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The **Research & Policy Digest** monitors recently published 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 number of reports and surveys relating to higher education, with a continuing focus on disadvantaged students and perceived 'value for money'.
- Unsurprisingly, plenty of analysis of the potential impact of Brexit – on higher education, recruitment, the workplace and the economy.
- Numerous reports examining gender inequality, gaps and stereotypes, in business and academia – including those on pay, role models, skills and quotas.
- Some interesting reports about technology and the world of work, including its impact on employee relations.

** 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.

16–19 EDUCATION

The OECD published [*The Nature of Problem Solving*](#), a review of the past, present and future of problem solving research, and how it is helping educators prepare students to navigate an increasingly uncertain, volatile and ambiguous world.

- Problem solving is one of the key competencies humans need in a world full of changes, uncertainty and surprise.
 - It requires the intelligent exploration of the world around us; strategies for efficient knowledge acquisition about unknown situations; and creative application of the knowledge available.

CEDEFOP: European Centre for the Development of Vocational Training published [*A VET Toolkit for Tackling Early Leaving*](#) (i.e. young people not in employment, education or training: NEET).

- The toolkit provides practical guidance, tips, good practices and tools drawn from Vocational Education and Training (VET), both to help those at risk of becoming NEET and to reintegrate those who are NEET into education, training and the labour market.
- A self-reflection tool for policy makers and two evaluation plans – for policy makers and VET providers – can be used to monitor and evaluate policies and practice.

SCIENCE, TECHNOLOGY, ENGINEERING & MATHS (STEM)

[*Why Europe's Girls Aren't Studying STEM*](#) summarises research by Microsoft among 11,500 girls in 12 countries, including the UK.

- Most young European women become attracted to STEM at age 11/12, but their interest drops off significantly at 15/16, with limited recovery.
 - Girls lose interest in humanities subjects at the same age, but regain interest in them much more quickly.
- In some countries, confidence is a major barrier; in others, peer approval or lack of role models is holding them back most.
- The five major drivers impacting girls' interest in STEM are (in order of importance): female role models; practical experience and hands-on exercises; teacher mentors; real-life applications; confidence in equality.
- Young women are confident that their generation is the first in which men and women will be truly equal, but perceive that men and women are treated differently in STEM jobs, which is putting them off STEM careers.

[*The Development of Adolescents' Math and English Self-Concept Patterns and Their Associations With College Major Selection*](#), a study by University of California, Irvine researchers, finds that females have lower average maths 'self-concept' than boys throughout their schooling, even though maths achievement between genders doesn't differ.

- Stereotypical gender differences became even more pronounced by 12th grade (age 18), and females generally go into less maths-intensive majors than males, regardless of their self-concept group.
- Potential explanations for the disparity in outlook include:
 - Boys and their parents often attribute their success to talent, while girls and their parents see effort as the main factor.
 - Males boast about their maths competence more than females, resulting in girls making 'downward social comparisons about their ability'.
 - Girls place higher value on making occupational sacrifices for family, while boys place more value on fame, earning money, seeking out challenging tasks and working with maths and computers.
 - The perception of maths-intensive careers such as computer science as 'nerdy' may be incompatible with gender stereotypes of women.

[*Technical boys and creative girls: the career aspirations of digitally skilled youths*](#) was published in the *Cambridge Journal of Education*, investigating the digital career aspirations of digitally skilled 13–19 year-olds.

- Digital technology is increasingly central to young people's lives; however, there remain concerns about digital skills gaps because many young people – especially girls – tend to be consumers rather than creators of technology.
- Although few girls are interested in technical-oriented computing, which continues to be seen as 'for men', creative-oriented computing careers appear popular for both girls and boys.
 - Many may have developed digital skills in order to advance their digital creations, making a creative route into computing potentially a more viable option for those less interested in technical computing, especially girls.
 - However, if girls are only encouraged to pursue computing-related careers that prioritise creativity, we are at risk of reproducing a gender digital divide, as currently seen in major tech companies.
- The new English computing curriculum does not necessarily cater for those interested in digital software but not technical computing, who only wish to express, apply and demonstrate their creativity in the digital context.
 - There is value in retaining a less technical-oriented subject that could encourage young people to use and excel for digital creative purposes.

A number of experts in England are now suggesting reviving a revamped version of the ICT GCSE, including the BCS (the Chartered Institute for IT), which helped design the new computing curriculum.

The STEM Requirements of 'Non-STEM' Jobs by the Centre for Economic Performance considers the issue that less than half of UK STEM graduates work in so-called 'STEM occupations'.

- Rather than classify occupations as 'STEM' or 'non-STEM', the researchers identified 'STEM jobs' by collecting keywords from job adverts.
 - 35% of all STEM jobs belong to non-STEM occupations; STEM jobs outnumbered jobs in STEM occupations by around half a million in 2015.
- When seeking STEM graduates, recruiters in non-STEM occupations offer a wage premium similar to that offered for STEM skills within STEM occupations.
 - However, STEM graduates still take up non-STEM jobs, and many of the STEM skills required in non-STEM occupations could be acquired with less training than a full-time STEM degree.
- A more efficient way of satisfying STEM demand within non-STEM occupations could be to teach more STEM in non-STEM disciplines, reducing shortages across the board.

EMPLOYABILITY & CAREERS

The Education & Employers Taskforce published papers from the 2016 International Conference on Employer Engagement in Education and Training; they include:

- A systematic review of current understandings of employability, identifying 16 employability conceptualisations and three recurring themes: capital, career management, and contextual dimensions.
- Young people's transitions: how employers make a difference – evidence from three qualitative projects.
- Aligning school to work: assessing the impact of employer engagement in the transition from school to work.
- Post-compulsory education in England: choices and implications.
 - A-levels and vocational equivalents at Level 3 are equally strong predictors of staying on in education up to the age of 18 and achieving a Level 3 qualification before the age of 20.
 - However, for those primarily pursuing a Level 2 qualification at age 17, there is no clear trajectory to higher subsequent levels of learning – reform is necessary for social mobility.

The Institute of Labor Economics (IZA) published Does a Satisfied Student Make a Satisfied Worker?.

- Analysis confirms that a positive university experience is important for success in future employment. Graduates who have a positive higher education experience tend to be more satisfied in their work life.
- Implications for policy include:

- Recognising the importance of education facilities, support services and a social environment that create a positive experience for students.
- Offering greater flexibility and autonomy for students in the composition of their studies while providing the relevant skills for future labour market experiences.
- Investing more heavily in career-support functions that assist graduates with career decisions.

The Institutional Landscape

THE FURTHER EDUCATION & SKILLS SECTOR

SOLAS (Further Education & Training Authority) published [Specific Aspects of Further Educations \[sic\] and Training \(FET\) Provision and Barriers to Participation in FET Programmes](#) by Amárach Research.

- The report particularly examines barriers in the Republic of Ireland to the under 25s, long-term unemployed, those with disabilities, and members of migrant communities.
- Barriers are clustered into four main themes: motivational/dispositional, economic/social welfare, organisational and informational/guidance; findings suggest:
 - An emphasis on FET as a viable option for school leavers and those on welfare would be beneficial.
 - Early intervention at the career guidance level in schools and through income and employment support offices would be welcomed, and would reduce motivational barriers.
 - The main economic barriers include the availability and access to childcare and transport.
 - Greater comparability and oversight on qualifications would help reduce organisational barriers.
 - Information should be clear, particularly for describing entitlements and access pathways, and available across multiple platforms, to encourage unemployed prospective learners.

[Rising to the Challenge](#), a Social Market Foundation report sponsored by the Further Education Trust for Leadership, considers the challenges and opportunities the sector faces in the next decade.

- Four market developments will present different competitive threats, as well as prospects for collaboration and innovation:
 - With the backdrop of Brexit and fewer EU students, the university sector will compete more aggressively for learners.
 - The threat of schools competing for 16–18 students to mitigate funding shortages will be offset by a demographic bulge.
 - The Apprenticeship Levy and changes to industrial policy may push employers to provide what has previously been offered by the FE and skill sector; providers will need to deepen their relationships with employers and develop more personalised and integrated offers.
 - Educational technology, distance learning and virtual learning will undermine the sector's hold on local learners and expand competition; it will need to innovate, take risks, partner and embrace virtual learning.
- Three scenarios are posited:
 - Colleges and independent providers could become local champions and engines of social mobility, addressing the UK's technical skills deficiency and helping to push the self-employed and local businesses up the value chain.
 - Combinations of colleges, independent providers and employers could aggregate capital, skills and marketing power to create branded 'tech chains' offering virtual learning opportunities.
 - Employers may form deeper partnerships with providers as they exercise greater control of training, seek to integrate learning in the workplace, and adopt new working practices and complementary skills as a result of technological change.

HIGHER EDUCATION: APPLICANTS & STUDENTS

[The influence of socioeconomic status on changes in young people's expectations of applying to university](#) by the University College London (UCL) Institute of Education (IOE) was published in the *Oxford Review of Education*.

- A substantial proportion of young people change their minds about whether they are planning to apply to university, with the change running in both directions.
- Socioeconomic background plays a significant part in whether their expectations change.
 - The least advantaged fifth are more than twice as likely to switch from being 'likely to apply' to 'unlikely to apply', compared to the most advantaged fifth.
 - Conversely, the most advantaged fifth are more than twice as likely to change from being 'unlikely to apply' to 'likely to apply'.
- How young people react to new information on their academic attainment at age 16 also depends on their background.
 - For those with higher socioeconomic status, improvements in exam results are significantly more likely to raise expectations of applying for university.

