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Skills Research Digest
Quarter 4 2018

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

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

Highlights this quarter include:

- Continuing analysis of the impact of artificial intelligence and automation, highlighting the need for national policymaking to mitigate the threats and exploit the opportunities for all.
- A particular focus on the future of vocational education and training (VET) and its potential role in addressing the changing demand for skills.
- Complementing that, analysis of the potential impact of more flexible approaches to higher learning, with examples of innovative tertiary partnerships that are already putting such approaches into practice.

** 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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Preparing Young People for Work

16–19 EDUCATION

The Education Policy Institute (EPI) published *UTCs: are they delivering for young people and the economy?*, detailed analysis of England's University Technical Colleges.

- Introduced in 2010, UTCs offer education to 14–19 year-olds, with a strong focus on technical education; they are sponsored by universities and supported by employers.
  - 50 UTCs are currently open; ten have closed or announced closure plans, or converted into a different type of institution.
- Among the key findings:
  - The average A level grade obtained is a D, compared to the state-funded average of a C.
  - Technical and vocational qualification students perform close to the national average, but better than those in further education (FE) colleges.
  - 20% go on to an apprenticeship after key stage (KS) 4, compared with 7% nationally, suggesting good school-to-work transitions.
  - UTCs are ensuring students are trained for jobs in technical industries where high-skilled employment is expected to grow, such as construction, IT and health.

UTCs are now to be given the option to recruit from age 11.

SCIENCE, TECHNOLOGY, ENGINEERING & MATHS (STEM)

Engineering UK published *Social Mobility in Engineering*, a briefing that draws on data and analysis from their 2018 *State of Engineering* report.

- Just 24% of those working in engineering come from low socioeconomic backgrounds, largely due to low participation and attainment in the engineering educational 'pipeline'.
  - 44% of pupils eligible for free school meals (FSM) achieve an A*–C grade GCSE in maths compared with 71% of non-FSM pupils; the figures for physics are 8%/23%.
  - In A level maths, 54% of those eligible for FSM achieve an A*–B grade, compared with 66% of non-FSM; the figures for physics are 39%/52%.
  - Just 10% of engineering and technology first year undergraduates come from the most disadvantaged POLAR4 quintile.
- Barriers that may inhibit disadvantaged young people from pursuing engineering include:
  - Lower levels of prior academic attainment, including in STEM subjects
  - Lower levels of science capital
  - Negative perceptions or misperceptions of engineering
  - Patchy, socially-stratified access to careers education and work experience
  - Schools in disadvantaged areas being less likely to offer triple science
  - A lack of appropriate data to monitor and evaluate interventions.
- There is much good work already happening across industry and education; yet cultivating talent and aspiration is only one aspect of advancing social mobility through engineering.
  - Of individuals in an engineering career, those from advantaged social backgrounds were almost four times more likely than those from disadvantaged backgrounds to work in an intermediate, managerial or professional role at age 30–39.
  - Differences between these groups are apparent even after accounting for the effects of their highest qualification, suggesting other factors are at play.
  - The effect of social class on employment outcomes is even larger for women and those from a black and minority ethnic (BME) background, with the difference in employment outcomes largest among BME women.

EMPLOYABILITY & CAREERS

British Council published *Next Generation Ireland-Northern Ireland* based on a survey of 1,024 18–30 year-olds from Northern Ireland (NI) and the Republic of Ireland (RoI).

- The study, which included focus groups and a literature search, focused on five main themes: education, employment, social issues, politics and looking ahead.
- Young people were asked how they felt their education had prepared them for their futures, particularly getting a job, having a family and living independently.
  - 70% felt their education had prepared them to some/a great extent for work; 56% for living independently; and 47% for working/studying abroad (44% in NI, 51% in RoI).
  - Respondents across Ireland thought the education systems were too focused on exam outcomes and failed to recognise the value of vocational training and further learning outside university.
  - They think education should take a more holistic approach and consider the personal development of individual students as being equally important to a school's rate of university leavers.
  - The majority want to see an enhanced range of vocational opportunities made available and more appropriate support provided to help young people make strategic decisions about seeking employment or continuing education.
- Young people were asked how they view their current and future work opportunities.
  - 77% think a lack of jobs presents a challenge to some/a great extent (90% in NI; 65% in RoI), 79% think job security is a challenge, and 81% low pay.
  - The majority of focus group participants in both NI and RoI were concerned about the mental health impact on individuals of not being able to secure regular employment.
  - As a result, many were contemplating a move away in search of better job opportunities, despite having no real desire to leave.
- Recommendations under the headings mental health, preparedness, voice and participation, social inclusion and cohesion, include:
  - Education provision should aim to increase employability, while responding to the individual strengths and interests of pupils and the demands of modern society, such as the increasing necessity of international study, work and travel.
  - Innovative, creative and sympathetic careers guidance should be provided.

