However, the proportion of students from disadvantaged groups has remained relatively stable at around 10%.
- Key findings include:
 - The decline in part-time study among disadvantaged groups is primarily due to a reduction in numbers studying nursing, business & administrative studies and education in low- to medium-tariff providers.
 - The reforms to student finance and a decline in employer support are perceived to be the main reasons for the decline.
 - Respondents are motivated to study in HE because they need the qualification to get the job they really want; disadvantaged students commonly report that they were not in a position to study HE before and were motivated by a long-held ambition to get an HE qualification.
 - Respondents chose to study part-time mainly to enable them to continue to work; only 8% opted for part-time study because their employer was prepared to contribute to the cost of their tuition fees.
 - Time constraints, lack of confidence and academic study skills, lack of integration with the student community, and a lack of facilities tailored to part-time students' needs are perceived barriers for disadvantaged groups.
 - Financial considerations are generally the biggest concern; disadvantaged students in particular report experiencing difficulties meeting the cost of education.
 - The requirement to be studying towards a recognised qualification in order to be eligible for a loan presents a barrier to students wishing to undertake a standalone module.
 - In the context of the Fourth Industrial Revolution and wider changes to the social and political landscape, demand for flexible routes is anticipated to grow; part-time HE forms one element of a diverse offer that could help to protect providers from the potential impact of these changes.
 - Although some providers recognise the important role that part-time study plays in widening access for specific groups, part-time provision involves additional costs in reaching out to potential students and developing the infrastructure needed for bespoke courses and support.

The report includes three case studies of providers that are successfully engaging and supporting part-time undergraduates: London South Bank University, The Open University and the University of Derby.

England's OfS published [Using standards of evidence to evaluate impact of outreach](#), a guide to help providers understand what constitutes high-quality evidence, and select the most appropriate evaluation methods.

- It offers guidance on:
 - Strategic level considerations when undertaking evaluations
 - Designing a programme, including using evidence and developing indicators and measures
 - Designing and implementing an evaluation, including developing a research strategy, collecting data, validating tools and tracking
 - Learning from evaluation.
- It also provides links to further guidance and resources and a detailed glossary.

The OfS also published [Access and participation standards of evidence](#), providing guidance on what type of impact evaluation to aim for, ways to strengthen the evidence, and the claims that can be supported by different types of evidence.

These documents sit alongside the [Evaluation self-assessment tool](#), which helps providers review whether their evaluation plans and methodologies generate high-quality evidence of impact.

GRADUATES & GRADUATE EMPLOYMENT

High Fliers Research published [The Graduate Market in 2019](#), a study of 100 leading UK graduate employers.

- Graduate vacancies are to grow by 9.1% in 2019, the highest rise since 2010.
 - The biggest growth is expected in the public sector, accounting and professional services, and engineering and industrial sectors.
- Over 80% of employers are offering paid work experience for students and new graduates (13,098 places).
 - Over 33% of employers say graduates with no work experience at all are unlikely to be recruited.
 - The number of paid work experience places is expected to grow by 1.8% in 2019.
- ~75% provide paid vacation internships for penultimate year students; 40% offer 6–12 month course placements for undergraduates.

The RoI Higher Education Authority, Quality & Qualifications Ireland and SOLAS (Further Education & Training Authority) published [Irish National Employer Survey 2018](#) of 535 employers who had recruited recent graduates from HE and FE.

- About 75% of employers in Ireland have recruited in the past 24 months – 45% of these have hired HE graduates, and around 34% have hired FE and training (FET) graduates.
 - Employers hiring HE graduates are more likely than those hiring FET graduates to be large, foreign-owned, service sector and Dublin-based; and to be in professional, scientific and technical, information and communication, education, administrative and support service, and manufacturing sectors.
 - Employers hiring FET graduates are more likely to be involved in construction, wholesale and retail trade, human health and social work, and transportation and storage sectors.
 - The most commonly cited recruitment areas were business and law, computing, engineering, services, health and welfare, and humanities and arts.
- 86% were satisfied overall with HE graduates and 84% with FET graduates.
 - Satisfaction levels for HE graduates were highest for computer and technology literacy (88%), working effectively with others (87%) and effective verbal communication (85%).
 - Satisfaction levels for FET graduates were highest for working effectively with others (89%), effective verbal communication (85%) and working effectively on their own (85%).
 - Satisfaction rates were lowest (75% or less) for commercial awareness, entrepreneurship and foreign languages; foreign-owned firms' satisfaction with graduates' foreign language capability was lower than average – 55% for HE and 44% for FET graduates.
- Compared to findings from the previous survey, held in 2015:
 - Although still low, satisfaction with both entrepreneurial skills and foreign language capability has improved.
 - Satisfaction with effective verbal and written communication has improved.
- Around 22% of all employers in Ireland indicated they need or will need in the next 3–5 years HE graduate skills, and 23% FET graduate skills.
 - For HE graduates, the most frequently cited skills needs were computer literacy (including IT, software, web and graphic design, and digital marketing), business acumen/management, engineering, and accounting and marketing.
 - For FET graduates, the most frequently cited skills needs were computer literacy, apprentice skills, business and project management, and marketing.
- Collaboration between education and industry is high, particularly in work and skills related activities; however, only 9% of employers are involved in R&D collaboration with HE institutions, 7% in use of equipment and facilities, and 5% on course design.
- 86% of employers support staff in continuing professional development; 73% of these employers provide in-company training.

The RoI Higher Education Authority published [Graduate Outcomes Survey: Class of 2017](#), a survey of over 29k graduates nine months after graduation from higher education institutions (HEIs).

- 78% were employed.
 - There was little difference in employment outcomes based on the institution attended – 78% of university graduates and 78% of institute of technology graduates were employed; unemployment rates were similar at 4% and 6% respectively.
 - Gender employment prospects were also similar – 78% of male and female graduates were employed.
 - 90% of those who were employed were in jobs in Ireland (including in Northern Ireland), including 93% of employed Irish graduates and 62% of employed international graduates.
 - Employment outcomes were best for education graduates (93% working or about to start a job), followed by health and welfare (87%), ICT (82%) and engineering (82%).
 - The lowest percentages were for arts and humanities graduates (63%), however they had among the highest percentages in further study (24%).
 - The overall weighted mean salary of those working full time was €33,574; most honours degree graduates started on a salary between €20k and €35k.
 - 43% of working honours degree graduates in Ireland were employed in Dublin, 14% in Cork.
- Of the remaining 22%, 14% were in FE or training, 5% were seeking work, and almost 4% were engaged in other activities such as travel.

Prospects Luminate published [Decline in graduate self-employment halted](#), an analysis of recent data from the Higher Education Statistics Agency's Destinations of Leavers from Higher Education (DLHE) survey.

- Only 4.03% of 2016/17 graduates went into self-employment or started their own business, compared with 15.1% of the general UK workforce.
 - In 2012/13, the percentage was 4.28%, but gradually fell to 3.04% in 2015/16, suggesting that the latest figures are a reversal of a downward trend.
- Self-employed graduates are more likely both to hold creative first degrees and work in creative industries.
 - Graduates with business start-ups are more likely to hold business-related degrees, although creative subjects such as photography, fine art and textile design are also popular.
 - Overall, the most popular degrees for self-employment and business start-up are in performing arts, artistic creation and motion picture, video and television programme production activities.
- In contrast, self-employed workers in the general UK labour force tend to be located in construction, financial and business services, and wholesale, retail and motor trade industries.

Prospects Luminate published [Exploring the career conceptions of generation-z students at Coventry University](#), findings from a Higher Education Careers Service Unit (HECSU)-funded October 2018 study.

- Students broadly conceive of 'careers' in terms of adaptability, flexibility, autonomy and self-actualisation, putting them in line with modern trends in career development.
 - They are somewhat distanced from the more traditional values of career security and stasis.
- Students generally hold positive expectations for their future careers; few are concerned about unemployment, career progression, financial security or job tenure.
 - Although aware of the potential impact of technological acceleration on the future of work, most students assume that when certain industries go defunct others will be spawned.
- Students often gain career information from common social knowledge or passive perception (constructing their own career knowledge), rather than from careers professionals.

Prospects Luminate published [Different approaches to teaching employability](#), findings from a HECSU-funded July 2018 study at the University of Essex.

- Students were more satisfied with modules teaching employability via skills-based methods, as opposed to theory-oriented tuition.

- The practical components favoured by students included aspects of the labour market relevant to their degree, tips on recruitment and selection and in particular meeting professionals and employers, which gave them a 'real' insight into professional working life.
- There was an appreciation of working towards a live job/paid insight experience as an end-goal, with all teaching and assignments (e.g. CV and cover letter writing, and mock interviews) framed around this main aim.
- It remains unclear whether students preferred to be taught about employability by their academic departments or by the careers service; however, students seemed to engage more positively, and be more satisfied, with modules taught by the latter.

IZA published [Student Internships and Employment Opportunities after Graduation: A Field Experiment](#), based on data from Belgium.

- About 45% of all EU citizens aged 18–35 reported undertaking an internship in 2013.
 - Future employment success is the prime motivation for most graduates undertaking internships.
 - However, students who choose to participate in internships may be more motivated, hard-working, risk-averse and/or ambitious than other students.
- The study examined the impact of internships during university studies on the probability of being invited for interview – 1,248 'fictitious, but realistic' resumes were sent in response to real job adverts.
- Applicants with internship experience have a 12.6% higher probability, on average, of being invited to a job interview.
 - The positive relationship between internship experience and labour market success is not just a correlational one.
- To guide universities and graduates, further research is needed:
 - on the impact of different types of internships (e.g. curricular/ non-curricular, voluntary/mandatory)
 - on the extent to which the effectiveness of internships depends on their content, the orientation of a study programme, and the relationship between the two.

HIGHER EDUCATION: TEACHING, RESEARCH & INSTITUTIONS

England's Department for Education published [Evaluation of Provider-level TEF \[Teaching Excellence Framework\] 2016–17 \(Year 2\): Measuring the initial impact of the TEF on the Higher Education landscape – Research report](#).

- The TEF has four key long-term objectives – to:
 - Better inform students' choices about what and where to study
 - Raise esteem for teaching
 - Recognise and reward excellent teaching
 - Better meet the needs of employers, business, industry and the professions.
- The majority of providers surveyed felt that the TEF was having either a 'positive' or a 'neutral' impact.
- The main impacts were:
 - On the student experience: an increased emphasis on student outcomes (37%) and teaching quality and the learning environment (29%); changes in course content (22%) and more interventions to improve retention (21%).
 - On student employability: an increase in exposure to employability opportunities (21%); earlier communication about careers and developments in the careers services (both 17%); enhanced employer partnerships (11%).
 - On teaching staff: increased demand to support students (28%); increased emphasis on recruiting staff with appropriate skills (32%); increased use of 'sector experts' (11%).
 - On teaching practices: new initiatives to improve standards (24%); increase in teaching qualifications and training (24%); more support for staff (23%); more sharing of best practice (21%).

- 43% of applicants said they were aware of the TEF and 32% had some knowledge of it; the figures were higher for those applying to institutions awarded Gold.
- In terms of teaching quality and learning environment, applicants favoured subjective assessments gained through visits and forums; they were more likely to use numeric data when assessing student outcomes.

Northern Ireland's HEIs do not have to submit to the TEF, although they can do so if they choose. None has to date.

University & College Union (UCU) published [Understanding, recognising and rewarding teaching quality in higher education: an exploration of the impact and implications of the Teaching Excellence Framework](#), an independent study by Birmingham City University researchers.

- The views and experiences of over 6,000 UCU members working in HE across the UK were explored.
- Findings include:
 - TEF is unpopular with most respondents; only 10% welcomed its introduction.
 - Over 80% reported there had been no level of consultation and/or involvement in their institution's TEF-related activities and/or submissions.
 - TEF has had a negative impact on the workloads of academic and support staff.
 - TEF has had a greater impact on institutional teaching and learning policies than actual academic teaching.
 - Criticisms and concerns were raised about the legitimacy and credibility of TEF as an instrument of measurement.