The IOE published [Does student loan debt deter Higher Education participation? New evidence from England.](#)

- Overall, young people are more willing to take on student loan debt in 2015 than in 2002, believing that a degree is a good investment.
 - There has also been a rise in the number of people attending university, including among those from low-income backgrounds.
- However, debt aversion has increased among both working class and middle class students, and debt averse attitudes remain much stronger among working class students than among upper class students, and more so now than in 2002.

England's Office for Fair Access (OFFA) published [Topic briefing: White British students from low socio-economic status groups.](#)

- Some reports and media coverage have referred to this group as 'white working class children' or 'white working class boys'; however, the disadvantage it faces is primarily based on socio-economic status rather than social class, which is more subjective.
- The evidence shows that:
 - White British males from low socio-economic status groups have the lowest progression rates to HE.
 - Low prior attainment is a key barrier for this group.
 - They are less likely to make choices that traditionally lead to academic study, while family expectations and identity are also barriers to progression.
 - Contrary to popular discourse, they may have greater aspirations than their peers.
 - The issues relate to the inaccessibility of the education system and the perception of risk, with HE often viewed as an inaccessible, stressful and irrelevant option.
 - There are variable levels of support available to help them make informed choices at key points.

UCAS published [Progression Pathways 2017](#), examining the options for those wanting to gain a bachelor's degree in an incremental way and/or combine study with work.

- The report focuses on four main pathways: foundation years; foundation degrees; Higher national Certificates (HNCs) and Diplomas (HNDs); and higher and degree-level apprenticeships.
- There is a boom in universities offering degrees with a foundation year or 'year zero', which enables students to gain study skills and subject knowledge, but incurs an additional year of tuition fees and expenses.
 - In England, the focus on apprenticeships appears to be driving a decline in standalone foundation degrees and HNC/Ds; and policy changes and labour market conditions have led to a collapse in part-time study.
- All the pathways have the potential to support widening participation, offering a second chance to learners, meeting the needs of those who need to live at home or study part time, and often allowing students to progress at their own pace.
- There's confusion about terminology and a lack of robust evidence about outcomes for students pursuing different pathways, particularly compared to the information available on outcomes and destinations of 'traditional' undergraduates.

- Prospective students, apprentices and their advisers find it difficult to locate, compare and evaluate different pathways and learning options – even basic information on learning approaches, modes of study, time commitment, etc. is absent.
- Each pathway has progression challenges that may not be apparent to learners before they start their studies, including with the portability and recognition of their qualification.
 - The introduction of the apprenticeship levy and the likelihood that some employers will wrap support for foundation degrees and HNC/Ds into apprenticeships is a further complication.

CESifo published [Can Online Delivery Increase Access to Education?](#), which provides the first evidence that online education affects the number of people pursuing formal education.

- Georgia Institute of Technology's Online degree in Computer Science was the earliest model to combine the inexpensive nature of online education with a highly-ranked degree programme.
- Access to the online option substantially increased overall enrolment, expanding the pool of students rather than substituting for existing educational options.
 - Demand for the online option was driven by mid-career Americans.
- The results suggest that low-cost, high quality online options may open opportunities for populations who would not otherwise pursue education.

UNESCO published [Six ways to ensure higher education leaves no one behind](#), with policy recommendations 'for equitable and affordable higher education to better support the implementation of the [Sustainable Development Goals agenda](#)'.

- The global demand for HE is continuing to rise, and growth is out-pacing available resources, with the cost of HE resting with households, many of whom cannot afford it.
 - The number of students in HE more than doubled from 100m in 2000 to 207m in 2014.
- Providers are becoming more diverse, including new kinds of private providers, international branch campuses and online providers.
- Women are closing the participation gap, although there are big differences between countries and they still lag behind men in doctorate programmes.
 - The gap persists for poor students, ethnic minorities and indigenous groups.
- Six key policy recommendations for governments to ensure equity and affordability include:
 - reviewing equity policies periodically to make sure that groups most in need of help are getting it
 - guaranteeing principles of access within regulatory frameworks
 - using a combination of admissions criteria to ensure all students have a fair chance at getting into the best universities, regardless of their backgrounds
 - restricting student loan repayments to a maximum of 15% of their monthly incomes.

The Higher Education Academy (HEA) and Action on Access published [Supporting student success: strategies for institutional change](#), the report of Phase 2 of the 'What Works? Student Retention & Success Change' programme, funded by the Paul Hamlyn Foundation.

- Phase 1 found that the 'human side' of HE – finding friends, feeling confident and feeling a sense of belonging – is the necessary starting point for academic success.
- Phase 2 was a three-year programme of action research with 13 UK universities, designed to:
 - identify strengths, challenges and priorities at the strategic and course/programme level
 - improve the strategic approach to student engagement, belonging, retention and success
 - implement or enhance specific interventions in the areas of induction, active learning and co-curricular activities in selected discipline areas
 - evaluate the impact of changes in both formative and summative ways.
- The programme has proved effective, resulting in improvements for students including:
 - Better first-year continuation rates and attainment levels.
 - More engagement in online activities.
 - Higher levels of engagement, belonging and confidence.
 - More internal transfers and fewer withdrawals.

- A reduction in attainment differences between black and minority ethnic and white students.
- Fewer student complaints and high rates of satisfaction.
- Enhanced employability and positive feedback from employers.
- The institutions also felt that: they had a better understanding of the issues impacting retention and success; staff capacity to work across the institution and bring about change was increased; student voices were better integrated; and effective initiatives were rolled out.

Universities UK published [Education, Consumer Rights and Maintaining Trust: What students want from their university](#), the results of a survey of more than 1,000 students.

- The top three things they want from the relationship are: personalised advice and support (80%); a service in return for their fees (73%); and a collaborative relationship with staff (69%).
- 47% say they regard themselves as a customer of their university, compared with 18% who feel the same about their secondary school.
- 79% value the relationship they have with their university and 87% say their university treats its students fairly.
- 62% say that their university cares about their best interests.
- The top five things that make courses good value for money in students' perceptions are: good study facilities; high quality lecturers and tutors; high quality course content; academically challenging; future career prospects.

The Higher Education Policy Institute (HEPI) and the HEA published the results of their [2017 Student Academic Experience Survey](#) of over 14,000 full-time undergraduates.

- The downward trend in perceptions of value has continued into 2017, with 35% feeling they have received good/very good value (-2ppt) and 34% feeling they have had poor/very poor value (+2ppt).
 - Ratings among students domiciled in Scotland are the highest but show the largest decline, from 67% to 56%
 - Northern Ireland's students give the third highest ratings of the UK nations, but these have declined steadily since 2015, and are now at 42%.
 - Ratings among students domiciled in England are the lowest at 32%, but have only declined slightly since 2015.
 - Welsh-domiciled students are the only ones that are giving higher ratings, albeit only slightly, to 47%, putting them equal to the rating from EU students.
 - The top drivers of value are: experience compared with expectations; the variety of timetabled sessions; and the quality of teachers and teaching methods, particularly the extent to which expectations are met.
- A third of students say that they would definitely or maybe have chosen another course if they could choose again – a number that has remained steady over time; the figures vary widely by subject.
- A new question finds that 65% of students feel that they have learnt a lot, with just 7% feeling they have learnt not much or nothing.
 - Students who live in the family home are least likely to feel they have learnt a lot, as are those who spend a lot of their time in paid employment.
- Teaching quality appears to have improved on a number of measures, although scores in 2016 were often lower than in 2015.
 - Specialist institutions perform relatively well, particularly in terms of help and support, whereas Russell Group institutions tend not to score as well, despite strong scores on value for money.
- As well as identifying lower levels of wellbeing among student respondents compared to the national population, the results highlight a clear decline year-on-year on all four measures: life satisfaction; life worthwhile; happiness; and low anxiety.

Universities UK International published [The UK's Competitive Advantage: 2017 update](#), results of the International Student Barometer – the world's largest survey of international students.

- The report examines the experience of 137,000 students in the UK, the USA, Canada, Australia, Germany and the Netherlands.

- The UK is ranked highest in terms of overall satisfaction, with 91% of students at all levels of study reporting that they are satisfied with their experience.
 - The UK is also ranked first by undergraduates for learning environment, arrival and orientation, living, and support services.
- International students studying in the UK at all levels are more likely to recommend their chosen destination than in any of our major competitors.

[Examining student immobility: a study of Irish undergraduate students](#), by Economic & Social Research Institute (ESRI) researchers, explores the profile of students who have no plans to study abroad.

- Immobility is predicted by the mother's level of education and family income; age and language proficiency are also factors.
- The main obstacles to mobility are finances, language barriers and not wanting to leave family and friends.
- Students in institutes of technology are more likely to be immobile than those in universities.

HIGHER EDUCATION: TEACHING, RESEARCH & INSTITUTIONS

[Video games can develop graduate skills in higher education students: A randomised trial](#) by University of Glasgow researchers, published in *Computers & Education*, concludes that game-based learning interventions have a role to play in higher education.

- An eight-week study of arts and humanities undergraduates evaluated the effects of playing video games on the development of 'graduate attributes' – desirable skills and competences.
 - The games used were all commercial titles, e.g. *Minecraft* and *Lara Croft and the Guardians of Light*, designed for entertainment not for skills development, and most involved a substantial multiplayer component.
- Gaming was found to improve self-reported communication skills, resourcefulness and adaptability.

The Scottish Council of Deans of Education published [The Role and Contribution of Higher Education in Contemporary Teacher Education](#), by Professor Ian Menter of the University of Oxford, drawing on lessons from the UK and internationally.