Youth Employment UK published *Youth Voice Census Report 2018*, a snapshot of the experiences and views of 1,500 UK 14–25 year-olds.

- Young women were 20% less likely to have had experiences such as CV workshops and visits to university, or one-to-one interactions with careers advisors and mentors.
  - Young men were not only more likely to have had such experiences, they were likely to have had them more than once.
- Young women were less likely to have received information on all the educational options open to them at every stage of education, particularly vocational and apprenticeship options.
  - They were significantly more likely to have had university options discussed with them.
  - 11% of young women and 5% of young men had not had any options discussed with them.
- 55% of young men had participated in work experience in secondary school, compared to 49% of young women; young women were more likely to have found a placement for themselves.
- 54% of young men thought they knew what skills employers were looking for, compared with 38% of young women; they were also more confident that they would be able to progress into meaningful employment (57% vs 44%).
- 74% of 23–25 year-olds had never received any careers lessons or enterprise activities during secondary school.
  - 50% of 14–16 year-olds had not had any work experience.
- 14–16 year-olds were most likely to seek advice from parents (23%), followed by 23–35 year-olds (13%).
  - 12% of 23–25 year-olds had sought advice from a careers advisor, compared to 5–7% in other age groups.

- Overall, young people consider current provision to be inadequate, too generic, and overly focused on a certain route.

There is no information on the breakdown of respondents across the four nations.

England's Careers & Enterprise Company published *Careers Provision in Colleges: What Works?*, providing evidence for effective career guidance within the FE sector.

- A broad definition of careers guidance is used in the paper, based on the Gatsby Benchmarks:
  - A stable careers programme; learning from career and labour market information; addressing the needs of each student; linking curriculum learning to careers; encounters with employers and employees; experiences of workplaces; encounters with FE and HE; and personal guidance.
- The impacts of a careers programme can be measured quantitatively – via management information, education outcomes and progression data, and survey data from students, staff, employers and other stakeholders – and qualitatively through feedback.
  - Key impacts include on education outcomes and progression; career and employment outcomes; personal effectiveness, career readiness and decision-making; and employability skills.
- Key lessons identified by the research:
  - It is important to have well-resourced and visible careers teams so students know how to access support and what is on offer, and understand how it can benefit them.
  - Effective, strong, strategic careers leadership and a holistic approach to careers and employability across the college are most effective.
  - Evaluation and review processes need to be put in place to ensure careers provision develops and evolves in response to student need.
  - Colleges need to make use of technology to facilitate interactions, ensure information is accurate and up to date, and to measure impact.
  - Provision needs to be tailored and targeted to different industries and the needs of students, including those with special educational needs or disabilities and those at risk of dropping out of education, employment or training.
  - Engagement with employers is important to ensure authentic interactions that give real insight into workplaces and sectors and develop career competencies.
  - Provision needs to be impartial, making students aware of all their options, technical or academic.

Education & Employers published *Research For Practice: Papers from the 5th International Conference on Employer Engagement 2018*, summarising eight conference contributions.

- *Putting skills to Work: It's not so much the What, or even the Why, but How...* highlights the complexity of transferring skills from education to workplace contexts.
  - Transfer is a 'continuous and transformative process' requiring the support of workplace supervisors and others to help re-contextualise skills.
  - The problem, therefore, may not be a lack of skills but the lack of workplace opportunities in which to demonstrate and develop such skills.
- *The role of school leadership in increasing engineer employer engagement among teachers* finds that school leaders who adopt a 'pedagogic leadership style' have had success in incorporating engineering 'habits of mind' into the curriculum.
- *Employer Engagement: Too little, too late* discusses the importance and difficulties of early engagement at primary school level.
- *Project-based learning in UTCs: How are employers engaged?* demonstrates how engineers can support project-based learning through a 'profound' engagement within the curriculum.
  - This involves designing authentic tasks and problems set within realistic work contexts and undertaken with employer input; the best projects are clearly aligned to students' programmes of study.
  - It also involves a wide range of employer activities: workplace visits, placements, talks, provision of equipment and resources.
- *Examining the use of technical qualifications within KS5 programmes of study* provides some important new evidence into who takes such qualifications and what are the outcomes.