HEPI published [Students back bailouts: Students' views on the financial health of universities](#), the results of Wave 5 of the HEPI/YouthSight Monitor.

- The survey was answered by 1,048 full-time undergraduates in January 2019, using quotas to reflect the UK student population in terms of age, gender and university type.
- Key findings:
 - Despite recent speculation about the financial standing of some universities, 83% of students are confident their own institution is in a strong financial position.
 - 77% believe government should step in if their university is threatened with closure.
 - 51% think fees should be refunded in the event of their university closing, while only 32% back merger with another institution.
 - 97% want to know if their university is in financial difficulty, in contrast with current practice, which hides financial problems from students.
 - 84% say they would have been less likely to have applied to their university if they had known it was in financial difficulty.
 - 89% don't know what Student Protection Plans are and 93% haven't seen their own university's Plan.

Jisc published [Horizons report on emerging technologies and education](#) to help HE and FE/skills leaders and practitioners decide which fourth industrial revolution technologies will prove most useful to them.

- The challenges identified are: finance; marketisation; student experience (expectations and wellbeing); the skills gap; the physical, virtual and data estates; innovation in teaching and learning; metrics and rankings; attracting and retaining talent; open science and research infrastructure; and cybersecurity.
- For each key technology, the report provides an overview, a short commentary on its relevance to research and education, and a Horizons group rating: 'watch', 'explore' or 'implement'.
- The technologies are:
 - **Data and analytics** (implement): already useful in areas such as business intelligence and learning, wellbeing, curriculum and intelligent analytics; if these could be joined up they could offer deep insight and compelling new tools.

- **Internet of things** (implement): the most obvious application is in buildings and facilities management, but Jisc has identified 23 cases in education and research through its intelligent campus project.
- **Immersive technologies** (explore): there are exciting examples of these being used to enrich learning and support remote learning, but they still have a long way to go to reach their full potential; some believe they will be useful for some disciplines but not transformative.
- **Artificial intelligence** (explore): already used in research and predicted to transform teaching, particularly through taking over the administrative aspects.
- **5G** (watch): likely to have a secondary impact supporting the development and adoption of other technologies, such as the tactile internet and holograms.
- **Blockchain** (watch): subject to a lot of speculation and hype, but may offer opportunities.
- **Robotics** (watch): robots have three potential roles in education – tool, peer and tutor – and are already being used in research; there are also possibilities in the running of the campus.

The Horizons group will produce a similar report every six months, with each report including a deeper dive into a challenge or technology that is attracting particular interest in the sector; this report includes a focus on mental health and wellbeing.

CESifo published [The political economy of higher education finance: how information and design affect public preferences for tuition](#), based on data from Germany.

- The question of whether HE should be free or paid for through tuition fees creates strong political tensions.
 - Germany is an 'interesting setting for studying the political economy of tuition', particularly for countries that struggle to introduce or maintain tuition fees.
 - In traditionally fee-free Germany, seven of the 16 states introduced fees in 2006/07; four of the state governments were voted out of power in the next election – all abandoned fees within a few years.
 - However, little is known about the extent to which the public at large – as opposed to special interest groups – favours or opposes fees and how these public preferences are shaped.
- Experimental findings include:
 - Providing the electorate with information about the earnings premium of a university degree increased support for tuition fees by 7ppt; the 'opposition-reducing effect' lasted for two weeks.
 - Providing information on fiscal costs and unequal access did not affect public preferences.
 - Designing tuition fees as 'deferred income-contingent payments' or as loan payments increased support by 16ppt, creating a strong majority in favour of tuition fees.
 - Public support depends on the level of tuition fees: the public was divided over tuition fees of €500 per semester, but a majority opposed fees of €1,500.
 - A large majority supported tuition charges for non-EU citizens.
- Findings suggest that information campaigns can help to gain public support for HE finance reforms.

The Financial Sustainability Strategy Group (FSSG) published [Understanding the impact of cross-flows on the financial sustainability of the higher education sector](#).

- FSSG is leading policy research with the aim of helping the UK HE sector to 'understand, manage and communicate its academic and financial sustainability'.
 - It is supported by the OfS, UK Research & Innovation, the Northern Ireland DfE, the Scottish Funding Council (SFC) and the Higher Education Funding Council for Wales (HEFCW).
- The report analyses the nature of income 'cross-flows' in HE.
 - Cross-flows exist at three levels: sectoral, institutional and subject or discipline.
 - Cross-flows occur when income from one activity is partly used to fund another, allowing a provider to pool resources to achieve its strategic aims.
- Findings suggest that cross-flows between different activities delivered by institutions are a necessity, are common and provide public benefit.
 - Financial and non-financial public benefits arise via numerous activities, including widening participation, sustaining important subjects that have decreasing applicants, and pursuing research that does not attract sufficient funding.

- Making cross-flows transparent internally helps HEIs to balance portfolios and identify where efficiencies could be made.
- Institutions may have to restrict some outreach and community activities if funding is reduced and flexibilities in how funding can be used is more restricted.

The UPP Foundation published [Truly Civic: Strengthening the connection between universities and their places](#), the final report of its Civic University Commission, chaired by former head of the civil service, Lord Kerlake.

- The importance of UK universities in their place is growing: universities have become one of the largest employers in many cities and areas, as well as major contributors to the economic and social wellbeing of their place.
- However, there have been losses:
 - The number of adult learners – often in the majority in the first civic universities – has declined rapidly.
 - Local research is seen as second or even third best.
 - As numbers of international students and major research programmes have grown, universities have lost their connection to place and local people.
 - UK policy has ignored place and led to huge inequalities across the country; universities, too, have been relatively dismissive of place; there has been a shift to place-based policymaking but funding is tiny compared to that going into international excellence.
- Despite this, there are many good examples of civic initiative and engagement.
- The Industrial Strategy and devolution create a major opportunity; the Office for National Statistics ruling that student loan debt is public will result in pressure to reduce the impact of university spending in England, but an increase in expectation that some funding will go towards wider public benefit.
- Universities are civically engaged, but rarely civic universities: a true civic university has an evidence-based strategy that explains why and how its activity adds up to a civic role; civic universities must be clear about what constitutes their 'local'.

So far, 37 UK universities, including Ulster University, have [signed a Civic University Agreement](#), which commits them to: understand local populations and their needs; understand themselves and what they have to offer; work with other local anchor institutions, businesses and community organisations; and develop a clear set of priorities.

IZA published [When Paywall Goes AWOL: The Demand for Open Access Education Research](#), examining the impact of charging for access to academic articles.

- Many academic organisations and researchers are moving towards providing open access to publications, making academic papers free for anyone to download; however the impact of paywalls is unclear.
- The paywall of six American Educational Research Association (AERA) journals went down for two months in 2017; the study compares the uptake of articles during this period with those on the *AERA Open* journal, for which access is always free.
 - Article downloads in the paywall journals increased by 60–80% per month – this suggests that 'thousands of potential readers interested in educational research are stymied' by paywalls.
 - However, *AERA Open* article downloads decreased by ~4,440 per month, down ~30% compared to the same months of the previous year when the other AERA journals were 'paywalled' – this suggests that there is limited demand for education research articles.

WORKFORCE ISSUES

Advance HE published [What Works: Supporting Women's Careers](#), a review of publications to identify effective interventions for institutions.

- Major barriers are still preventing gender equality in career progression in HE.
- Interventions found to be effective in supporting women's careers in the sector include:
 - Using executive search firms to fill senior university posts
 - Encouraging mentoring/coaching schemes

- Allowing flexible working and encouraging a healthy work-life balance
- Promoting dedicated programmes to support women's careers and development
- Providing equality training and guidance
- Supporting career development and talent management
- Collecting and analysing data for research.

IZA published [Gender Equality and Positive Action: Evidence from UK Universities](#), examining the impact of the Athena Scientific Women's Academic Network (SWAN) Charter.

- The Athena SWAN Charter is a gender equality accreditation process that recognises good practice in the representation and career progression of women in STEM and medicine (STEMM).
- The paper examines the impact of the Charter on the wages and employment paths of female staff in Russell Group universities in the UK over the last decade.
 - The gender wage gap closes following Athena SWAN accreditation; however, females at a non-professorial level are not more likely to be promoted to professor after accreditation, or to move to an Athena SWAN accredited university.
 - This suggests that the higher wage growth experienced by non-professorial females after Athena SWAN accreditation is likely to come from pay rises within a particular rank.
 - Although the percentage of females increased over the period, in 2016 only 15% were women in hard science departments compared to 50% in social sciences departments such as sociology.
 - Trends in female representation in economics departments over this period remained flat at about 22%.

The University of Birmingham Centre for Research in Race & Education published [Advancing Equality in Higher Education: An Exploratory Study of the Athena SWAN and Race Equality Charters](#), funded by the British Academy and Leverhulme Trust.

- Interviews and focus groups with individuals involved with either the Athena SWAN or Race Equality Charter in UK HEIs aimed to: identify aspects of good practice on gender and race equality; explore the influence of charter marks on work practices; and identify research and policymaking issues.
- Findings include:
 - The charter mark process is enabling positive change in gender and race equality in universities.
 - Challenges include the danger of charter marks encouraging a 'tick box' or superficial change, and the difficulty of achieving institution-wide or larger societal change.
 - There are questions about the overall institutional responsibility for the charter mark process, and the heavy administrative workload involved.

IZA published [Who Founds? An Analysis of University and Corporate Startup Entrepreneurs Based on Danish Register Data](#), examining the characteristics of employees who decide to found a start-up.

- Personal-specific and employer-specific characteristics were examined to determine which had an effect on their decision to subsequently found a start-up business.
 - University employees were compared with corporate employees in R&D in Denmark, and their progress tracked from 2001 to 2012.
 - The focus was on those with at least a Bachelor's degree in engineering, natural sciences or health.
- Findings include:
 - Overall, there are few differences between the characteristics of university and corporate start-up entrepreneurs.
 - The common elements influencing both university and corporate entrepreneurs are: education, senior management team membership, previous job mobility and being male.
 - In addition, university employees who founded a start-up were also more likely to have a Master's degree in engineering, have gained some self-employment experience via secondary jobs, to hold patents, and have either low or high family wealth.
 - Apart from family wealth, all the above characteristics are available via CVs – policymakers can use this information to target specific individuals and create human resources policies that support potential entrepreneurs.

RECRUITMENT

The OECD published [Do digital skill certificates help new workers enter the market? Evidence from an online labour platform](#).

- Several online platforms have introduced 'skill certification schemes' to help unvetted newcomers break into the labour markets.
- Evidence shows that 'signalling' in the form of completing skill certificates increases the number of projects won and increases the value of the projects that are won, with the greatest effect being on the latter.
- Freelancers with only a few successfully completed projects can earn a return of over 10% for completing skill certificates, while freelancers with longer work histories obtain no benefit.
 - The first few certificates completed tend to bring returns of around 13%, but these decrease as freelancers accumulate more certificates.

APPRENTICESHIPS

The Edge Foundation published [Our Plan for Apprenticeships: Broader, Higher Quality, Better Prepared](#), examining the system in England.