- In Northern Ireland, Wales and Scotland 'it is a deeply held belief that the contribution of the university sector is a fundamental requirement for high quality teacher education'; it is a more mixed picture in England.
- In Northern Ireland there has not been any serious consideration of alternative forms of provision for initial teacher education, 'in spite of the existence of a major distance learning provider, Hibernia, in the Republic of Ireland'.
- Conclusions include:
 - Simplistic apprenticeship models for teacher preparation are poorly suited to developing creative, critical and reflective professionals.
 - The involvement of universities is crucial to ensuring a high quality teaching workforce.
 - Universities can contribute to educational disadvantage by ensuring innovation and improvement is informed by research as well as high quality teaching.
 - International collaboration should be integral to teacher education development.

The National Centre for Universities & Business (NCUB) published [State of the Relationship 2017](#), the annual report of UK-wide university and business collaboration. In Northern Ireland:

- Universities are maintaining the number and size of partnerships with large businesses, while concentrating resources in a smaller number of larger deals with SMEs.
 - The number of Innovate UK grants with academic partners is growing but they are declining in size.
- Compared to other regions of the UK:
 - the proportion of intra-regional activity was noticeably higher

- academics were: most likely to report involvement in people-based problem solving interactions; least likely to involve private sector partners; and most likely to involve third sector interactions and those with the public sector.

It includes a case study of the Connected Health Innovation Centre based in Ulster University, and a Department for the Economy focus report on academic support for the growing agri-food sector.

NCUB published [Growing the Value of University Business Interactions in Wales](#), the first report from its Growing Value Wales Task Force.

- The Taskforce involves business and HE exploring practical ways of harnessing research and talent developed in universities.
- Actions identified in the report include:
 - Business and universities need to gain a deeper understanding of each other to forge bigger and better partnerships.
 - A strong, visible and sustained championing of university-business collaborations is needed by senior leadership in both universities and businesses.
 - Universities must take into account the value chain of businesses to enhance the impact of collaboration.

A [Growing Value Scotland Taskforce](#) published its final report in May 2016.

Technopolis Group published [The Role of EU Funding in UK Research & Innovation](#), commissioned by the Academy of Medical Sciences, British Academy, Royal Academy of Engineering and Royal Society.

- UK higher education institutions (HEIs) collectively reported around £725m in research grant income from EU government bodies in 2014/15, covering all 40 disciplinary categories.
 - HEIs reported around £366m in EU research income (50%) for the top five subjects (by income) combined: clinical medicine (£119m), biosciences (£90m), physics (£55m), chemistry (£54m) and IT (£46m).
- The top ten HEIs accounted for around 47% (£340m) of the total, and the top 20 accounted for 66%.
 - The top ten include universities from across England, Northern Ireland and Wales, all of which have dependency ratios of at least 20%.
 - However, they are less dependent on this flow of funds than many mid-sized institutions, with more than 40 having dependency ratios above 20%.
- Total income from the Framework Programmes for UK industry is a small fraction of UK Business Expenditure on R&D (BERD), but a significant contributor to SMEs' research capacity.
- Long-term, low-interest loans to universities and research institutes across the country have supported capital projects such as the relocation of the University of Ulster.
- Although England accounts for the largest share of European Structural Funds, funding per capita is highest in Wales (€125); Northern Ireland (€60) is also markedly above the UK average (€23).

[Exiting the EU: Challenges and opportunities for higher education](#), published by the House of Commons Education Select Committee, suggests a number of priority areas for the negotiations and recommendations for new directions outside of the negotiations.

- The uncertainty over EU students and EU staff needs to be reduced immediately.
 - Guaranteeing that the 2018/19 student cohort will have the same fees and tuition loan access will help to reduce uncertainty over EU students.
 - For staff, residency rights need to be agreed rapidly, and, should there be any delay in achieving a reciprocal agreement, they should be unilaterally guaranteed before the end of 2017.
- The immigration system after Brexit should cater more particularly for the needs of HE, facilitating rather than obstructing the movement of people from and to our universities.
 - The best model for all international students, including from the EU, is an open approach with few barriers; overseas students should be removed from the net migration target.
- Continued membership of Erasmus+ should be a target; if this looks unlikely, a home-grown replacement could include mobility beyond Europe.

- The government should commit to future research frameworks to ensure ongoing collaboration with the EU; in case this fails, there should be a plan to match funding domestically.
- A new regional growth fund should be created to replace and exceed European Structural Funding.
- HE should play an important role in upcoming trade deals with the rest of the world; the government should pursue collaborations with major research nations and invest further resources into existing collaboration funding.

WORKFORCE ISSUES

ASSET 2016: experiences of gender equality in STEMM academia and their intersections with ethnicity, sexual orientation, disability and age by the Equality Challenge Unit, finds that women employed in academia in STEMM (STEM + medicine) subjects experience 'consistent disadvantages across multiple aspects of their working life'.

- Female STEMM academics report having more teaching and admin duties, with less recognition; less time for research; fewer training opportunities; and more barriers to training.
- Males are significantly more likely to be assigned a mentor, to have opportunities to sit on important committees, and to have access to senior staff.
- 75.7% of women think it is easier for a man to get a senior post; 47.3% of men don't think either have an advantage.
- 13.5% of men were formally promoted to their current post, compared to 9.1% of women.
 - 59.7% of men were explicitly encouraged to apply for promotion, compared to 48.8% of women.

Eurydice published Modernisation of Higher Education in Europe: Academic Staff – 2017, covering the systems in 35 countries, focused on the diverse mix of staff responsible for teaching and/or research. Findings include:

- In most countries, a doctorate is legally required for the appointment of some academic staff categories or positions, particularly at universities.
- Guaranteed job security is no longer the norm.
- Female academics comprise 40% of the total population across Europe; there has been a substantial increase in the last 15 years.
 - The gender gap is greater among more senior positions, with women comprising less than 33% of professors in most countries.
- Only a few countries require teaching practice to be a compulsory element of doctoral degree programmes; there are almost no large-scale CPD teaching skills programmes for academics.
- Although external quality assurance systems focus on teaching and research, human resource management issues are often neglected.
- More incentives are needed for academic staff to make internationalisation an important feature of HE systems.

IZA published An Advisor Like Me? Advisor Gender and Post-Graduate Careers in Science, based on the productivity of just under 20,000 chemistry postgraduates and their advisors from institutions in the USA.

- Students with an advisor of the same gender tend to be more productive during the PhD and are more likely to become professors.
- The under-representation of women in science and engineering academic positions may perpetuate itself through the lower availability of same gender advisors for female students.
 - Female advisors act as role models for female students, e.g. demonstrating it is possible to combine full-time careers with satisfying personal and family lives.
 - Male students' transitions to academic careers are shaped by factors other than the gender of their advisors; they have less need for same gender role models.
 - Increasing the number of potential female advisors may increase the proportion of female students who pursue academic careers.

RECRUITMENT

The UK Department for Education published the [2016 Employer Perspective Survey](#), based on interviews with over 18,000 employers across the UK focusing on what drives employers' decisions around recruitment and people development.

- 52% of UK establishments had a vacancy in the 12 months preceding the survey, up from 49% in 2014.
 - Employers in Northern Ireland were least likely to have vacancies (44%); this compared to 53% in England and 49% in both Scotland and Wales.
- As in 2014, 66% of recruiting employers had taken on an individual under the age of 25 in the previous 12 months.
 - The figure for Northern Ireland was the lowest, at 63%; Wales was the highest, at 68%.
- 31% had recruited education leavers in the 2–3 years preceding the survey – no change from 2014.
 - Northern Ireland had the lowest figure, at 29% (+1ppt); Scotland the highest, at 32% (no change).
- Although leavers were generally considered to be well prepared for the workplace, the percentage had fallen markedly in Wales (44% – -15ppt) and Northern Ireland (60% – -8ppt).
 - Where education leavers were found to be poorly prepared, this was most commonly due to them having a poor attitude or a perceived lack of working world or life experience.
- 65% of employers reported that relevant work experience was a critical or significant factor in recruitment, but only 38% had offered any form of work experience placement in the last 12 months.
 - Employers' use of placements was far more common in Northern Ireland (48%) than any other nation (38–39%), driven by the high proportion of education placements (41%, compared with 30% overall).
- 73% of establishments overall had offered some form of training for their staff in the previous 12 months, up from 69% in 2014.
 - The figure was higher in England and Scotland (73%) than in Northern Ireland (68%) or Wales (67%).
- 18% were offering apprenticeships at the time of the survey, up from 15% in 2014.
 - The national figures were: England 19% (+4ppt); Northern Ireland 13% (+4ppt); Scotland 15% (+3ppt) and Wales 15% (+2ppt).

The main report includes a lot of very detailed statistics; and data tables and slide packs are available for the UK as a whole and for each of the UK nations.

This is the first time the biennial study has been published since the department took it over from the now-defunct UK Commission for Employment & Skills (UKCES).

The DfE also published [Review of the Employer Skills & Employer Perspectives Surveys](#), synthesising stakeholder views on whether the data collected are useful for answering policy and research questions.

- Consultees valued the ability of the surveys to generate evidence of skills shortages, gaps and mismatches consistently and robustly over time and at more refined geographic levels.
- Consultees described the impact of the surveys on national level policy, as well as in developing regional and local skills strategies, and for informing funding decisions.
 - While some highlighted the role of the surveys in facilitating training providers to target skills gaps, others questioned whether the surveys collected information in sufficient detail for this purpose.
 - Although there was significant impact identified, there was a belief that awareness of the surveys and their associated impact could be increased.
- A concerted effort to reduce costs through amending the methodology or content would likely be self-defeating, and would result in surveys of limited use.

- Given the fundamental risks that the UK economy now faces, the continuation of well-respected, reliable, authoritative and transparent data sources on the employer demand for skills is a (currently unrealised) benefit in its own right and should not be put at risk.

The exercise suggests that the focus of policy makers involved in the management of the surveys should be to increase the awareness, use and impact of the surveys.

The Institute for Public Policy Research (IPPR) published [The Inbetweeners: The New Role of Internships in the Graduate Labour Market](#).

- In a challenging and competitive labour market, internships have emerged as: a way of offering young people experience in the workplace; a form of cheap labour; a way for employers to find top talent.
 - 11,000 internships are advertised every year, but the true number is estimated to be as high as 70,000 per year.
- They are acting as a barrier to social mobility as they are closed off to those who don't have the necessary connections or financial support.
 - Discrimination, opaque recruitment practices and a lack of knowledge of how to find good placements can also prevent young people from less privileged backgrounds from securing an internship.
- Recommendations include:
 - University-brokered work placements for all students, prioritising disadvantaged undergraduates.
 - No placement to last longer than four weeks.
 - Examining the case and means for legally protecting the term 'internship', so that it only applies to placements that are paid and offer a training opportunity.

The Institute for Social & Economic Research (ISER) published [Access to and returns from unpaid graduate internships](#), based on the experiences of English and Welsh graduates.

- Unpaid internships are increasingly seen as a gateway to highly competitive careers in law, politics, creative industries, media and publishing, and the sciences.
 - This has raised concerns about diminishing social mobility, and raised questions about whether and how interns benefit from the experience.
- On average, former interns face a salary penalty of approximately £3,500 p.a. compared with those who went straight into paid work; and £1,500 compared with those who went into further study.
 - Only compared with those doing 'something else' – e.g. travelling or remaining unemployed – do interns gain any significant benefit, being 6.4ppt more likely to be 'very satisfied' with their career.
- There are both advantaged and disadvantaged groups – in terms of expected labour market outcomes after university – who are more likely to be taking an internship.
 - Among the former are those with parents in professional or managerial jobs, those who went to private schools or 'elite' universities, and those graduating with a first or upper second class degree.
 - Among the latter are black and ethnic minority graduates, those with disabilities, and those from areas with a higher unemployment rate.
- The negative returns to taking an internship seem to be significantly smaller for graduates who were privately schooled or with parents in professional occupations.
- There is a need to improve access to internships for lower socioeconomic status students and reduce the cost for them undertaking relevant experience while studying.
- Information should be made available to students and early graduates about the likelihood of different outcomes from internships in key fields.

Findings from the latest Recruitment & Employment Confederation [JobsOutlook Survey](#) of 600 UK employers include:

- 80% of employers who have had difficulty recruiting re-advertised the role; 42% increased the salary on offer; 24% lowered the requirements.
- 49% expect there to be a shortage of candidates for permanent roles in the next three months due to skills shortages.

- Construction, engineering/technical and health/social care are the sectors where employers most expect a shortage of candidates for permanent roles.

The Chartered Institute of Personnel & Development (CIPD) and Hays published their latest [Resourcing and Talent Planning Survey](#) of more than 1,000 HR professionals, looking – among other things – at recruitment and development practices.

- 75% of respondents are reporting recruitment difficulties, and 72% expect competition for well-qualified talent to increase over the next three years, as a result of the UK's decision to leave the EU.
- 65% agree that the skills needed for jobs in their organisation are changing.
 - Leadership (58%), digital (54%) and commercial awareness skills (51%) are most likely to increase in demand over the next 12 months.
- 74% either are offering or plan to offer apprenticeships this year, compared with 63% in 2015.

IZA published [Does Part-Time Work Help Unemployed Workers to Find Full-Time Work?](#) examining evidence from unemployed workers in Spain.

- Findings imply there is a trade-off between two opposing effects – a 'lock-in effect' (decline in the transition rate to full-time work when working part time) and a 'stepping-stone effect' (increase in the move to full-time work after part-time work).
- In most cases, part-time work was found to lead to longer spells without full-time work; the value of temporary part-time work as a pathway to full-time work for the unemployed has reduced over time.

The Social Mobility Commission published [Time for Change: An Assessment of Government Policies on Social Mobility 1997-2017](#).

- The analysis looks at where progress has been made across the various life stages – from the early years through to the world of work – and in particular gives an indication of whether education and skills policy supports social mobility.
- The report gives each policy area a red, amber or green rating based on how successful it has been across the two decades as a whole.
 - No life-stage gets a green rating; two are amber – Early Years and Schools; two are red – Young People and Working Lives.
 - Within each life-stage there are individual policy areas that have been successful, such as the focus on widening participation at university and on creating jobs; but overall, only seven score a green while 14 score amber and 16 red.

APPRENTICESHIPS & TRAINEESHIPS

Prudential has released findings from [a study](#) of the views on apprenticeships of 16–18 year-olds and parents in Scotland. Findings include:

- 68% of young people believe most apprenticeships are in sectors dominated by male workforces, e.g. construction, manufacturing, agriculture and IT.
- Young people believe most apprenticeships involve manual labour, and jobs for women are in nursing, health and beauty, and childcare.
- 34% of parents think apprenticeships are more suitable for boys; only 7% think apprenticeships are more suitable for girls.
- 67% of parents would encourage their sons to consider apprenticeships, and over 50% would encourage their daughters to do the same.

The Association of Graduate Recruiters' [Apprenticeships Survey 2017](#) suggests that 83% of student employers have apprenticeship programmes this year, and they are expecting to hire 59% more apprentices in 2017.

- Intermediate apprenticeships make up the largest share of programmes by volume (4,492), followed by Advanced (3,967) and Higher (3,320).
 - Intermediate apprenticeships are also expected to increase at the fastest rate this year (287%).
- The largest volumes of apprenticeships are in IT/telecoms and banking, while the highest growth rates are in IT/telecoms and retail.

- All of the employers taking part in the survey are paying the Apprenticeship Levy; on average, they expect to use 33% of Levy funds to recruit new apprentices this year.
 - Half of the respondents are starting programmes as a result of the Levy with some using the funds to up-skill existing staff instead.
- 74% of employers confirmed that their apprenticeships would not impact graduate hiring this year; an annual intake of apprentices is typically 1% of the workforce while an annual intake of graduates is typically 1.9%.

[Developing Degree Apprenticeships: the Employer Perspective](#) by the AGR, funded by the Higher Education Funding Council for England, investigates the strategies of employers of different sizes and sectors.

- 44% of employers surveyed have accelerated their degree apprenticeship strategy as a result of the Apprenticeship Levy; just 22% said that they would be cutting graduate numbers as a result.
- Of the Levy-paying employers surveyed, 56% are offering or planning to offer one of the 18 approved degree apprenticeships available when the survey was undertaken in November 2016.
 - Large employers are more likely to do so, as are employers in construction, financial services and the legal sector.
 - The Chartered Manager Degree Apprenticeship is predicted to grow by more than 400% between 2016 and 2019 to just over 1,000 apprenticeships; Digital & Technology Solutions Professional Degree Apprenticeships by over 280% to 635.
- 73% said that degree apprenticeships might be a part of solving the skills gap issue within their organisation; only 13% didn't see a clear link.
- 77% said their apprenticeship and social mobility strategies were linked, with only 5% stating outright that recruiting apprentices would *not* contribute to their social mobility agenda.
- The most frequently cited issues employers face in developing degree apprenticeships were around the lack of awareness (60%) and reputation (60%) as well as unknown student demand (42%).

The Quality Assurance Agency for Higher Education (QAA) published [Quality Assuring Higher Education in Apprenticeships: Current Approaches](#), describing how degree or graduate apprenticeships will work in the four UK nations, including Higher Level Apprenticeships being piloted in Northern Ireland.

- The report includes:
 - an outline of responsibilities of providers in setting standards, recruitment, learning and teaching, assessment, and external examining
 - an examination of how institutions will work with employers and professional bodies to set the higher education learning aspect
 - comparisons between nations on recruitment, selection and admission, assessment, funding, learning and teaching, and external examining
 - a description of the context and key players in Northern Ireland.
- Conclusions include:
 - There is scope within UK HE providers' existing quality systems, underpinned by the [UK Quality Code for HE](#), to accommodate new and emerging apprenticeship models.
 - Providers need to continue to ensure that quality and standards are maintained to protect their awards, the apprentices and the reputation of UK HE while meeting the skills needs of employers and the economy.

CESifo published [The Effects of Youth Labor Market Reforms: Evidence from Italian Apprenticeships](#), looking at the impact of introducing the 'dual system' by allowing on-the-job training.

- Five years after hiring, the new contract improved the chances of moving to a permanent job in the same firm, although this happened mostly in large firms.
- There were also sizeable long-run wage effects, well beyond the legal duration of apprenticeships, compatible with increased human capital accumulation probably due to the training provisions of the reform.

SKILLS POLICY

The Centre for Economic Performance published [Education and Skills: The UK Policy Agenda](#), one of a series of background briefings on policy issues produced ahead of the 2017 UK general election.

- Although purporting to relate to the whole UK, much of the report relates to England; however issues are highlighted with wider relevance.
 - Concerns have been raised about how apprenticeship policy is being implemented, including an emphasis on quantity rather than quality, and differences in the provision of training opportunities for large employers compared with SMEs.
 - The number of post-16 and adult learners receiving publicly funded provision outside schools and universities has fallen.
 - HE participation among disadvantaged groups has risen faster than those from more advantaged backgrounds in recent years.
 - The steep decline in enrolments from part-time students continues.
 - The number of students from the EU is expected to fall as a result of Brexit, as their fees are likely to rise and access to loans to be removed; however, the impact of the falling pound may offset some of the decline.

[Making the UK's Skills System World Class](#) by the CIPD finds the UK is lagging well behind its competitors on literacy, numeracy, learning and development, and digital skills.