- While perceived positively by business and apprentices, apprenticeships in England risk having their reputation tarnished by a policy focused on quantity at the expense of quality.
- There is no lack of effective practice; what has been lacking is the creation of a stable ecosystem and the ability to scale up what works; issues include:
 - English apprenticeships are narrower, shorter and involve less off-the-job training and less general education than other leading systems.
 - The new apprenticeship standards may be more restrictive than expansive, preparing individuals for narrow occupations; large employers have dominated the development process.
 - Smaller businesses are finding it harder than ever to engage with the development of standards and the delivery of apprenticeships.
 - There is a question about the amount of off-the-job training compared to international benchmarks.
 - The economic value of apprenticeships is significantly greater when undertaken by younger people and those new to job roles – the opposite of where recent growth has taken place.
- Recommendations include:
 - Refocusing apprenticeships principally on 16–24 year-olds or those new to the sector/occupation.
 - Developing a clear architecture for apprenticeships and technical education, making it easier for young people to choose their route and for employers to operate across the four UK nations.
 - Making quality the prime driver, replacing the current target with a range of quality indicators.
 - Re-introducing young apprenticeships for 14–16 year-olds and adopting the Scottish Foundation Apprenticeships model for 16–18 year-olds, to offer genuine preparation and progression routes.
 - Broadening apprenticeship training and including transferable meta-skills in every apprenticeship, ensuring that they are truly 'expansive' not 'restrictive'.
 - Ensuring that the job and training are directly connected, and supported through a personal development plan.
 - Rebalancing the programme to focus on small businesses, developing simple 'plug and play' apprenticeships with minimal bureaucracy.
 - Significantly expanding the Apprenticeship Training Agency model and giving cities and regions more responsibility for tailoring the programme to meet local needs.
 - Significantly expanding degree apprenticeships, clarifying the future position on funding.

The OfS published [Degree apprenticeships: A viable alternative?](#), looking at how far they are meeting stakeholder expectations in England.

- The government has asked the OfS and the Institute for Apprenticeships & Technical Education (IfATE) to work together to encourage the growth of degree apprenticeships as a means of widening access to HE for under-represented groups.
- Some commentators suggest that degree apprenticeships are just an alternative for learners who would have attended university anyway; others point to barriers to their development.
- Current numbers are very low, but they are expected to increase considerably, including in public sector jobs.
 - 10,870 apprentices are reported to have started at Levels 6/7 during 2017/18 – more than in all previous years combined.
 - However, this represents less than 3% of apprenticeship starts that year, and around 1.5% of those starting degree qualifications at equivalent level.
- Degree apprenticeships seem to be benefiting both school leavers from disadvantaged backgrounds and mature learners already in the workforce who don't have HE qualifications, potentially increasing social mobility.

The OfS will highlight degree apprenticeships on a new website being created to help prospective learners make informed decisions about HE; OfS is also engaging with other regulators to reduce barriers.

Policy Connect published [Degree Apprenticeships: Up to Standard?](#), a report of its Higher Education Commission inquiry in England.

- Degree apprenticeships in England are intrinsically sound policy, and have the potential to both improve social mobility and increase economic productivity; however, they will not achieve the Government's ambitious policy objectives unless urgent improvement measures are set in place.
- Among the findings:
 - Employers welcome the principle of being in the driving seat to develop standards, but in practice standards are often inflexible and risk becoming out-of-date in relation to future skills needs.
 - There is an absence of 'stop-off points' at Levels 4 and 5 that might particularly benefit those from disadvantaged backgrounds.
 - Initial analysis of education and employment cold spots and apprenticeship figures indicate a 'middle class' capture, while degree apprenticeship cold spots are emerging in existing areas of severe educational and economic disadvantage.
 - Prospective degree apprentices should be given financial support similar to traditional university students, so that they can access opportunities around the country.

Universities UK has launched a project to map out a future vision for degree apprenticeships in order to ensure they meet skills needs, provide opportunities and contribute to productivity and economic growth.

The National Centre for Universities & Business published [Degree Apprenticeships Briefing](#), updated information for a report released in 2016.

- The short paper explains how the landscape has changed considerably since degree apprenticeships were launched in 2015 and the apprenticeship levy introduced in 2017.
 - It describes the policy changes, what degree apprenticeships are, how they are organised and where they are being developed.

The City & Guilds Group and its Industry Skills Board published [Making Apprenticeships Work: A reflection on practice](#), their second report on quality apprenticeships in England (the first report was released in 2015). [An email address is required to access the full report.]

- Apprenticeships are becoming 'a sustainable and universally respected high-quality and high volume route to excellent careers'; this can be enhanced with a few policy changes and by addressing some practical operational matters.
 - The ongoing challenge is how to make sure that apprenticeships are demanding and worthwhile.
- City & Guilds has proposed a quality framework model as a means of ensuring a wider systematic approach to addressing and measuring quality.
 - The report examines to what extent a common framework remains critical to ensuring learners experience a high-quality programme, and the views of employers and providers on its implementation.
 - Consistent and rigorous adoption of a common quality framework can help to reduce the bureaucracy and workload for all involved in delivery.

- The quality framework has four main stages of focus:
 - Skills need analysis, recruitment, selection and induction
 - Defined learning programme (with support, feedback and staging posts to allow monitoring and intervention)
 - Clear definitions and sign-off of mastery threshold with reliable, valid and robust end-point assessment
 - Shared and accountable progression options and expectations for learner and employer.
- The review highlighted five key areas for an effective recruitment/induction stage of the quality framework: duration needs to match the occupational training requirements; recruitment and selection; initial assessment; the apprenticeship agreement; and induction.
- Nine recommendations for government, the IfATE, employers and apprenticeship providers to further develop the system and support the adoption of a quality framework for apprenticeships, include:
 - Adopt and embed a common quality framework to drive inspections and regulation.
 - Explore greater flexibility in shape and duration of programmes.
 - Ensure high quality in assessment plans and retain expert independent judgements.
 - Review and refocus meaningful measures for impact and success of the programme.
 - Increase promotion of apprenticeship opportunity in schools and recruitment channels.
 - Conduct research into employer engagement and decision-making regarding apprenticeships.

SKILLS POLICY

The Learning & Work Institute (L&W) published [Time for Action: Skills for economic growth and social justice](#), arguing that improvements in the UK's skills base have stalled and are set to slow further, creating an 'unambiguous' case for a higher ambition.

- The UK's skills base has long lagged that of comparator countries, for example 9m people in England lack functional literacy and/or numeracy, and a higher proportion of people have low skills compared to other countries.
- The UK's qualification profile is projected to improve, but this would still fail to match other countries' rates of improvement.
 - By 2030, the UK could: fall from 4th to 6th of the G7 countries for low skills; remain 5th for intermediate qualifications; and remain 4th for higher qualifications.
- However, by 2030 the UK could boost its economy by £20b per year and support an additional 200k people into work, if it were to:
 - increase the proportion of people with functional literacy and numeracy to 90%
 - increase the proportion of people with Level 2 to 20% and Level 3 to 30%
 - maintain the expected rate of progress in higher qualifications, so that 43% have Level 4+.
- Given that 75% of the UK's 2030 workforce has already left compulsory education, this will require significant increases in adult participation in learning.
 - In England, it would require current adult achievement rates to be doubled, however it would only require a return to the Level 2/3 rates of 2010 – with a greater emphasis on Level 3 – and a 25% increase on 2010 in terms of basic skills attainment.

The general messages in the report apply to each nation and the analysis is at UK level. However, with skills policy devolved, the implications for investment and policy will vary by nation.

The Resolution Foundation published [Pick up the pace: The slowdown in educational attainment growth and its widespread effects](#), taking stock of the UK's situation when the expected exit from the EU has ignited the debate on skills.

- Improvements to the UK's human capital stock have been driven by flows of increasingly educated cohorts of young people; however, the pace of growth in educational attainment has more than halved since the start of the 21st century.
 - This slowdown has occurred in almost all UK regions.
 - The only exception has been among men from BAME backgrounds, who experienced higher rates of attainment growth during 2012–18 than during 1997–2003.

- The slowdown is a concern as young people's qualifications are a major driver of progress on productivity and living standards; it is also frustrating as young people are those within closest reach of policy.
- Attainment growth has not been limited to particular jobs or specific groups, but large attainment gaps persist; for example, as degrees have become the 'new norm', advantaged individuals have differentiated themselves by gaining Master's-level qualifications.
- Regions that were already ahead have seen the greatest growth in young, degree-holding populations; for example, the Northern Ireland degree attainment rate for 25–28 year-olds in 2016–18 was 35% – 1ppt lower than London's rate 20 years earlier.
- While higher-level academic qualifications can help fill some of the largest skill shortages, mid- and higher-level technical/vocational qualifications are strong candidates for restarting attainment growth.
- Increasing the pace of progress is an imperative – a concerted effort is needed to lift young people off the educational attainment 'floor', and to ensure that attainment growth spreads to groups and regions currently left behind.
 - Policies are needed to boost the proportion of young people attaining Level 3+ qualifications, and to improve the offer at this level.
 - Efforts that encourage employers to invest in workforce skills are key, subject to training being high quality and not disproportionately directed towards those who are already highly qualified.

The Chartered Institute of Personnel & Development (CIPD) published [*Productivity and Place: The role of LEPs \[Local Enterprise Partnerships\] in raising the demand for, and use of, skills at work in England.*](#)

- The UK experiences high levels of skills mismatch, with either underutilisation of workers' skills or workers who are inadequately skilled for their roles.
 - A recent OECD report exhorts an 'ecosystem' approach to skills utilisation that seeks to reconcile skills supply and demand at higher levels.
- In England, local skills policy falls within the remit of LEPs, charged with promoting local economic growth and establishing Strategic Economic Plans to outline how to deliver this.
- The report finds evidence of a strong emphasis in LEPs on skills supply, with limited focus on skills demand, which frequently results in low-skills equilibrium.
 - There is a tendency to rely on local intelligence and a widespread emphasis on analysing skills gaps around current skills shortages, rather than on how skills demand might be influenced.
- The emphasis is largely on moving an individual from education or unemployment into work, with little activity beyond that, for example around in-work progression.
- Business influence on supply can be problematic, as firms are not always able to effectively articulate their needs; needs are usually taken at face value rather than making any attempt to influence them.
- Strategic Economic Plans typically position skills as a mechanism for economic development, enhancing productivity and creating inclusive growth; few plans recognise the general economic benefits of training local people, for example that increasing wages will have an impact on local demand for goods and services.
- Overall, coordinated and coherent approaches to local skills supply and demand are needed, addressing the policy fragmentation, lack of resource and infrastructure that result in absence of skills ecosystems and low-skills equilibrium.

Centre for Cities published a [*City centres: past, present and future – Their evolving role in the national economy, putting skills at the heart of successful high streets.*](#)

- The general impression is that the high street is dying, however in some places, such as Manchester and Leeds, high streets are thriving, mainly because of their resurgence as places to work.
 - This has created a market for entrepreneurs to sell to – increasingly services rather than goods – and made them better places to live, with easy access to jobs, shops, bars and restaurants.
- In places with struggling high streets, the challenges stem from relatively lower levels of investment from high-skilled businesses, with implications for the availability of high-skilled jobs more widely.
 - These firms increasingly prefer a city centre location, and if a city centre is failing to attract them, the city as a whole will likely lose out, affecting wage and career progression opportunities.

- As the UK continues to specialise in high-skilled service activities, city centres will play an ever larger role in the national economy.
- Policymakers' priorities are to maintain the success of the strongest city centres with enough commercial space for future growth, and focus on promoting growth in weaker city centre economies.
- Recommendations include improving the skills of residents to attract higher-quality business investment – all city centre strategies need to set out what they will do about skills at early years, school age and working-age levels.

The European Commission published [Support to the Development of the ESCO \[European Skills/Competences, Qualifications and Occupations\] qualifications pillar – Final report.](#)

- ESCO is 'a common classification language designed to connect people to jobs', organised in three interrelated pillars: occupations, skills (including knowledge and competences), and qualifications (existing information on national qualifications of EU member states).
 - Its aim is to create 'consistent, transparent and usable' terminology for the European labour market, and education and training sector.
 - In an 'increasingly flexible and lifelong labour market', it is useful for someone working in a declining sector to be able to find out what other jobs may be open to their existing skills and qualifications, and to understand what extra skills and qualifications would help them move into a growing sector, possibly in another EU country.
- The project on the qualifications pillar set out to enhance ESCO so that it best meets the needs of the European labour market by maximising the coverage of qualifications.
 - It examined what quality assurance arrangements should be considered to ensure the integrity of ESCO is maintained when private, sectoral and international qualifications are included.
 - It looked at whether it is possible to link the learning outcomes of qualifications included in the ESCO qualifications pillar with the skills pillar.
- Conclusions include:
 - There are important trade-offs between strict verification of quality assurance of qualifications, cost, expected speed and resulting transparency.
 - Flexibility is important as new skills and means of acquiring qualifications are continually emerging.