- England and Northern Ireland together rank in the bottom four OECD countries for literacy and numeracy among 16–24 year-olds.
- Out of 19 countries, the UK ranks lowest on young people's computer problem-solving skills.
- UK employers spend less on training than other major EU economies and less than the EU average, and the gap has widened since 2005.
 - In 2010, the spend per employee was €266 in the UK, against €511 across the EU.
- The UK lies fourth from the bottom on the EU league table for participation in job-related adult learning, with evidence showing a marked deterioration since 2007.

[Devolving Skills: Implications and Opportunities](#) published by the Collab Group identifies the factors that allow regions to take advantage of a devolved skills framework, drawing on views from the English regions as well as the devolved nations.

- **Vision and strategy:** the importance of a shared vision of a joined-up skills system, a clear understanding of what regional skills systems should be striving to achieve, and a strategy that provides a roadmap of how to get there.
 - This is present in Northern Ireland, partly enabled by the rationalisation of the FE sector, combined with alignment of the sector to wider macro-economic objectives and the transfer of policy responsibility to the Department for the Economy.
- **Ownership and accountability:** implementation of a devolved skills agenda is dependent on clear business, political and executive ownership, understood by all stakeholders.
 - Implementation in some areas has been complicated by uncertainty of whether responsibilities should rest with business or politicians.
 - Again, the devolved nations provide instructive models, with high-level political ownership.
- **Governance:** robust and credible structures are needed to coordinate the activity of multiple organisations.
 - Scotland offers a simple structure, that aligns funding and strategy across key national organisations.
- **Resource capacity:** capacity of the central delivery team; the skills of that team; and the capacity of local areas to take on enhanced financial functions.
 - The team needs to be well connected and able to leverage influencers; it must understand local labour market need; and it must be able to manage the financial resources that come with devolution of budgets.

[Scotland skills 2030: The future of work and the skills system in Scotland](#) by IPPR Scotland identifies the current policy context, strengths, weaknesses and long-term challenges, and 'gaps and overlaps' in skills provision.

- Recommendations to help ensure 'inclusive economic growth' include:
 - Creating an Open Institute of Technology, a 'mid-career learning route' to improve career progression rates, starting in low-skill sectors.
 - Focusing the skills system on improving rates of career progression, pay and productivity.
 - Introducing new 'tripartite' progression agreements between learners, employers and skills providers.
 - Developing career pathways co-designed by learner and employer, that outline education, qualifications and skills needed.
 - Reviewing skills qualifications to ensure they remain fit for purpose, with improved flexibility and transferability.
 - Setting up sector-based innovation academies to improve productivity.
 - Considering how business tax allowances could be used to encourage employer investment in skills development.
 - Setting up a new progression unit to research, monitor and evaluate activity to close the career 'progression gap' for low-skilled workers.

[The OECD Skills Outlook 2017: Skills and Global Value Chains](#) focuses on how countries can make the most of the 'global value chains' resulting from globalisation, ICT, trade liberalisation and lower transport costs.

- Skills can help countries integrate into global markets and specialise in the most technologically advanced industries, resulting in stronger productivity.
 - All industries need workers who not only have strong cognitive skills (including literacy, numeracy and problem solving) but also managing and communicating skills, and readiness to learn.
 - To specialise in the most technologically advanced industries, countries also need workers with good social and emotional skills and with qualifications that reliably reflect what they can do.
- Investing in skills can:
 - reduce the extent to which both workers and jobs are exposed to the risk of offshoring
 - help mitigate the wider gap in job quality between highly educated and less educated workers that is a result of global value chains
 - give all adults the literacy and numeracy skills they need to face the challenges of globalisation.
- To seize the benefits countries need to coordinate all their skills-related policies – education, migration, employment protection – and align them with industry and trade policies.
- This can be done through:
 - A strong focus on cognitive skills along with innovative teaching, flexibility in curriculum choice and well-designed entrepreneurship education.
 - High quality vocational and professional education and training with a strong work-based component and close collaboration between the private sector and HE and research institutions.
 - Reducing barriers to adult skills development, e.g. through flexible on-the-job opportunities and better access to formal education.
 - Ensuring people can move easily into jobs where their skills will be well used, fostering effective management and design legislation to enable expertise and knowledge to be shared effectively across the economy.
 - Cooperating on designing education and training programmes rather than competing for talent, including through new financing arrangements that better reflect the distribution of benefits and costs.

[Financial Incentives for Steering Education and Training](#) published by the OECD examines how governments can use incentives to promote better alignment between labour market needs and the supply of skills.

- The report identifies: innovative models; best practice in the design and use of financial incentives; framework conditions for their effective use; and limitations and risks in their use.

- The effectiveness of financial incentives depends on:
 - making skills more visible and comparable
 - improving skills intelligence and information for better career choices.
- Financial incentives are only as good as the information about skills needs that underpins them and such information needs to be communicated effectively if individuals and employers are to take informed investment decisions.

The International Labour Organization (ILO) paper [How Useful is the Concept of Skills Mismatch?](#) explores different forms of mismatch and assesses whether the way it is used within the European policy framework actually reflects the evidence base.

- The term 'skills mismatch' can refer to a variety of concepts including: vertical mismatch, horizontal mismatch, skill gaps, skill shortages and skill obsolescence.
- While an abundance of evidence exists on the costs associated with surplus human capital, as measured by over-education and over-skilling, much less is known on the effects of skill gaps, skill obsolescence and skill shortages.
 - Yet the policy debate seems to focus on skill shortages, where there is leader evidence.
- A more transparent and consistent approach that takes account of the existing evidence should form the basis of future policy debate in this area.
 - By bringing together the various concepts of skills mismatch and analysing their interrelatedness, measurement approaches and stylised facts, this paper may help to guide future policy debate.

The ILO ran the first annual [International Conference on Jobs & Skills Mismatch](#) in May in Geneva.

The CEDEFOP [Making Skills Work Index](#) measures the comparative performance of the skills formation and matching system of each EU country.

- It has three distinct dimensions, which – together – capture three different stages from cultivation of skills to utilisation in the labour market and at work.
 - **Skills development** represents the training and education activities that take place in a country, and their immediate outputs in terms of skills developed and attained.
 - **Skills activation** assesses the transition from education to employment.
 - **Skills matching** captures the extent that skills are effectively used at work and the labour market in general.
- Behind each dimension are a number of indicators that give a more nuanced picture of each country's strengths and weaknesses.

A new version will be launched early in 2018, which should provide better information for both policy makers and researchers.

[Economic context and policy approaches in small advanced economies](#), published by the Northern Ireland Department for the Economy, identifies heavy investment in innovation and human capital as one of the key characteristics of successful small economies.

- Because they have limited resources, small economies act to ensure that they make the most of their people, and economies such as Switzerland and Singapore have thereby built a distinctive international competitive position.
- The strong performance of small advanced economies on the World Economic Forum's Human Capital Index is due to a combination of strong formal education systems, as well as technical/vocational training and high quality schools, universities and research institutions.
- Many small economies are currently investing in initiatives to prepare their existing and future workforce for the workplace of the future, recognising that disruptive change is on the way.
 - Singapore, Denmark and Ireland are good examples.

SKILLS GAPS & SHORTAGES

The Northern Ireland Department of the Economy published the [Northern Ireland 2017 Skills Barometer: "Skills in Demand"](#), which updates the original research published in 2015.

- If Northern Ireland is to achieve its economic ambitions, reasonably strong growth is anticipated in: Professional, Scientific & Technical Services; Information & Communication; Administration & Support Services; Health; Manufacturing.
- A small reduction in employment is anticipated in public sector dominated areas on the basis of lower levels of Government spending: Public Admin & Defence; Education.
- Two thirds of the 80,000 job opportunities expected to become available each year will be filled by those already in the labour market, but the remainder must be filled from the education system or from inward migration.
 - Post-Brexit immigration controls could reduce the potential supply of labour and put greater pressure on local education institutions to supply the necessary skills.
- 30% of the annual average net requirement for skills will require degree-level qualifications.
 - Only 11% will be available to those qualified to below NQF L2 (less than 5 A–C GCSEs) – 19% of school leavers are currently qualified below this level; demand for this level of skills is on a strong downwards trend.
- The demand for skills will outstrip supply, but the gap varies by NQF level.
 - At high level (L6+) there is a marginal under-supply of skills, although STEM subjects are significantly under-supplied; while other subjects are over-supplied, that does not mean that young people should not study those subjects.
 - At mid level (L3-5) there is a significant under-supply, with STEM again figuring significantly.
 - At low level (L2 and below) there is an over-supply.
- Employability skills are identified as critical and need to be integrated into course delivery: problem solving, team working, communication, people management, commercial awareness, critical/objective thinking, professional attitude and initiative.

An [infographic](#) of the key findings is also available.

The OECD published [Employment Outlook 2017](#), which reviews recent labour market trends and short-term prospects in OECD countries, including issues around skills.

- Job polarisation has been driven by pervasive and skill-biased technological changes.
 - Between 1995 and 2015, the middle-skill share of employment fell by 9.5ppt in the OECD, while the shares of high- and low-skill occupations rose by 7.6ppt and 1.9ppt respectively.
- About one-third of overall polarisation in the OECD labour market is due to shifts in jobs from manufacturing to services, with factory workers who have lost their jobs often being forced to take up lower-paid work in the services sector.
 - The remaining two-thirds reflect rising polarisation within industries, largely explained by the demand for labour concentrating in high-skilled jobs as well as low-skilled ones with a hollowing of the middle.
- In all OECD countries, high-skilled workers have two to three times as many opportunities to participate in on-the-job training as their low-skilled counterparts.
- Growing occupational polarisation has contributed to rising discontent with globalisation.
 - Those with lower or declining wages feel that the benefits from openness and interconnection are being reaped by a few.

[HR 2020](#) published by law firm Eversheds Sutherland has found that succeeding in the 'war for talent' (67%) and tackling skills shortages (57%) remain at the top of the HR industry's agenda in the UK, continental Europe and Asia-Pacific.

- 46% said that remote working and anywhere or anytime delivery were likely to have an impact on their organisations, 44% demographic changes and 32% global workforce mobility.
- A third thought lagging productivity would increasingly influence workplaces, compared to under a quarter in 2015's survey.
- 41% said that the focus on apprenticeships was now a priority for them, compared to 17% in 2015.

McKinsey published [Technology, jobs, and the future of work](#) – a briefing note drawing on recent research by its Global Institute. Headlines include:

- 40% of employers say lack of skills is the main reason for entry-level job vacancies; 60% say new graduates are not adequately prepared for the world of work.
- The proportion of occupations that can be fully automated currently is actually less than 5%; however, partial automation will impact almost all occupations at every level to some degree.
 - 60% of occupations have at least 30% of activities that could currently be automated.
- Technology can help labour markets: digital talent platforms improve matching between workers and jobs.
- Digitally-enabled independent work is on the rise: 20-30% of the working age population in the US and EU is engaged in independent work; only about 15% is conducted on digital platforms, but it is growing rapidly.
- Technology creates new jobs and income possibilities: a third of new jobs in the US in the past 25 years were types that did not exist or barely existed before.

The National Institute of Economic & Social Research (NIESR) published [The Changing World of Work](#) commissioned by Unions21, aiming to identify industries with high projected employment growth and analyse worker characteristics in these industries.

- The data – mostly that produced by the now defunct UK Commission for Employment & Skills – suggests there will be a decline in employment in manufacturing and the primary sector and utilities.
 - The restraint on public spending is likely to impact the long-term growth potential of public services.
- Potential growth industries are: food and beverage services; head offices and management consultancy; retail trade; construction; health and social work; IT.

The OECD published [Trends Shaping Education Spotlight 10: Globalisation of Risk](#), examining the role of education in preventing and mitigating risks such as financial and cyber crises, pandemics and climate change.

- The paper highlights the need for financial, environmental and climate change, and peace and human rights education, as well as basic literacy, numeracy and core skills.
- It calls for students to be trained in skills related to military cybersecurity and cyber espionage.
 - There has been a steep rise in cybersecurity degrees and certifications across OECD countries, from over 20,000 in 2003 to nearly 96,000 in 2013. This reflects a policy shift in cybersecurity strategies, including the encouragement of training ethical hackers.

CIPD and NIESR published [Tackling Post-Brexit Labour and Skills Shortages](#).

- One in five organisations say they're considering relocating all or part of their UK operations outside the UK (11%) or focusing future growth outside the UK (9%) as a result of Brexit.
- 11% say the number of EU nationals they've recruited since Brexit has decreased.
- The main reason employers say they recruit EU nationals is because they cannot fill low or semi-skilled jobs with UK-born applicants.

Deloitte published [Power up – the UK workplace](#) – the first report in a new series that will explore the critical challenges facing UK government and business.

- The report is based on a survey of 2,000 non-British workers about their perceptions of the UK as a place to work and live, and wider research around the future of the UK workplace.
- The UK is the most favoured global destination, ahead of the US, Australia and Canada; however, following Brexit, 48% of those based in the UK and 21% of those based outside now find it less attractive.
- 36% of non-British workers based here are considering leaving in the next five years; the figure rises to 47% for high-skilled EU workers.

Skills Development Scotland and Digital Technologies Skills Group published [Scotland's Digital Technologies: Summary Report](#), based on research by Ekosgen.

- Digital tech is forecast to be the fastest growing sector of the economy to 2024.
- 60k+ people are employed in the sector, 60% in tech roles.

- An estimated 12,800 tech jobs are available annually (16% up on previous forecasts).
- Only 19% of the workforce are women, 18% in tech roles.
- Top language skills in demand are HTML (40%), Java (40%) and SQL (36%).
- Software, client interface, sales & marketing, and data skills are growing in importance.
- 82% said having a workforce with the technical skills or experience is the biggest challenge.

A new [UK Digital Strategy](#) and a revised [Digital Strategy for Scotland](#) were published in March 2017.

[Devo Digital: Digital Skills for the Northern Powerhouse](#) by IPPR North analyses the digital skills gap in the north of England, and highlights some innovative solutions to close the gap.

- The North's digital economy as a whole is worth £9.9b, accounting for 5.2% of the region's GVA (gross value added); each region has a unique digital specialism, such as data analytics in Leeds and gaming in Sunderland.
- Across the whole of the UK, digital companies find it hard to access skilled talent, but this is a particular problem in the North, where skilled migrant labour is currently filling the gap.
- Examples of innovative solutions include:
 - The ProgeTiger Programme in Estonia, which provides integrated ICT education from preschool upwards.
 - Webactivate in Ireland, which gives unemployed young people the opportunity to gain digital qualifications, while giving them on-the-job training with local businesses.
 - Sheffield University's Digital Degree Apprenticeships, which allow students to gain a BSc Honours degree while providing practical on-the-job training.

Innovation charity Nesta published [A closer look at Creatives: Using job adverts to identify the skill needs of creative talent](#), covering 'an enormous range' of occupations.

- Nesta states, 'there is little granular evidence on the skills required by creative talent', with skill shortages possibly exacerbated by Brexit.
- Skills can be grouped into five main clusters: support, creating and design, tech, marketing and teaching skills.
- Complementary cluster skills are also needed: in tech, to facilitate the running of businesses and as a platform for expressing creativity; in teaching, for sharing creative skills and capturing creative outputs; and in support, related to management, selling and customer service.

The Work Foundation published [A Skills Audit of the UK Film and Screen Industries Report for the British Film Institute](#), including television, animation and visual effects.

- Rapid growth and technological change are contributing to skills challenges and shortages in the sector, threatening its continued prosperity and input to the UK economy and culture.
 - The sector employs 66k people across the value chain, and grew by three times the rate of the UK economy in 2013/14.
 - 65% of employees in production, the largest sub-sector, are based in London and the South East of England; for the regions and nations of the UK retaining talent and not losing it to the pull of London is a significant challenge.
 - The concentration of employment opportunities in London and the South East of England is a real barrier for many people wanting to get into the industry.
- Diversity is a significant issue for the sector.
 - The industry is not gender balanced, especially at more senior levels.
 - There are gender and disability pay gaps.
 - Only 3% of employees are from a minority ethnic background and 5% are disabled.
 - Those from less advantaged backgrounds experience significant barriers to entering and progressing in the industry, including aspirational, financial, cultural, attitudinal, knowledge and information barriers; lack of networks; and employer behaviour/lack of flexibilities.
- The provision of education and skills training is felt to be inadequate.

- Courses do not always provide the skills required by employers and there is no clear progression map; a large proportion of learning is in general areas such as media and communication studies, which may not be delivering the technical skills required.
- Technological change was driving skills gaps and shortages for highly specialised craft roles, front-line technical roles, and many post-production activities.
- New entrants to the sector are lacking key soft skills rather than job specific skill sets.
- There is a clear need to boost access to student placements, particularly for those outside London and the South East.
- There is a confusing array of initiatives, limited careers advice and guidance, and lack of clear progression routes from education to work.
- Five strategic priorities are identified: enhancing provision; attracting and cultivating talent; driving diversity; strengthening links between initiatives that support learners moving from education to work and maximising reforms to apprenticeships; and professional development.

TRAINING & DEVELOPMENT

IPPR published [Making Inclusion Work: Reaching disenfranchised groups through work-based learning](#) using case studies from Italy, France, the UK, Spain and Germany to examine how work-based learning (WBL) can support greater inclusivity in labour markets and reduce unemployment among vulnerable groups.

- WBL initiatives must foster commitment and motivation at all levels and stages, harnessing political will and serving the needs of society as a whole.
- Employer engagement is vital, involving them in activities such as project planning, selection of candidates, mentoring, job shadowing and skills development.
- A personalised and holistic approach focuses on the needs of the learner, encourages involvement among participants, and increases the probability of successfully matching candidates to vacancies.
- An appreciation of the importance of career journeys and recognition helps to create an explicit connection between WBL and continuing progress in the labour market, in turn increasing a programme's perceived value to its participants.
- Sustainability and scalability are of increasing concern as a project matures: funding models must incorporate public, private and third sector sources; political commitment must be secured; a personalised approach must be maintained.

[Education, skills and employment in East London: An ecosystem analysis](#) provides a case study of how a VET programme led by the IOE and the Association of Colleges has been informed by the local socioeconomic context.

- East London Vocational Education & Training: Innovation Through Partnership (ELVET) is funded by the JP Morgan Foundation and involves four lead colleges; it aims to:
 - Facilitate access to training and employment in the digital, creative and health & social care sectors in East London, particularly for people from low-income backgrounds.
 - Develop strategic and sustainable relationships between East London colleges and employers.
 - Improve learning, employment and apprenticeship outcomes and progression pathways into and within work, creating 'high skills ecosystems' in East London and beyond.
- It therefore requires an understanding of three key inter-connected factors: the East London (and wider London) labour market; the socioeconomic dynamics within East London; and the nature of its education and training system.

[A Letter and Encouragement: Does Information Increase Post-Secondary Enrollment of UI \[Unemployment Insurance\] Recipients?](#) by CESifo, reports on USA research investigating the likelihood of unemployed people enrolling on 'post-secondary' programmes.