IZA World of Labor published [Improvement in European labor force participation: Do structural reforms or educational expansion drive higher employment and participation rates?](#) by the Centre for European Policy Studies (CEPS).

- Employment and labour force participation (LFP) rates have increased throughout Europe since the 1990s, with little interruption from the Great Recession.
 - While many credit labour market reforms for this progress, ongoing educational expansion might be more important.
- The higher skilled have higher employment rates, with little variation across EU countries.
 - In 2013, the average employment rate of those without completed secondary education was about 53%, while it was 83% for those with completed tertiary education.
 - The difference between the two groups in LFP rates was about 25ppt.
- The explanation lies at the crossroads between human capital theory and signalling theory.
 - Employers have a preference for workers with HE levels because they possess a greater body of knowledge; at the same time, faced with many applications, a degree from a prestigious institution or better grades might provide a signal of general underlying qualities.
 - However, signalling cannot be a long-term major factor, since firms would not continue to hire graduates if workers without a degree but with more experience proved to be more productive.
- The incentive to take up a job is stronger for higher-skilled individuals – those with a degree earn on average 120–200% more than those who have not completed secondary education.
- It is likely that superior labour market performances will remain as HE becomes a mass phenomenon.
 - Even in the US, where over 40% of the working-age population has a tertiary degree, the LFP rate of those who are high skilled is around 80% compared with 60% for those who are low skilled.

- Shifts in the workforce towards graduates are not associated with lower activity rates of the lower skilled.
- The overall increase in activity rates across the EU seems to have two sources:
 - The composition of the labour force is changing rapidly, with the share of the low skilled falling and that of the high skilled increasing.
 - There has been an increase in the activity rates of the low skilled, mainly among the elderly, suggesting that pension reforms might have been more important than general labour market reforms.
- Overall, findings suggest that European labour markets are changing, but the main drivers seem to be the 'massification' of tertiary education and the tightening of early retirement conditions, rather than reforms of the labour market itself.

Cedefop (the European Centre for the Development of Vocational Training) published [Preventing Low Skills Through Lifelong Learning](#), a briefing note on flexible learning pathways.

- In 2017, 15.7% of low-qualified 15–29 year-old Europeans were not in education, employment or training (NEET), compared to 9.6% of their higher-qualified peers; 13.9% of low-qualified 25–64 year-olds were unemployed, compared to 4.2% of their higher-qualified peers.
 - Low skills can be devastating for the individuals concerned, damaging their social status, earnings, self-confidence, health and ability to engage in civil society.
- The EU has two large-scale initiatives to help member states: the Youth Guarantee for under-25s; and Upskilling Pathways to help adults not eligible for the Youth Guarantee to get training and strengthen literacy, numeracy and digital skills and/or acquire broader skills.
- For young people, comprehensive guidance and counselling are essential, and measures are most effective when tailored to individual financial, psychological, health-related or educational needs.
- Adults' learning needs tend to be more diverse and sometimes more difficult to address; some adults may lack awareness of their deficiencies or may be embarrassed to admit them, while many possess identifiable skills, including occupational skills acquired at work.
 - Many member states have arrangements for validation of non-formal and informal learning, making it possible to assess and recognise existing skills, opening the door to upskilling.
- Five success factors have been identified: stakeholder cooperation and partnerships; pathway approaches; preventive action to improve basic skills; upskilling to meet employers' needs; and work-based learning.

CESifo published [Knowledge Remittances: Does Emigration Foster Innovation?](#), analysing the effects of emigration on patenting levels in source countries.

- Given the strong increase in labour mobility and rising concerns in countries experiencing net outflows of skilled people, it is important to understand the consequences of migration.
 - Should firms and policymakers think and act in the context of a 'global war for talent' or can the international mobility of skilled individuals make everyone better off, in particular by stimulating cross-border knowledge flows?
- Countries that experience emigration increase their level of patenting, and this has led to a catch-up process that has brought origin countries closer to the 'technology frontier'.
- The international mobility of people has increased technology and knowledge 'spillovers' as evidenced by cross-border patent citation in the respective countries.
 - Specific channels that could have fostered the knowledge spillovers are the transfer of tacit knowledge, the increased and improved network of inventors, and return migration.
- Recommendations include facilitating further migration within Europe, including through mutual recognition of qualifications and the promotion of language learning, and easing skilled migration into to Europe.

The World Economic Forum (WEF) published [Strategies for the New Economy: Skills as the Currency of the Labour Market](#).

- The current signals used as a proxy for skills – qualifications, the brand of an educational institution or an employer, and a job applicant's social networks – contribute to both labour market inefficiencies and social inequalities.

- Shifting to a system where skills are the core currency of the labour market has the potential to: tackle existing inefficiencies in job-fit; help prepare for greater volatility in the labour market; and enhance opportunity, prosperity and equality for workers.

■ **Learning ecosystem strategies:**

- Build, adapt and certify foundational skills: a fundamental rethinking of key skills provides a new imperative to extend opportunities for refreshing and adequately certifying them across all age groups; a reframing of traditional approaches to learning foundational skills should also be considered and includes new teaching approaches such as play and gamification.
- Build, adapt and certify advanced skills: educational technology can offer ways to move beyond assessing advanced skills based on time spent, credits completed or exams, towards iteratively measuring and developing proficiency and identifying both skills and subject area knowledge in tandem.
- Build, adapt and certify skills among the adult workforce: the scale of the reskilling and upskilling challenge requires better collaboration between businesses and a shift away from the traditional delineation between government-funded and employer-funded education; education technology provides a range of opportunities to develop cross-applicable skillsets among adult learners at lower costs and greater scale.
- Realise the potential of educational technology and personalised learning: educational technology can broaden access to learning through open-source courseware and better opportunities to reskill through micro-credentials, but current solutions need to be realigned with comprehensive skills frameworks.

■ **Workforce ecosystem strategies:**

- Map the skills content of jobs: a dynamic system for mapping skills to tasks and jobs will enhance the signalling of skill needs between education systems and the labour market.
- Design coherent and portable certifications: a closer focus on inter-operable skill certification alongside more broadly aligned standards for proficiency and assessment has the potential to empower individuals by enhancing their awareness of the extent and value of their skillset.
- Rethink organisation and talent management processes: move from a talent management system of organising and filling jobs to a system that adapts to changing work and skills, meaning seamless and continuous matching of clusters of skills to evolving work requirements.

■ **Enabling environment strategies:**

- Drive momentum around the concept of skills: move from a disproportionate focus on knowledge and facts to a competency system that includes attitudes and values.
- Align skills taxonomies: the majority of taxonomies in use are bespoke, seldom shared and often considered proprietary; new systems are in trial, including Nesta's data-driven taxonomy and the University of Chicago Open Skills Project.
- Shape culture, mindsets and mechanisms for lifelong learning: the illiterate of the 21st century will be those who cannot learn, unlearn and relearn; a more even distribution of funding will incentivise the notion of continuously shaping one's skillsets, benefiting both employers and employees.

SKILLS GAPS & SHORTAGES

City & Guilds published [findings](#) from a survey of 2,000 workers in Great Britain as part of its [#LearningNext](#) campaign for lifelong learning.

- 76% believe it is important to continuously update their workplace skills regardless of age or career stage.
 - 46% say they are getting enough support from their employer to develop their workplace skills.
 - 24% say they are not getting enough feedback from managers on the skills they should learn.
- 81% believe the skills they need for their job will change over the next five years.
- 33% did not learn any new workplace skills in 2018; the figure is higher for those aged 55+ (48%) and for part-time workers (42%).
- The biggest barriers to learning new workplace skills were time away from the job (42%), lack of employer investment in development and training (29%), and lack of personal funds (28%).

Data analysts Emsi published [Focus on the Demand for STEM Jobs & Skills in Britain](#), aiming to understand the STEM skills shortage in detail.

- Demand for STEM jobs is not uniform across the country; only by 'better understanding the specific demand for specific STEM jobs and skills in specific parts of the country' can the problem be tackled effectively.
- From 2003 to 2017, the growth in STEM jobs (20%) outpaced the growth in non-STEM jobs (15%).
 - Future growth rates to 2026 are predicted to be 3.1% for STEM, and 2.5% for non-STEM jobs.
 - There has been significant growth across the eight STEM job clusters examined: conservation professionals; IT professionals; IT technicians; scientists; production managers; science and engineering technicians; engineers; and quality professionals – the first four outstripped general job growth.
- There are big variations between industries, and employers have different needs which must be taken into account.
 - Avoid referring to STEM shortage 'as if it were a national problem', and treat it as a vast number of local STEM shortages, each requiring a different solution.
- Variations in pay between regions need to be understood by careers advisers and recruiters.
 - There is a fairly big spread of earnings potential across the jobs clusters, however the median wage for all eight STEM clusters is above the median wage in Britain.
 - At the higher end, jobs for e.g. IT professionals, production managers and scientists are among the best paid in Britain.
- Particular attention needs to be given to identifying and understanding the specific skills employers are looking for.
 - The top soft STEM skills requested by employers over a 12-month period include: leadership (5.9%); leading (4.0%); learning (3.1%); scheduling (2.8%); and literacy (1.7%).
 - The top hard STEM skills include: management (16.3%); engineering (13.7%); testing (12.9%); communications (10.2%); information security (10.2%); and server (computer science) (10.2%).

Engineering UK published an updated [Excel resource](#) to accompany its [Engineering UK: The state of engineering 2018](#) report.

- The 2019 resource features information from a large number of sources, including the Engineering UK Engineering Brand Monitor, the Office of National Statistics and the Engineer Salary Survey.

The next full State of Engineering report will be published in early 2020.

TRAINING & DEVELOPMENT

England's Department for Education published [Online adult learning: Rapid evidence assessment](#), a report of research to identify best practice.

- The review examined government-led initiatives in France, Singapore and Ireland, as well as an example led by AT&T in the USA.
- Findings include:
 - Online learning needs to be well promoted, as it tends to be less well known to the general public.
 - Training needs some form of human interaction to be effective.
 - Opportunities need to focus on skills that will meet future economic needs.
 - Potential learners need good information to help them identify courses that will develop the skills that are in demand, for example 'roadmaps' and feedback ratings on quality and outcomes.
 - The initiatives should incorporate practical learning experiences, so that learners have the opportunity to apply their new skills.
 - An online portal will enable learners to take personal responsibility for their skills by giving them access to a single source of advice on careers and employment opportunities, the skills they need and the courses that will help them attain them.

England's Department for Education published [Learners and Apprentices Study: Reasons for non-completion](#), the report of a qualitative study.

- Overall, motivations were broadly extrinsic rather than intrinsic and focused on job acquisition, career progression and pay rises.
 - Individuals saw their course as a way to move their life forward within their local area, without making significant changes to their circumstances.
- They generally enjoyed the content of their course, the tutor support they received when it was at an appropriate level, and the support they gained from their peer group.
 - However, they commonly experienced challenges such as a lack of sufficient flexibility, loss of childcare, and employers not allowing them enough time to do their coursework.
 - Some had managed to negotiate effectively with tutors, family and employers for additional support.
- Non-completers dropped out when one or more of three key areas were not satisfied, often due to issues that overlapped across two or more areas:
 - When core personal issues – family, health, finances – took priority over learning
 - When they didn't see their course as valuable, because it wouldn't enable them to pursue their career goals
 - When their programme failed to meet their expectations for functional delivery.
- Levels of support varied but some common issues emerged, including insufficient information upfront about their course, insufficient flexibility around other priorities, and insufficient tutor support.
- Although they expressed a strong preference for face-to-face learning, they identified ways in which online support could be helpful as a supplement.

The Social Mobility Commission (SMC) published [The adult skills gap: is falling investment in UK adults stalling social mobility?](#) – 'adult skills' refers to education and training undertaken after leaving formal full-time education.

- In general, people from the lowest socioeconomic backgrounds are the least likely to receive adult skills investment, resulting in widening existing skills gaps.
 - Disadvantaged adults with the lowest qualifications are the least likely to access training.
 - Those whose parents were working class are less likely to undergo training than those whose parents were middle class, even if they are doing the same type of job.
 - Employers are more likely to invest in those with higher skills – graduates are three times more likely to receive training than those with no qualifications.
 - Professionals and managers are twice as likely to receive training as lower-skilled workers.
 - Better-off individuals are more likely to fund their own training.
- The Government in England only funds 7% of all investment in adult skills; in 2016–17 over £63m of the adult training budget was unspent.
- UK spend on vocational training per employee was half the EU average.
- The public sector is more likely to provide training than the private sector.
 - In 2017, 36% of public sector workers participated in training compared to 19% in the private sector.
- Men in routine and manual occupations were the least likely group to have participated in training regardless of age.
- In 2017, more women than men undertook training (26% versus 21%), more people from black and black British ethnic backgrounds than from white (32% versus 23%), and more younger than older people (25% of 25–29 year-olds versus 17% of 60–64 year-olds).
- In Northern Ireland:
 - Total employer spend on training and the amount per employee fell from 2011–15 (in Scotland the former increased by 24% and the latter by 20%).
 - 16% of 25–64 year-old workers participated in training in 2017 (down from 18% in 2010), the lowest in the UK (24.1% in Wales in 2017).
 - Men and women were less likely to have received training than those in England.

The SMC monitors social mobility in the UK and promotes it in England.

L&W published [Social Metrics: Measuring the Outcomes of Non-accredited Learning](#), the report of exploratory work undertaken at the request of England's Department for Education.

- Changes in the way adult learning in England is funded through the Adult Education Budget, particularly in areas where it is being devolved, will increasingly demand a wider range of more rigorous outcome measures.
- Providers were asked to select from a range of themes: health & wellbeing; confidence & progression; social relationships; family relationships; financial capability; and social capital.
 - Providers based their selection on local need, either because the theme reflected outcomes they already thought were achieved by their learners, or because such outcomes were sought by local stakeholders and partners.
- From within their chosen theme, they were helped to select from a range of validated tools and helped to implement them with their learners, with varying levels of success.
- Overall, it was concluded that providers can implement a range of social metrics effectively and, despite the complexities, retain robust independence of data collection, where implementation methods gain tutor and learner buy-in.
- Mental health and wellbeing metrics are becoming well established; this project shows that other outcomes can be captured too, with the social capital and employment readiness tools working well in some contexts.

The OECD published [Getting Skills Right: Future-Ready Adult Learning Systems](#), key results from the Priorities for Adult Learning (PAL) Dashboard.

- Only 20% of adults participate in education and training in any given year, with low-skilled adults three times less likely to undertake training than high-skilled adults (20% vs 58%).
 - Other groups falling behind include older people, low-wage and temporary workers, and the unemployed.
 - People in jobs most at risk from automation also do less training (40%) than workers with jobs at low risk (59%).
- Around half of adults across the OECD don't want to train, while a further 11% would like to but face barriers such as lack of time, money or support from their employer.
- A dashboard compares individual countries and highlights critical areas for reform as well as future-readiness on six dimensions.
 - The UK is in the top third of countries for impact and alignment, and the middle third for coverage, inclusiveness, flexibility and financing.
- A separate [country note](#) on the UK points out that:
 - Structural changes are putting the adult learning system under mounting strain, although less so than in other OECD countries.
 - While the share of adults with low levels of cognitive skills is below OECD average, it is worrying that skill levels of young adults do not exceed those of older adults despite higher levels of attainment; unless their skills can be improved the competitiveness of the UK is likely to suffer.
 - 49% of adults participated in job-related adult learning during the previous 12 months; this share drops to 28% for low-skilled adults and 29% for long-term unemployed.
 - The lack of flexible training opportunities is a typical obstacle; in the UK, training was organised as distance learning for only 14% of participants.
 - The UK is one of the countries with the lowest correspondence between the skills reported as development priorities by employers, and the skills targeted in their training activities.
 - Workers in jobs with a significant risk of automation have a participation rate in training 21ppt lower than workers in jobs with a low risk of automation.

The WEF published [Towards a Reskilling Revolution: Industry-Led Action for the Future of Work](#).

- The report is the output of phase two of the 'Preparing for the Future of Work' project, which provides a platform for collaboration by major industries, the public sector, unions and educators.
 - It covers the business case for reskilling, as well as data and proposed actions to support the transition to the future of work in five industries: aerospace; aviation, travel and tourism; consumer; financial services; and oil and gas.

- The 1.37m workers who are projected to be displaced fully from their roles in the next decade (according to US Bureau of Labor Statistics) could be reskilled to similar skillset, higher-waged, growing roles at an average cost of \$24,800 per displaced worker.
- In the US, an overall investment of \$4.7b by the private sector could reskill 25% of all workers in disrupted jobs, with a positive cost-benefit balance.
 - Public-private collaboration could reduce costs/times by 30% through pooled resources and economies of scale, enabling nearly half of disrupted workers to be reskilled.
 - There is significant evidence of a quantifiable return for government in addition to broader societal good.
- The report outlines recommendations and case studies, and presents industry-specific adaptation roadmaps to prepare for the future of work.

The Centre for Economic Performance (CEP) published [Skill Based Management: Evidence from Manufacturing Firms](#), investigating the link between management practices and workforce skills, and the connection with universities.

- Skills measures are based on data for universities and regional labour markets across 19 countries: Argentina, Australia, Brazil, Canada, Chile, China, France, Germany, Greece, India, Italy, Japan, Mexico, New Zealand, Poland, Portugal, Sweden, UK and USA.
- One measure of skill supply is the distance to the nearest university for each manufacturing plant.
 - Companies further away from universities employ fewer skilled workers and are worse managed.
 - Analysis using regional skills premiums suggests that variation in the price of skill drives these relationships.
 - It is possible that the results are driven by better-managed firms choosing locations close to universities.
 - The skill premium is inversely related to regional university presence (universities per million people); this suggests that skill is expensive when it is relatively scarce in a location and cheap when it is abundant.
 - The university effect is more likely to operate via their role as 'producers of general human capital', rather than as providers of consultancy services or training for local firms.
- Policies to raise general human capital and those specifically aimed at improving management practices are more effective when they are implemented together.
- Managers aiming to implement or maximise the effectiveness of modern management practices should ensure they recruit sufficiently skilled workers and managers.

OLDER WORKERS

IZA published [Ageing and Skills: The Case of Literacy Skills](#), examining the relationship between ageing and literacy skills in a sample of OECD countries.

- An ageing population, technological change and the changing nature of work, and the importance of literacy for social and economic wellbeing mean the relationship between ageing and skills has growing policy significance.
 - Workers need to be able to maintain skills and/or acquire new skills throughout their working lives.
 - Understanding the potential depreciation of skills at older ages is relevant to employers and workers who might want to prolong their working lives.
- Analysis was based on three surveys: the International Adult Literacy Survey (IALS) 1994-98; the Adult Literacy & Life Skills Survey (ALL) around ten years later; and the recent Survey of Adult Skills, part of the Programme for the International Assessment of Adult Competencies (PIAAC).
 - The countries focused on were Belgium, Canada, Finland, Netherlands, Norway, RoI, Sweden and USA.
- Literacy skills were found to decline with age and in most of the sample countries, successive birth cohorts tend to have poorer literacy outcomes.
 - The analysis method used found that the rate at which literacy proficiency falls is much more pronounced than is apparent in the relationship between age and literacy skills at a point in time.
 - It is also suggested that higher initial literacy can moderate the influence of cognitive ageing.

EMPLOYMENT: RIGHTS, RESPONSIBILITIES & WAGES

The CIPD published [*Megatrends: Flexible Working*](#), a report by a task force established in response to the government challenge to advertise all jobs as flexible.

- There is no agreed definition of flexible working, but there are a few commonly recognised arrangements or practices, including part-time work (the most common), job-sharing, working from home and zero-hours contracts.
- In 2017, 27% of employees had one of a set of flexible arrangements (down 4ppt from 2012), while an additional 18% worked part-time without any further flexible working arrangements (down 3ppt).
 - Women, the youngest and oldest age groups, those with dependent children, public sector employees and those in certain industries and occupations are all more likely to work flexibly.
 - The UK appears to have a relatively high proportion of part-time workers or those with some influence over their working time arrangements, although less perhaps than the Nordic countries or the Netherlands.
 - Working part-time damages earnings and career prospects, because of the concentration of these roles in low-paid, less senior positions.
 - It is questionable how important flexible working is to those choosing a job – most seem content to go with the prevailing norms.
- The recent tightening of the labour market should have incentivised employers to offer flexible working; however, the relative decline in public sector employment has worked the other way – culture and resistance from management are often identified as obstacles.
 - The picture of slow change may understate informal changes in working patterns due to technological change allowing remote access.
 - A challenge for public policy may lie in stimulating awareness of the full range of flexible working possibilities, and of how to make them work, given the limited management time and knowledge in many, especially smaller, firms.
 - The public sector may have a role as a testbed and exemplar.
- A tight labour market after the UK's exit from the EU and an ageing population may increase the attractiveness of flexible working.
 - However, if mobile working reaches an expected 70% by 2020, the demand for some more long-standing arrangements may wane; at the same time, remote access and 'always-on' working could become the new arena for debate and, perhaps, conflict.

[*Are Flexible Work Arrangements Associated with Lower Levels of Chronic Stress-Related Biomarkers? A Study of 6,025 Employees in the UK Household Longitudinal Study*](#), by University of Manchester and University of Essex researchers, was published in *Sociology*.

- 11 markers in five biological systems were used to measure stress: neuroendocrine, metabolic, immune and inflammatory, cardiovascular and anthropometric systems.
 - This set of markers measures the overall 'allostatic load' – the long-term stress a person experiences.
 - The allostatic load model is a measure of cumulative wear and tear in a number of physiological systems – it has been consistently associated with poor health and greater risk of death.
- Women bringing up two children (aged 15 and under) and working 37 or more hours a week had an allostatic load level around 37% higher overall than those working full time with no children.
 - Women working full time and bringing up one child had an 18% higher level.
- Women with two children who worked reduced hours through part-time work, job share and term-time flexible working arrangements had chronic stress levels 37% lower than those working in jobs where flexible work was not available.
 - Those working flexitime or from home, with no overall reduction in working hours, had no reduction in chronic stress.
- Men's chronic stress markers were also lower if they worked reduced hours, and the effect was about the same as for women.

The CIPD published [*Talking about voice: employees' experiences*](#), investigating the forms of voice employees experience at work, and the voice channels that are available to them.

- 'Voice' is defined as 'the ability of employees to express their views, opinions, concerns and suggestions, and for these efforts to influence decisions at work'.
 - Voice is not only focused on organisational improvement, but is also a way of creating shared value and driving more sustainable organisational cultures.
- Key findings include:
 - Satisfaction with voice matters for overall employee satisfaction at work; employees working in small and private sector organisations are most satisfied with their involvement in decision-making.
 - One-to-one meetings with a line manager are the most common voice channel experienced by employees; just under 20% report using trade unions as a channel for voice.
 - Work pressure is the most common issue experienced by employees (43%), followed by considerable organisational change (29%) and redundancy/job security concerns (21%).
 - 22% of those who have raised an issue at work felt that they received no advice or support.
 - Only 25% of employees feel able to freely express themselves at work, and this is particularly low in the public sector; 25% often choose not to speak up at work, even when they have something they'd like to say.
 - An organisational climate of innovation and flexibility can foster higher levels of employee voice.

The Low Pay Commission (LPC) published the following four research reports on the National Living Wage (NLW) and National Minimum Wage (NMW); the studies informed the LPC's [2018 NMW report](#) and it also published a separate [research summary](#).