- Individuals sent information about the benefits, costs, necessary steps and assistance available are 40% more likely to enrol on programmes that might improve their future employment outcomes.
- Well-coordinated information along with institutional support may be more effective in increasing participation than raising the generosity of existing government programmes.

CESifo published [The Effect of Language Training on Immigrants' Economic Integration – Empirical Evidence from France](#).

- The number of assigned hours of training significantly increases labour force participation among participating individuals.
- The classes appear to have a larger effect for: labour migrants and refugees relative to family migrants; men and individuals below the median age; and individuals with higher levels of education.
- The research suggests that improved labour market participation is mainly due to the information on job search strategies gained through interaction with classmates and teachers during classes.

IZA published [Training Contracts, Employee Turnover, and the Returns from Firm-Sponsored General Training](#), extrapolating from the experiences of a large US haulage company.

- If employees are likely to leave shortly after being trained, businesses may think twice about providing training that can be used in other jobs.
 - A training contract that penalises an employee for leaving after being trained may help to solve this problem.
- The example firm used two different training contracts that reduced quitting after training, especially near the end of the contracts.
 - The contracts increased the profitability of training for the firm but decreased worker welfare relative to no contract being in place.

An [Employer guide to supporting care leavers in the workplace](#) published by the Learning & Work Institute highlights how employers can better support workplace skills, experience and confidence.

- It includes information about providing support at pre-employment, recruitment and selection, in work and for progression.

OLDER WORKERS

PwC published its latest [Golden Age Index](#), which measures how effectively 34 OECD countries harness the economic power of older (55+) workers.

- Iceland came first, New Zealand 2nd and Israel 3rd; the UK ranked 19th.
 - If the UK's employment rates of those aged 55–64 matched those of 4th place Sweden, GDP could be boosted by around 4.2%, which equates to £80bn at current values.

The Skills Commission published [Spotlight on... Lifelong Learning for an Ageing Workforce](#), the report of an inquiry into the challenges facing older workers in accessing, progressing in, and sustaining themselves in the labour market.

- The report argues for a new approach to education and training, continually developing the workforce rather than frontloading education and training at the start of adult life.
- Recommendations include:
 - A Minister for Lifelong Learning jointly responsible to relevant departments.
 - Employers introducing mentoring schemes for older skilled workers sitting alongside apprenticeship programmes.
 - Mid-life career reviews to encourage discussion about training needs later in life, with SMEs given government-funded advisers to help carry these out.
 - Greater visibility for 'return to work' funding and support.
 - Learning providers to rethink the content, marketing and delivery of courses to improve their appeal to older workers, with more focus on soft skills and confidence building.

[Extending Working Lives: A Devolved, Lifecourse Approach to Enabling Work Beyond State Pension Ages](#) by IPPR North suggests changes to policies and systems that will enable all of us to take control of the whole of our working lives.

- By 2045, nearly a quarter of people in the UK will be aged 65+; more than 10% of those aged 65+ are currently employed.
- Current retirees are sometimes stereotyped as wealthy and privileged, obscuring considerable inequality within the generation now leaving work.

- Opportunities to extend working life are not equally distributed: health tends to be poorer in deprived communities and among people who have held physically demanding or damaging jobs.
- Low-paid, low-skilled workers may need to keep working for financial reasons, but poor health and physically demanding work may make it difficult, while a lack of qualifications and engagement with lifelong learning reduces their opportunities to retrain for alternative employment.
- Recommendations include:
 - Taking a 'lifecourse' approach, with interventions at the points where they are best placed throughout the whole experience of training, work and preparation for employment.
 - Ensuring planning is grounded in a detailed analysis of local economic and population trends.
 - Offering incentives to companies and local authorities that implement relevant policies and achieve outcomes above 'baseline' rates.
 - Piloting 'work ability' approaches in key workplaces and sectors, as they are associated with strong recruitment and retention among older workers and may have benefits for younger people in the workforce.
 - Establishing tailored training and skills development, and encouraging HR practice that includes discussion of planning for later career and retirement in early- and mid-career appraisals and reviews.

***Deconstructing theories of overeducation in Europe: A wage decomposition approach* by ESRI, CEDEFOP and University of Aberdeen researchers, was published in *Research in Labor Economics*.**

- The research examined the skill mismatch of adult workers in 28 EU countries, in particular the factors affecting the earnings penalties of overeducated workers.
- Evidence supports the need for customised policy responses to tackle over-education; findings include:
 - Differences in human capital – the economic value of an employee's skill set – and job-skill requirements are important factors in explaining the wage premium.
 - For graduates, the asymmetry of information is a significant factor, whereas for medium-qualified employees, job characteristics and the low skill content of their jobs explains most of the wage gap.

EMPLOYMENT: RIGHTS, RESPONSIBILITIES & WAGES

The key findings of the latest biannual CIPD *Employee Outlook: Spring 2017* survey of over 2,200 UK employees, across all sectors and all sizes of business (including sole traders), include:

- Net job satisfaction has increased and now sits at +48 (64% satisfied and 16% dissatisfied), up from +45 in autumn 2016.
 - Job satisfaction is rising in the public sector at levels not previously seen in the eight years of the survey.
- 38% of employees are under excessive pressure at work at least once a week – a figure that has remained stable for several surveys.
 - 68% describe their mental health as very good or good, and were more likely to attribute poor mental health to problems outside of work.
- 48% agree that their organisation provides them with opportunities to learn and grow, although a quarter disagree.
 - 47% are satisfied with the opportunity to develop their skills in their job, while 22% are dissatisfied.
- 32% feel that having remote access to the workplace means they can't switch off in their personal time.
 - While 17% say this makes them feel anxious, 30% say they feel empowered by it; 53% say it helps them to work flexibly and 37% that it makes them more productive.

***Employment regulation in the UK: burden or benefit?* published by CIPD suggests employers broadly support the UK's employment rights framework.**

- 500 employers were asked about 28 different aspects of employment law, including unfair dismissal, the national minimum wage, parental rights at work, agency workers' laws and Working Time Regulations.
 - All were rated as necessary by the majority of those surveyed.
 - 68% agreed that employment law increases trust in the employer, and 69% that it improves the quality of working lives.
- 52% go beyond what's required when it comes to employment law, while 44% say they meet the minimum requirements.
- 36% thought wellbeing issues such as workplace stress should be the focus of future legislation, and 30% said technology.

[Precarious and productive work in the digital economy](#), published in the *National Institute Economic Review*, examines the impact of digital platforms on suppliers, workers and customers, and whether the platforms should be more regulated.

- Technology is contributing to changing patterns of work, yet the existing framework of employment legislation and public policy is 'structured around the concept of "the firm" as the agent of policy delivery'.
- To protect the interests of workers and consumers, it is important to understand how labour market policies can improve working conditions without constraining productivity and consumer benefits.

Acas published the research paper [Mind Over Machines: New technology and employment relations](#).

- New technology can affect employees through impacts on:
 - Work intensity or difficulty, by automating tasks, saving time, easing burden or providing data; however it can lead to greater intensification, and increase workload and the need for continuous training.
 - Worker autonomy, through surveillance, data recording, analytics and scheduling that undermine autonomy and thereby productivity and the ability to learn to use new technology.
 - Health and wellbeing: on the one hand replacing dangerous or highly physical tasks; on the other increasing stress levels.
- Employment relations play an important role in determining the ability of organisations to implement new technology and successfully change processes and routines.
 - Change management approaches are critical in terms of planning, communicating, consulting and engaging.
 - In terms of reskilling and training, successful organisations seem to rely on both effective formal training and informal peer-to-peer learning within teams; the latter require high levels of autonomy and engagement to be effective.
- On the macro scale, large numbers of UK workers will need major reskilling in coming years to meet the demands of a more automated economy.
 - Human and creative skills, including the ability to interpret and communicate data to other people, will become much more valuable than traditional domain based knowledge and expertise.

[International Trends in Insecure Work: A Report for the Trades Union Congress](#) published by NIESR is based on European Labour Force Survey data. Findings include:

- The UK has seen significant growth in insecure forms of employment compared to other EU countries, linked to relatively weak legal protections 'for those in bogus self-employment, agency work and on zero-hour contracts'.
- 'Atypical' workers in other EU countries tend to have stronger legal protections and greater job security; zero-hours contracts do not exist in many, and are strongly regulated in others.
- From 2008 to 2015, the UK had the largest increase in the EU in self-employed workers, and the third largest increase in temporary workers.
- Germany had the fastest overall employment growth, but the number of temporary and self-employed workers fell.

The Royal Society for the encouragement of Arts, Manufactures & Commerce (RSA) and the Federation of Small Businesses published [The Self-Organising Self-Employed](#), a critical appraisal of bottom-up mutual support schemes.

- The number of self-employed workers has grown by over 40% since 2000, and self-employment is responsible for almost 50% of all jobs growth since 2008.
- In the face of limited top-down support, the self-employed are creating grassroots collaborative means of support, e.g. collective sick pay funds, salary guarantee schemes, time sharing initiatives to spread workloads, and micro loan services.
- The report examines these 'below the radar' developments and aims to raise awareness of the most promising initiatives and remove blockages to progress; it includes nine case studies from the UK, Europe and USA.
- Nine recommendations include:
 - Trades unions exploring how they can assist with the launch and scale up of self-organising initiatives.
 - Create alliances between self-organising schemes and 'anchor' institutions, e.g. housing associations, FE colleges and business support groups, e.g. to provide co-working spaces.
 - Towns and cities becoming self-organising hotspots, e.g. providing match funding for new schemes, and creating positive procurement processes.