- [The Impact of the Introduction of the National Living Wage on Employment, Hours and Wages](#) by the National Institute of Economic & Social Research.
 - The NLW applies to those aged 25+, and represented a significant increase of 7.5% over the NMW at the time of its introduction.
 - Previous studies had found that, in the main, the NMW raised the earnings of low-paid workers without significantly affecting their employment opportunities.
 - Overall, the introduction of the NLW has had little adverse effect on employment retention while raising the wages of the lowest paid.
 - However, there is some evidence of adverse impact on the employment opportunities of part-time women, and on employment retention for part-time women in low-paid retail jobs.
 - Findings also suggest that employers may have increased the wages of younger workers, for whom the NLW does not apply.
- [Minimum wage and the propensity to automate or offshore](#) by the London School of Economics; key findings include:
 - Minimum wage increases are followed by decreases in the shares of 'offshorable' and automatable employment; in aggregate the effects are modest but mask larger changes in manufacturing, particularly for automation.
 - Aggregate effects also mask significant differences by demographic groups: low-skilled males and older workers are affected the most, with larger effects also evident for black low-skilled workers.
 - Low-skilled workers in automatable or offshorable employment are less likely to keep their job and more likely to switch jobs; those working in manufacturing, males and the oldest workers are most affected.
- [The NMW/NLW and progression out of minimum wage jobs in the UK: Interim report](#) by ISER and Bristol University.
 - In 2017, the adult minimum wage rate in the UK was 54% of median hourly pay compared to 48% in 2008; the proportion of workers covered increased from 4% in 2008 to 7% in 2017.
 - Around 50% of minimum wage workers succeed in finding better paid employment within a year.
 - Of these, 80% remain in low-paid employment (employment paying less than 66% of the median hourly rate).
 - There is no indication that chances to progress have been affected by the recent increases in the NMW.
 - More educated individuals, those working in the public sector or in large firms are more likely to transition to 'high' pay jobs.

- Women, individuals with a history of unemployment, part-time workers, and workers in accommodation and food services, and food, beverages and textile manufacturing have lower chances of moving to 'high' paid employment.
- [The impact of the minimum wage on employment and hours: Interim report](#) by the IES, which mainly sets out the methods the researchers intend to use for more detailed analysis to be published in due course.
 - Preliminary analysis suggests that the introduction of the NLW has had little to no impact on employment retention or hours for those directly affected.
 - That said, previous studies have shown that the effects of employment and hours may be more pronounced for particular subgroups of workers (particularly women working part-time), so these aggregate findings may mask important differences that will only become apparent in subsequent analyses.

ISER is undertaking further research on progression out of minimum wage jobs.

ARTIFICIAL INTELLIGENCE (AI) & THE FUTURE OF WORK

The RSA Future Work Centre published [The Four Futures of Work: Coping with uncertainty in an age of radical technologies](#).

- A new 'tech taxonomy' identifies four ways in which technology can profoundly shape the quality and nature of employment as well as the quantity of work:
 - Automation: technology completes tasks or changes who is responsible for undertaking them (e.g. self-service checkouts)
 - Brokerage: technology mediates between buyers and sellers (e.g. Uber)
 - Management: technology aids the recruitment, monitoring and organisation of workers (e.g. scheduling software)
 - Digitisation: technology turns physical goods and knowledge into data that can be captured, shared and replicated at low cost (e.g. Netflix).
- Rather than trying to predict the impact of automation on jobs, it posits four scenarios for the UK labour market in 2035:
 - **The Big Tech Economy:** most technologies develop rapidly, delivering significant improvements in the quality of products and services and far lower costs for everyday goods; however, unemployment and economic insecurity rise, the spoils of growth are concentrated in a handful of US and Chinese tech 'behemoths', and the pace of change leaves workers and unions largely incapable of responding.
 - **The Precision Economy:** technological progress is moderate, but a proliferation of sensors allows firms to create value by capturing and analysing more information on objects, people and the environment; some find these trends invasive, while others believe they create a more meritocratic society; a hyper-connected society leads to less waste as fewer resources are left idle.
 - **The Exodus Economy:** a 2008-style crash dries up funding for innovation and keeps the UK trapped in a low-skilled, low-productivity and low-pay paradigm; workers lose faith in capitalism and alternative economic models gather interest; some workers struggle on poverty wages, while others discover ways to live more self-sufficiently.
 - **The Empathy Economy:** technology advances rapidly, but so does public awareness of its dangers; tech companies self-regulate and work with external stakeholders to create new products that work for everybody; automation is modest and carefully managed; high disposable income flows into 'empathy sectors' like education, care and entertainment.
- Good work needs to prevail, regardless of the scenario; among the recommendations:
 - Introduce personal learning accounts to power lifelong learning
 - Professionalise low-skilled jobs through occupational licensing
 - Impose higher taxation on the self-employed in return for more rights
 - Increase tax on unearned income while decreasing tax on earned income
 - Promote a union model built on 'new power', with unions meeting new needs while also offering new services.

Deloitte published [Aligning strategy, workforce and technology: Digital Disruption Index](#), the third edition, exploring digital maturity, based on a survey of 158 digital leaders in UK businesses and public sector bodies.

- 28% of organisations are in the early stages of digital development.
- 65% do not believe their organisation's learning and development curriculum supports their digital strategy.
 - Only 25% believe their workforce has the capability to deliver their digital strategy (up from 16% six months earlier).
- Only 18% believe UK school leavers and graduates have the right digital skills (up from 12%).
- 75% report that technologies such as AI, robotics and the internet of things, are fundamentally changing their organisation.
 - 44% of organisations have invested in AI; 81% expect to have done so by the end of 2020.
- Leaders in digitally maturing organisations are significantly more confident in their own digital skills – 90% compared to 41% in early stages.
 - 81% of leaders whose organisation provides them with the resources needed to develop digital skills are confident in their leadership ability, compared to 34% of those who do not feel supported.
 - 37% of senior leaders are not confident in their own digital skills, up from 28% in 2018.
- To successfully lead an organisation in the digital economy, leaders need to think, act and react differently, including:
 - Making decisions quickly without all of the information
 - Adapting to constantly shifting power and influence
 - Showing resilience in the face of constant change.

Centre for European Policy Studies (CEPS) published [Artificial Intelligence: Ethics, governance and policy challenges – Report of a CEPS Task Force](#).

- Everywhere, and particularly in Europe, the debate about AI has been tainted by noise and fear.
 - 'Experts' voice concerns about robots taking jobs, disrupting social interactions, manipulating public opinion and political elections, and ultimately dismissing human beings as redundant and inefficient legacies of the past.
- A first look suggests that the promise and challenges of AI are perhaps less disruptive and probably 'quite boring'; but a closer look shows 'enormous promise'.
 - AI finds a society that is making progress in terms of life expectancy and the eradication of poverty and famine, but one that is also fraught with contradictions and inequality, unsustainable production and consumption patterns and deteriorating social relationships.
 - Comprehension of what AI is and what it can do is still in its infancy, even if it has already become pervasive in some sectors: people can still decide how AI can help us promote a better society and a more sustainable future by asking the right questions, at the right time and in the right order.
- The report focuses on the EU perspective and defines a vision for AI, rooted in the complementarity between human and machine.
 - It reflects on the tensions that AI is likely to bring into the legal system, and into the overall architecture of EU policy; it leads to a proposal that AI develop in a way that fits the direction of Europe's 2030 Agenda.
- It makes 25 recommendations on the Draft Ethics Guidelines published by the High-Level Expert Group on AI in December 2018 and 2019 on future EU policy and investment priorities.

The OECD published [Going Digital: Shaping Policies, Improving Lives](#), identifying seven policy dimensions that allow governments to shape digital transformation, five of which have a skills dimension.

- **Effective use of digital technologies and data:** While nearly all firms are connected to the internet, only 33% of large and 11% of small firms perform big data analysis.
 - Policies should: empower everyone with a mix of skills to thrive and trust in a digital world; boost adoption and diffusion of digital tools to drive productivity growth; foster investment in intangible assets; make digital government services more user-centred.

- **Data-driven and digital innovation:** In the first half of 2018, AI start-ups received 12% of private equity investment worldwide; the share is increasing, but not all countries innovate to the same extent.
 - Policies should: promote entrepreneurship; facilitate access to finance; support basic research and knowledge diffusion; open up government data.
- **Good jobs for all:** 14% of jobs across the OECD face a high likelihood of automation, and another 32% face significant change over the next 10–20 years.
 - Policies need to: facilitate successful and fair transitions into new jobs and prepare for changes to existing ones; empower people with the mix of skills needed to succeed; improve social protection; ensure no one is left behind.
- **Social prosperity and inclusion:** People are gaining increasing access to information and new avenues of engagement, but divides persist.
 - Policies should: strengthen foundational skills and lifelong learning; include everyone – notably women, the elderly and those on low incomes – while tackling risks like cyberbullying and disinformation.
- **Trust in the digital age:** More effective measures are needed to encourage better management of digital security and privacy and improve consumer protection online.

The OECD also published [Measuring the Digital Transformation: A Roadmap for the Future](#), providing policymakers and analysts with key indicators for each of the dimensions of the Going Digital policy framework.

The International Labour Organization (ILO) published [Work for a brighter future](#), the report of its Global Commission on the Future of Work.

- A human-centred agenda is needed to seize the opportunities presented by the new forces transforming the world of work, strengthening the social contract by placing people and their work at the centre of economic and social policy and business practice.
- It consists of three ‘pillars’ of action to drive growth, equity and sustainability – increasing investment in: people’s capabilities, the institutions of work, and decent and sustainable work.
- Recommendations include:
 - A universal labour guarantee that protects workers’ fundamental rights, an adequate living wage, limits on hours of work, and safe and healthy workplaces.
 - A universal entitlement to lifelong learning that enables people to skill, reskill and upskill.
 - Managing technological change to boost decent work, including an international governance system for digital labour platforms.
 - A transformative and measurable agenda for gender equality.
 - Reshaping business incentives to encourage long-term investments.

The ILO published [Changing Business and Opportunities for Employer and Business Organizations](#), exploring five major trends affecting business.

- Technological innovation, global economic integration, demographic and generational shifts, climate change and sustainability, and a global shortage of skilled labour are impacting all businesses.
 - As the pace of this change accelerates, policymakers, businesses, and employer and business membership organisations need to innovate, adjust and become more flexible in order to harness opportunities and remain relevant.
- Among the findings from a survey of 500 business executives:
 - 56% identified technological innovation as the global trend having the greatest overall impact; 76% recognised that it gave them access to new markets.
 - 62% in Europe reported that a declining working-age population would have a large impact on their business.
 - 40% from high-income and 45% from upper-middle-income countries reported that their workforce and consumers were demanding more sustainable working environments and corporate values.
 - 78% indicated that updating the education curriculum to match the economy’s needs would provide them with the skilled employees they required; the figure for SMEs was 84%.

The Oxford Group and Kineo (both part of the City & Guilds Group) published [Leading in a Digital Age: A look at leaders' skills and psychological safety in the changing world of work.](#) [An email address is required to access the full report.]

- In a study of over 1,000 leaders and employees of global organisations:
 - 60% felt that leaders and staff do not have the skills required for digital transformation.
 - 94% believe it is the responsibility of leaders to offer digital skills development.
 - The main challenges include tackling the fear of change to roles and routines (42%), and reskilling the workforce (31%).
 - 80% said leaders with good digital skills are able to communicate more effectively, and 71% that they progress more quickly.
 - 48% said their careers would benefit from further training on technology and systems.
 - 41% would value coaching or guidance on how to perform and communicate effectively.
 - 41% of leaders say a lack of digital expertise makes decision-making more difficult.
 - 81% of employees said leaders need to be open about not knowing everything.

The Scottish Council for Development & Industry published [Building a World-Leading AI and Data Strategy for an Inclusive Scotland](#) in partnership with BT Scotland, ScotlandIS and the Royal Society of Edinburgh.

- 20 recommendations under the headings national strategy; innovative and ethical data; employment, skills and education; and business growth, include:
 - Government and business should introduce a scheme to teach citizens AI basics.
 - Government, public bodies, industry and education should support a pilot Institute of Ecommerce.
 - Online learning providers and the SFC should review their potential to maintain participation in online courses.
 - Skills Development Scotland (SDS) should develop its 'meta-skills' model and work with partners to integrate its attributes into the workplace and learning.
 - Professions with continuing professional development (CPD) requirements should review their content to include current learning on AI technologies and data ethics.
 - Government, industry and education should continue to expand and enhance digital skills and talent programmes to meet industry need.
 - Opportunities for young people to engage with real-world AI and data applications in schools should be expanded, and digital training support should be provided for teachers.

This is a follow-up to [Automatic... For The People?](#) published in February 2018 (see Skills Research Digest Q1 2018).

International Comparisons

The Economist Intelligence Unit published [Worldwide Educating for the Future Index 2018: Building tomorrow's global citizens](#), commissioned by the Yidan Prize Foundation.

- The Index assesses education for 15–24 year-olds, using 21 indicators across three broad domains: policy environment, teaching environment and socio-economic environment.
- Among the 50 economies covered, Finland is top, closely followed by Switzerland; both systems are strong in all three index categories, but particularly excel in their policy environment.
- New Zealand, Sweden and Canada complete the top five, followed by the Netherlands, Germany, Singapore and France, and the UK in 10th place.
 - The UK performs particularly well on teaching environment, rated third best behind the Netherlands and Canada.
- Among the general findings:
 - Wealth is not all-important – there are some Index overachievers among lower-income economies.
 - Future-skills strategy, curriculum and assessment frameworks should be reviewed periodically to keep pace with workforce and societal change.

- Teachers must engage in continuous learning to stay ahead of the curve, and teaching methods must be continuously updated.
- Policymakers around the world, and in East Asia in particular, are realising that the rigid, exam-based approach to learning has been taking a toll on students, their families and wider society.
- Emphasis is shifting in some education systems towards other measures of attainment, and instilling 21st-century skills is now part of that strategy.

The European Commission published [Integrating Asylum Seekers and Refugees into Higher Education in Europe: National Policies and Measures](#), a Eurydice report.

- The report assesses 'to what extent national systems are able to respond to the needs of asylum seekers and refugees' for their integration into HE, presenting a selection of indicators on migratory flow and an overview of policies and strategies across EU countries.
 - Around 50% of all asylum applicants in the EU are aged 18–34 and many have previously been enrolled in university programmes in their home country.
- Findings include:
 - The majority of countries have no specific policy approach to integrate asylum seekers and refugees into HE.
 - Where large-scale measures exist, they most often focus on linguistic support, financial support and guidance services.
 - The need for potential students to learn the host country language and adapt to the HE system requires adequate information and guidance, and preparatory programmes to be provided.
 - Only six countries monitor the integration of asylum seekers and refugees into HEIs; this is mainly because asylum requests have been concentrated in a limited number of EU countries.
 - Around 50% of EU countries offer alternative routes to formal HE entry, including entry without formal qualifications, and the recognition of prior learning for progression in HE studies; some countries (mainly in south-eastern Europe) provide none of these options.
 - Good practice is evident in a few systems, e.g. on recognition of undocumented qualifications, support for language learning, financial support and personal guidance services; Germany's approach has combined policymaking at federal, regional and HEI levels, with a clear monitoring system, ensuring a much smoother process of integration.

The European University Association (EUA) published [Public Funding Observatory Report 2018 on 33 European HE systems, including the four UK nations, plus a compilation of details for each country](#).

- 14 countries increased and 11 reduced investment in HE from 2008 to 2017.
- Countries are categorised as having HE systems undergoing 'sustained growth in funding', 'sustained funding decreases' or 'showing improvements'.
 - The divide between systems that increase public funding and those that reduce investment, is getting wider; any recovery that can be detected is slow and fragile.
 - Relative stagnation of funding levels is characterising an increasing number of countries (eight), both systems that previously sustained a relatively ambitious funding strategy, and those that have maintained more modest funding curves.
 - Where increased funding is reported, it often omits investment in infrastructure (only two systems reported increased infrastructure funding).
- These trends should be considered in connection to student growth:
 - Countries that invest at a rate that allows preservation of student/staff ratios are the exception.
 - Only six of 16 systems that had higher funding in 2017 than in 2008 have a funding growth that exceeds student enrolment growth.
 - 17 systems had lower levels of direct public funding in 2017 than in 2008, with five of them experiencing larger student cohorts.
- Investment can also be considered in connection with GDP growth.
 - Nine countries (particularly RoI) failed to re-invest in universities, even though positive GDP growth suggests this would be possible.
 - At least eight countries started to re-invest, but for 50% the scale of the effort was too limited to adequately address the funding gap over the period.

- Four Central European countries continue to show positive signs of recovery, in a context of positive GDP growth.
- In Northern Ireland (and in England and Wales), the system (covering the five HEIs including The Open University) is described as 'special case', as direct public funding does not include publicly subsidised student loans.
- In Scotland, the system is described as 'declining and under pressure' (similar to Italy, the Czech Republic and Serbia).
 - It faces significant challenges to sustainability and competitiveness, with funding cuts outpacing the decline in student numbers.
 - Universities have increased levels of borrowing significantly and at least 50% have recorded a budget deficit over recent years.
- In other countries of note:
 - RoI and Serbia have systems 'in danger', although in 2017, RoI, the Czech Republic and Spain renewed investment.
 - Sweden and Norway are described as in a 'sustained growing pattern'.
- More funding is needed at EU and national levels, resources need to be efficiently managed at all levels, and competitive funding schemes need to be simplified.

The European Commission published a series of short factsheets comparing the 28 EU member states on aspects of education and skills.

- [Impact of education and skills on life chances](#) – illustrating the profile of low-qualified adults and the positive impact of education and skills development.
- [Skills challenges and strategies](#) – illustrating the progress being made to: reduce the number of early school leavers; develop basic skills in reading, maths and science; and match skills to jobs.
 - It highlights the need to anticipate the skills needed for the labour market, and respond through lifelong learning and the validation of acquired skills.
- [Who takes part in adult learning and how?](#) – illustrating where and what adults learn, their motivations for participating in formal and non-formal learning, the obstacles preventing them, and their access to information and guidance.

The European Commission published [Study on EU VET \[Vocational Education & Training\] instruments \(EQAVET and ECVET\)](#) – EQAVET is the European Quality Assurance Reference Framework for VET, and ECVET is the European Credit System for VET.

- EQAVET and ECVET were introduced in 2009; the study:
 - looks at their influence on VET policy developments at national and European level, plus their relationship with other EU instruments such as the European Qualifications Framework (EQF)
 - provides a 'comprehensive analytical summary' of national VET developments related to quality assurance and flexible vocational pathways
 - developed and tested a set of scenarios on how the two instruments can develop and meet future challenges.
- **ECVET:**
 - has contributed to the development of a better-quality mobility experience through more effective agreement, documentation and recognition of learning outcomes within all member states
 - has supported the use of learning outcomes among member states – an important requirement for referencing to the EQF
 - has 'created a shift' in some countries so that it is possible for learning outcomes achieved abroad to now contribute to a learner's VET qualification
 - has contributed to developing more flexible vocational pathways in a few countries, both generally and for those who experience barriers to learning
 - could have made a greater contribution to increasing flexible learning pathways for upskilling and reskilling
 - is not always considered holistically with the other EU instruments at a national level, creating some inconsistencies and confusion on the use of documentation for mobility.
- **EQAVET:**

- has encouraged countries to review and refine their national QA systems
- could have made a greater contribution to the improvement of transparency of QA arrangements between countries
- has been challenging to implement in work-based learning for many countries, particularly where it might 'dampen demand' for apprentices.
- A number of recommendations include integrating ECVET into a wider policy strategy framework for VET, and carrying out a peer review of country developments in EQAVET as part of the wider strategy.

Cedefop published [Spotlight on VET: 2018 compilation – Vocational education and training systems in Europe](#), setting out the essential features of the VET systems in all EU member states, Norway and Iceland.

- It describes VET's place in countries' overall education and training systems as well as: main accession and progression routes for learners; types and levels of qualification they lead to; types of programmes; delivery modes; and work-based learning ratio and duration.

Separate pamphlets for each country, with some additional information, can be found [here](#).

Cedefop published [Vocationally oriented education and training at higher education levels – expansion and diversification in European countries](#), the sixth volume in the series on the changing nature and role of VET in Europe.

- Building on detailed national case studies, the report demonstrates the expansion and diversification of VET offered at higher levels in European countries and the variations in how countries use the higher levels.
- It also covers current debates and potential future challenges, including: juggling labour market demands and wider societal values; finding the right balance between academic and vocational principles; and achieving parity of esteem between academically oriented and vocationally oriented qualifications at higher levels, by improving awareness and visibility of the latter.

There are eight accompanying [case studies](#), including one on [England](#).

Cedefop published a series of country reports providing a [European inventory on NQF \(National Qualification Frameworks\) 2018](#), including reports for [England & Northern Ireland](#), [Scotland](#) and [Wales](#).

- Each report briefly sets out how the training system performs according to EU 2020 benchmarks, followed by a short history of the NQF and equivalent system, how it operates and how it is used.
- The England and Northern Ireland report covers the Regulated Qualifications Framework (RQF); the Scotland report, the Scottish Credit & Qualifications Framework (SCQF); the Wales report, the Credit & Qualifications Framework for Wales (CQFW).

Cedefop published a series of [country reports](#) summarising the key findings of the 2018 [Skills Forecast](#), which presented future trends on jobs and skills across EU member states up to 2030.

- The forecast discusses the main trends at EU level and poses a series of challenges on the future of work coming out from 'megatrends', such as falling participation rates, orientation towards the service sector, further job polarisation and increasing over-education.

[2018 skills forecast United Kingdom](#) includes the following findings:

- Employment is expected to grow by 9.7%, (EU-28 average: 6%), while the population is expected to grow by 10%, resulting in an increase in the labour force of around 8%, with an average annual growth rate of 0.5%.
- Manufacturing employment is expected to continue its decline; however the engineering sub-sector is expected to increase by 4% in 2016–21.
 - 'Business and other services' is expected to see the largest increase in employment (18%).
 - 'Professionals' and 'service and shop workers' are expected to see the highest number of job openings, with around 90% of these driven by replacement demand.
 - 'Sales workers' are expected to generate the highest number of job openings through replacement demand, as well as the largest number of new job openings overall.

- 'Legal, social, cultural and related associate professionals' and 'health associate professionals' are expected to create the second and third highest number of new jobs.
- 'Other clerical support workers' and 'numerical and material recording clerks' are expected to experience the largest number of job losses.
- The UK requires 3ppt more high-skilled workers than the EU average, with only 4% of job openings requiring low levels of qualifications (EU average: 11%).
 - 49% of job openings will require medium-level qualifications (EU average: 46%).
 - The share of the labour force with high- and medium-level qualifications is expected to increase, while the proportion with low-level qualifications is expected to decline.
- The demand for high- and medium-qualified workers is expected to exceed their supply, while low-qualified workers will be in surplus, which could give rise to significant skills mismatches.

Government

NORTHERN IRELAND

The Northern Ireland DfE published its [response](#) to the Migration Advisory Committee's call for evidence relating to the economic and social impact of international students in the UK.