CESifo published [Child Care Subsidies, Quality, and Optimal Income Taxation](#), which evaluates some of the most common forms of child care subsidies.

- Subsidies in the form of tax deductions or refundable tax credits do not seem to reduce the distortions associated with income taxation; however, they can be welfare-enhancing devices when viewed as externality-correcting instruments.
 - They can deliver welfare gains ranging from 0.07% to 0.72%, and even larger gains (0.88%) can be obtained by using an opting-out public provision scheme.
 - Refundable tax credits deliver larger welfare gains, particularly when households get refundable tax credits, differentiated both according to the mother's employment status and the household income.

CESifo published [Parental Leave, \(In\)formal Childcare and Long-term Child Outcomes](#), which evaluates a large and generous parental leave extension in Austria.

- Extending parental leave has significant positive effects on children's health and human capital outcomes only if the reform induces a replacement of informal childcare with maternal care.
 - Care provided by mothers (or formal institutions) is superior to informal care arrangements.

IZA published [Fathers, Parental Leave and Gender Norms](#), examining whether the introduction of the fathers' quota in Germany in 2007 changed attitudes towards gender roles in the grandparents' generation.

- The fathers' quota created a sharp increase in fathers taking parental leave.
- Findings suggest that policy programmes that aim to change gender stereotypes can change attitudes towards gender roles in society as a whole, through indirect effects on other individuals beyond the target group through social interaction.

A [study](#) by law firm Milners found that just 54 of more than 56,000 people surveyed in Yorkshire and Humberside had taken up Shared Parental Leave (SPL) since it was launched in April 2015.

- SPL was designed to enable eligible mothers, fathers, partners and adopters to share statutory leave and pay after their child is born or adopted.
 - Eligible workers can choose how they allocate SPL between them, and whether they wish to take the leave separately or simultaneously.

IZA published [Top Earnings Inequality and the Gender Pay Gap: Canada, Sweden and the United Kingdom](#) as part of its discussion paper series.

- Recent increases in top earnings have led to substantial 'swimming upstream' effects, accounting for differential progress in the gender pay gap over time and a growing share of the gap being unexplained by traditional factors.

- The use of female quotas on corporate governing boards and gender diversity measures have a major impact on women's representation on corporate boards.
 - It was not possible to determine whether this had a 'trickle-down effect' on women's share in senior management – further analysis was needed.
- Women's educational level and field of expertise, choice of marriage partner and family formation decisions were also found to be critical for their labour market prospects.

The Institute for Fiscal Studies published [The UK labour market: where do we stand now?](#) analysis funded by the Nuffield Foundation ahead of the 2017 general election. Findings include:

- There is no evidence that recent employment growth has been disproportionately driven by low-skilled jobs. Under-employment levels are still higher than in 2008, but lower than 2012.
- Average earnings are still substantially below pre-recession levels and are being squeezed by rising household inflation.
 - Office for Budget Responsibility forecasts imply they will still be lower than 2007–08 in 2021–22, despite 'an extraordinary increase' in workforce education levels (35% are now graduates compared with 25% in 2008).
- Men and younger workers have seen larger falls in average earnings than women and older workers since 2008; low-earning workers have seen stronger pay growth than higher-paid workers.
- Pay growth is a key future challenge, impeded by poor productivity growth.

Government

NORTHERN IRELAND

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

ENGLAND

The Department for Education published [An Economic Evaluation of the National Careers Service](#).

- The National Careers Service (NCS) in England provides anyone aged 13+ with access to information and guidance on careers, skills and the labour market through an online service and telephone helpline.
 - Adults also have access to face-to-face, one-to-one support from a qualified, expert adviser.
- Of the 2.71m first-time users of the service between August 2010 and February 2014, men accounted for 53%-55%, while 20% were aged 35-44 and 18% 45-54.
- The proportion of users of white British origin has remained relatively constant at 64-67%; the proportion of non-British ethnic origin has increased from 7% to 9%, while the proportion from Black-African backgrounds has fallen from 5% to 4%.
- 18-21% of users had no formally recognised qualifications; 18-20% had qualifications at Level 1, and 27-30% at Level 2.
- 72% on average reported that they were unemployed, of which 35% had been out of work for less than six months and 25% for more than three years.
 - The proportion unemployed rose from 69% in 2011 to 76% in 2013.
- Overall, the researchers could not identify any positive impact of the NCS on employment or benefit dependency; however it was possible to identify a relatively strong positive effect in relation to education and training, which persisted across the entire post-support period.

The OFFA published [Outcomes of access agreement monitoring for 2015–16](#) showing progress against access targets set by English HEIs.

- Positive progress has been made on 82% of the targets, which are set through Access Agreements.

- 73% of targets were met in student success, 75% in access and 85% in progression to further study or employment.
- Only 70% of targets for mature entrants were met.
- The number of disadvantaged students leaving before completing their studies has risen for the second year in a row, up from 8.2% to 8.8%, while the figure for the most advantaged has fallen to below 5%.
 - Pastoral services, student mentors, peer-assisted study sessions and investing in study skills were all cited as factors for success by institutions that made progress in this area.
- In terms of progression, key factors cited by institutions included:
 - collaborative work with businesses and employers
 - providing opportunities for work experience, internships and placements
 - embedding activities into the curriculum to support the transition into work.

SCOTLAND

The Scottish Government published [A Research Strategy for Scottish Education](#), to support improvement by providing 'robust evidence of what is working in schools to raise attainment'.

- An Academic Reference Group, including researchers and stakeholders, and a National Advisory Group will be created.
- Key themes include:
 - Supporting the research infrastructure through better access to data and training of researchers, including work in partnership with the [Education Endowment Foundation](#).
 - Commissioning and disseminating evidence on 'what works', with particular focus on leadership, learning and teaching, and engagement with families and communities.

A full action plan for 2017–18 will be published later in the year.

The Scottish Credit & Qualifications Framework (SCQF) Partnership published [Review of the impact of the SCQF and SCQF Partnership on policies, strategies and stakeholders](#). Findings include:

- The SCQF is important in: breaking down the academic and vocational learning divide; recruitment and workforce development planning; and supporting education and skills providers to develop learning programmes.
- There is a need to continue raising awareness of the SCQF, particularly with teachers, parents and learners.

The Scottish Government published [Women in Farming and the Agriculture Sector](#) by Newcastle University and the James Hutton Institute.

- The research focused on the aspirations, career paths, leadership, inheritance, training and farm safety, and comparisons between women in agriculture and those in other family businesses.
- Findings include:
 - The cultural practice of passing on large farms to one son is the biggest barrier to women's entry to farming.
 - A lack of time is a major barrier to advancing women's roles and to accessing training and professional development.
 - There needs to be more access to, and uptake of, vocational training for women entering agriculture.
 - Women are very under-represented among the elected leadership of national-level farming organisations.
 - When men and women enter agriculture together, through buying/renting together, more equal gender relations exist.
- Recommendations include introducing progression mechanisms; establishing a talent bank of qualified women; and identifying women mentors to support male and female apprentices.

A new Scottish Government Women in Agriculture taskforce will take forward the issues identified.

The Scottish Parliament's Economy, Jobs & Fair Work Committee published [No Small Change: The Economic Potential of Closing the Gender Pay Gap](#) following an inquiry.

- Estimates suggest that at the current rate it will take 140 years for the gender pay gap to close in all countries globally.
- The pay gap in Scotland is preventing the economy from achieving its full potential, with women concentrated in low-paid industries and part-time work. The pay gap is not solely a result of women choosing to start a family or to take time out of their careers.
- Recommendations for the Scottish Government include:
 - changing the way it measures and reports the pay gap to take into account part-time workers
 - developing a new programme for women returners to work
 - further research, including on the business case for reducing the pay gap and to draw comparisons with other European countries.

WALES

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

REPUBLIC OF IRELAND (RoI)

The RoI Ministers for Education & Skills and Training & Skills [launched](#) a National Skills Council (NSC), chaired by Minister Bruton, and nine Regional Skills Fora.

- The purpose of the NSC is to make Ireland a leader in anticipating and responding to the rapidly changing skills needs across all sectors.
 - This is particularly critical in the face of potential major changes in relationships with key trading partners, as well as the way the digital revolution is transforming the economy and seeing the emergence of new skills.
- Each Regional Skills Forum will play a key role in delivering economic growth and driving regional development, working closely with the local enterprise base, IDA Ireland, Enterprise Ireland and the Local Enterprise Offices.

The Enterprise & Innovation Minister launched a [National Digital Skills & Jobs Coalition](#) as part of the Skills Agenda for Europe being promoted by the EC.

- It will be coordinated in RoI by the Irish Computer Society Foundation, working with the Council of European Professional Informatics Societies.
- It will support the Government's ICT Skills Action Plan and its Digital Strategy for Schools, coordinating outcomes from existing projects and communicating results at national and European levels.

The RoI Expert Group on Future Skills Needs published [Update on Future Skills Needs in the Food and Drink Sector](#).

- It makes 12 recommendations under the headings: work-based learning; internships, mentoring and apprenticeships; languages and international selling; and coordination.
- Recommendations include:
 - Focusing on numeracy, literacy and basic ICT skills in work-based learning.
 - Providers and industry to examine how best to develop middle-management training and succession planning approaches.
 - Work placements to be part of all undergraduate and postgraduate courses.
 - Training providers to consider developing a two-year mentorship scheme for SMEs to develop talent internally.
 - Accelerating the delivery of apprenticeships through the Action Plan for the Expansion of Apprenticeship and Traineeships 2016–2020 and encouraging more food and drink firms to join.
 - Making language ability and international selling part of graduate preparation, and sharing good practice of on-site language modules across occupations from operative to senior management.

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