- A letter from Permanent Secretary Andrew McCormick sets out the key points:
 - The total impact of Northern Ireland HEIs on the UK economy is estimated at £1,890m.
 - The HE sector is critically important to a globally competitive economy and to the economic growth and stability in Northern Ireland that in turn underpins the Peace Process.
 - The country's HE Strategy to 2020 identified the need for increased internationalisation, which has been held back by its political past; at the same time, international students on campus expose local students to different cultures and ways of thinking, again contributing to the Peace Process.
 - International students also make an important financial contribution to institutions that currently receive less per place than their counterparts in England and Wales.
 - However, Northern Ireland still only attracts around 1% of the total international student enrolment in the UK; only 21.5% of postgraduate enrolments in Northern Ireland are from outside the EU, compared with 45.5% across the UK.
 - Northern Ireland institutions benefit from 5.1% of total UK drawdown from the Erasmus programme – considerably more than the 2% expected.
 - The HE and FE sectors in Northern Ireland consider that international students should not be part of any immigration target.

An [annex](#) provides estimates of the financial impact of international students in Northern Ireland, using published methodologies in the absence of UK-wide data. See also the [HEPI and Kaplan International Pathways report](#) on The UK's tax revenues from international students post-graduation on page 6.

ENGLAND

The Liberal Democrats published [Personal Education and Skills Accounts: Recommendations from the Independent Commission on Lifelong Learning](#); the Commission was convened by the party Leader, Sir Vince Cable MP.

- Despite the well-known benefits of adult learning, over the last decade only around one in five adults in England took part in learning in any given year.
 - Policymakers of all political parties must think creatively about how to increase opportunities for, and nurture a culture of all-age learning.
 - The report sets out its recommendations, centred around a nationally available Personal Education & Skills Account (PESA) that would widen access, transform the post-18 education landscape, and put the FE and skills sectors on a more sustainable financial footing.
- Recommendations:
 - Open a universal PESA, for all adults resident in England at the age of 18, to encourage saving towards the costs of education and training throughout life.

- The government to make three contributions to the accounts, each worth £3,000, when the account holder turns 25, 40 and 55.
- Account holders and employers to be able to make payments into the accounts, incentivised by tax relief and/or match-funding.
- Governments to make additional payments into accounts, triggered by events such as redundancy, or targeted to reduce social and economic inequality.
- From age 25, account holders to be able to use the account to pay for education and training courses offered by accredited providers.
- Account holders to be given careers guidance sessions.
- Accounts to remain open and available throughout the holder's life.

SCOTLAND

The Scottish Science Advisory Council published [A Metrics-Based Assessment of Scotland's Science Landscape \(2007–2016\)](#), comparing the Scottish research base to other UK nations and similar-sized EU and non-EU countries.

- In general, Scotland's researchers produce high-quality research and are highly productive, mobile and global collaborators.
- Scotland produces more academic publications per researcher than all comparator countries.
 - In 2015 10% of the UK's researcher population was in Scotland, generating 12% of UK research output.
 - Scotland's research is cited more often than research from comparator nations (and 63% ahead of the UK average).
- From 2007–16 Scotland's top global collaborators were the US, followed by Germany, France, Italy and Australia.

The University of Strathclyde's Fraser of Allander Institute published [Scotland in 2050: Realising Our Global Potential – Final Report](#), commissioned in June 2018 by Shepherd & Wedderburn.

- Its purpose was to set out the key global trends that will shape Scotland's future and 'start a conversation' with business 'on how we can best position our economy'.
- The report's eight recommendations include that Scotland should:
 - focus exports around knowledge-based economies
 - invest in its physical and digital infrastructure
 - find a way of nurturing and retaining start-ups and SMEs as they scale up
 - equip its highly qualified workforce and leaders with industry-relevant skills
 - continue to attract, develop and retain the best international talent
 - develop closer collaboration between industry and academia to more effectively commercialise innovative research.

SDS published [Skills Investment Plan \[SIP\] for Scotland's historic environment sector](#), developed in partnership with Historic Environment Scotland.

- The sector supports an estimated 20k direct jobs and at least 17k volunteers – in construction, the creative industries and tourism.
- Skills needs include: traditional craft and building skills, surveying and archaeology; digital; leadership and management; and marketing.
 - Future demand is expected for: stonemasons, roofers, traditional joiners, lime plasterers, historic gardeners, surveyors and archaeologists.
- Skills challenges include: appreciation, development and maintaining specialist technical and artisan skills; vocational training and learning; and skills shortages due to new technologies, processes and materials.
- The sector needs to:
 - address its image, as it is often seen by young people as 'old-fashioned' or 'not for them'

- widen its talent pool and address gender inequality
- widen entry-level routes and pathways.
- The SIP has three priority themes: skills and innovation; attracting future talent and improving access; and workforce development.
 - A detailed action plan is included.

This is the latest in a [series of SIPs](#) published by SDS, including for construction, tourism and the creative industries.

WALES

City & Guilds and the National Training Federation for Wales published [Maximising the Value of Apprenticeships to Wales](#), an independent report by Beyond Standards.

- The report assesses the current apprenticeship offer in Wales, considers what future apprenticeships need to be like, and makes recommendations for changes to the system.
- Numerous recommendations for the Welsh Government include:
 - Increasing the speed and agility of policy formation and implementation.
 - Improving measures of quality, with stewardship from a single body.
 - For teaching, learning and assessment, clarifying what 'excellent' looks like, including robust performance indicators.
 - Ensuring apprenticeships lead to good jobs and career progression, a reduction in skills shortages and improved productivity.
 - Revisiting the 'all-age principle', and rolling out 'shared apprenticeships' across the country to allow small and micro-employers to participate in training apprenticeships.
 - Releasing employers in Wales from the Apprenticeship Levy, and replacing it with a training tax paid by employers larger than the micro level.

REPUBLIC OF IRELAND (RoI)

The Government of Ireland published [Technology Skills 2022: Ireland's Third ICT Skills Action Plan – Government, the Higher & Further Education and Training Sector and Industry working together to meet Ireland's high-level ICT skills needs](#).

- The RoI ICT Skills Action Plan process was first introduced in 2012 – the supply of high-level ICT skills is seen as 'a national economic priority'.
 - 'High-level ICT skills' are defined as computer and electrical/electronic engineering skills, required for designing, building and implementing high-level ICT systems; they exclude ICT user skills.
 - Achievements to date include a 54% increase in mainstream high-level ICT graduate numbers between 2012 and 2018, and a 70% increase at Level 8+ including upskilling and reskilling programmes.
- The new plan aims to deliver up to an extra 5,000 graduates per annum through indigenous supply.
 - The target is at least a 65% increase in the numbers graduating with high-level ICT skills by the end of 2022; the remainder to be via inward migration of international talent.
 - Measures include: expanding HE provision; continued expansion and development of Skillnet Ireland programmes; growth in ICT apprenticeships; the introduction of a new reskilling Pathways to ICT programme for those from diverse professional backgrounds; and building on the Tech/Life Ireland portal and Graduate Stayback permission scheme for international specialists.
 - Specific target areas of high demand include data analytics, artificial intelligence, robotics, animation and gaming.

The Expert Group on Future Skills Needs published [Forecasting the Future Demand for High-Level ICT Skills in Ireland, 2017–2022](#), to inform the development of the ICT Skills Action Plan (above).

- Skills needs of the ICT market, in quality and quantity, are rapidly evolving, creating new challenges.
 - The study predicts the demand for ICT skills will continue to grow at a compound annual growth rate (CAGR) of 8.5%, to between 115,480 and 145,660 practitioner jobs in 2022.

- Skills shortage is the main concern for stakeholders, particularly as many of the skills in demand are so new that the education system has not had time to produce relevant graduates.
- The scarcity of skilled ICT personnel is exacerbated by the large number of ICT firms in Ireland.
- In market segments such as animation and gaming, the skills demand is growing exponentially.
- Significant changes are needed in the way ICT careers are promoted and in the traditional approach to ICT education and training.
 - Stronger collaboration is needed between industry and academia.
 - Industry stakeholders are concerned that their sense of urgency is not shared by policymakers; short-term impact actions are needed, e.g. using non-traditional teachers for new skills.

The Higher Education Authority published [An Analysis of Completion in Irish Higher Education: 2007/08 Entrants](#).

- The study tracked the rates of completion of 34,059 undergraduate students who entered RoI HE full time in the 2007/8 academic year, over a ten-year period.
 - 76% of them graduated within that period; at Honours degree level, over 80% had completion rates of 94% in the colleges, 83% in the universities and 74% in the institutes of technology.
 - Levels of completion at Level 6 and 7 programmes were lower (62%).
 - Students on education/teaching courses were most likely to complete (91%), followed by health and welfare (84%); the lowest completion rate was in computing (55%).
 - Completion rates for females (81%) were higher than males (71%), reflecting the generally higher performance rates of females in education generally.
 - Performance in the Leaving Certificate (particularly in maths and English) was found to be a good indicator of the likelihood to complete a third level course.
 - 63% of non-completion is accounted for by students leaving during their first year in college.
 - RoI was found to compare well internationally on this data.

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www.gov.uk/government/organisations/department-for-education

Department for the Economy (DfE), Northern Ireland

www.economy-ni.gov.uk

Economic & Social Research Institute, RoI

www.esri.ie

Economist Intelligence Unit

www.eiu.com

Edge Foundation

www.edge.co.uk

Educational Review

www.tandfonline.com/loi/cedr20

Emsi

www.economicmodeling.com

Engineering UK

www.engineeringuk.com

European Commission

ec.europa.eu/commission/index_en

European University Association (EUA)

www.eua.eu

Eurydice

webgate.ec.europa.eu/fpfis/mwikis/eurydice

Expert Group on Future Skills Needs, RoI

www.skillsireland.ie

Financial Sustainability Strategy Group (FSSG)

www.officeforstudents.org.uk/advice-and-guidance/partnerships-and-collaboration/financial-sustainability-strategy-group-and-trac

Fraser of Allander Institute, University of Strathclyde

www.strath.ac.uk/business/economics/fraserofallanderinstitute

Government of Ireland

www.gov.ie/en

Higher Education Authority, RoI

<http://hea.ie>

Higher Education Policy Institute (HEPI)

www.hepi.ac.uk

High Fliers Research

www.highfliers.co.uk

Institute for Employment Studies (IES)

www.employment-studies.co.uk

Institute for Social & Economic Research (ISER)

www.iser.essex.ac.uk/

Institute of Labor Economics (IZA)

www.iza.org

International Labour Organization (ILO)

www.ilo.org

IZA World of Labor

wol.iza.org

Jisc

www.jisc.ac.uk

Learning & Work Institute (L&W)

www.learningandwork.org.uk

Liberal Democrats

www.libdems.org.uk

Low Pay Commission (LPC)

www.gov.uk/government/organisations/low-pay-commission

Ministry of Justice

www.gov.uk/government/organisations/ministry-of-justice

National Centre for Universities & Business (NCUB)

www.ncub.co.uk

Nesta

www.nesta.org.uk

Office for Students (OfS)

www.officeforstudents.org.uk

Organisation for Economic Cooperation & Development (OECD) iLibrary

www.oecd-ilibrary.org

The Oxford Group

www.oxford-group.com

Policy Connect

www.policyconnect.org.uk

Policy Exchange

policyexchange.org.uk

Prospects Luminare

luminare.prospects.ac.uk

Resolution Foundation

www.resolutionfoundation.org

RSA (Royal Society for the Encouragement of Arts, Manufactures & Commerce)

www.thersa.org

Scottish Council for Development & Industry

www.scdi.org.uk

Scottish Government

www.gov.scot/Publications

Scottish Science Advisory Council

www.scottishscience.org.uk/scottish-science-advisory-council

Skills Development Scotland (SDS)

www.skillsdevelopmentscotland.co.uk

Social Mobility Commission (SMC)

www.gov.uk/government/organisations/social-mobility-commission

Sociology

journals.sagepub.com/home/soc

SOLAS (Further Education & Training Authority)

www.solas.ie

University & College Union (UCU)

www.ucu.org.uk/

University of Birmingham Centre for Research in Race & Education

www.birmingham.ac.uk/research/crre

UPP Foundation

upp-foundation.org

World Economic Forum (WEF)

www.weforum.org

World Innovation Summit for Education (WISE) Initiative

www.wise-qatar.org