- *Insiders or outsiders, who do you trust? Engaging employers in school-based career activities* provides evidence from a longitudinal study of the potential impact on secondary pupils of sustained employer engagement, in particular careers talks with outside speakers.
  - Career talks can provide similar wage benefits to having trusted personal networks to help secure positive labour market outcomes; however, they need to be proactive and sustained in providing access for those who lack such networks.
- *Vulnerable young people, employers and VET* describes a European partnership project designed to support vulnerable young people entering the VET system.
- *Measuring the Wider Impacts of Apprenticeship – the Apprenticeship Wellbeing Survey* reports on evidence collected from 2,000 apprentices in Scotland over three years, which shows high levels of wellbeing, satisfaction, increased confidence, and personal and career progression.

The publication includes a link to short videos of keynote presentations and panel discussions, and further summaries from contributors.

The Institutional Landscape

THE FURTHER EDUCATION & SKILLS SECTOR

The Edge Foundation published *FE and Skills Across the Four Countries of the UK: New opportunities for policy learning*, providing a rare cross-UK comparison of policy in this area.

- While devolved education presents challenges around coherence, it also provides a potential 'laboratory' in which to test and improve educational policies.
- The report draws on six seminars organised between September 2017 and May 2018, and includes:
  - brief, factual profiles of the context for FE and skills in the four nations
  - vignettes of 'interesting practice' at: Belfast Metropolitan College and South Eastern Regional College, NI; Manchester College, England; Cardiff & Vale College, Wales; and City of Glasgow College, Scotland
  - short descriptions of policy initiatives, such as skills competitions, Foundation Apprenticeships, Degree Apprenticeships and Regional Outcome Agreements.
- Common challenges are identified:
  - Brexit, and how the FE and skills systems will gear up to address workforce development
  - The fourth industrial revolution
  - The status of vocational education and training
  - Under-developed careers education, information, advice & guidance
  - Balancing a high skills technical and vocational mission with social inclusion
  - Developing long-term partnerships between employers and FE and skills providers
  - Balancing competition and collaboration – the role of wider social partners and relationship building
  - An over-emphasis on young people and the need to develop adult skills
  - Improving teaching, learning and assessment
  - Funding, retaining and developing high-quality lecturers and managers.
- A number of questions were posed as potential areas for policy learning across the nations, including what can be learnt from the different ways in which FE colleges are organised, and how far growing apprenticeships is the pressing UK-wide issue.
- Finally it is suggested that a policy learning network should be established to take forward a number of areas of ongoing enquiry.

More detailed information, including presentations, background papers and a Briefing Paper from each of the seminars can be found here.

The inquiry was directed by the University College London (UCL) Institute of Education and co-funded by City & Guilds and England's Department for Education. It was supported by three country experts from the University of Ulster, Glasgow Caledonian University and Cardiff University.

The University of Nottingham Centre for Research in Mathematics Education published *A survey of teachers of mathematics in England's Further Education Colleges – The Mathematics in Further Education Colleges Project [MiFEC]: Interim report* funded by the Nuffield Foundation.

- A survey of around 500 maths teachers looked at who they are and their training and development needs.
- Findings included the following:
  - The backgrounds and prior occupations of FE maths teachers are diverse; the most common are in business, industry or self-employment, teaching another subject at FE, or teaching school maths.
  - Around 26% teach another subject in addition to maths.
  - 49% of respondents cited personal enjoyment of maths as one of their reasons for teaching it at this level; 25% wanted to work with 16–18 year-olds, 17% wanted to move away from school teaching.
  - Most of the current workforce has experience of teaching maths and/or teaching in FE but 45% do not hold a specific maths or numeracy teaching qualification; 34% only hold a Level 2 qualification in maths, 30% have an undergraduate maths degree, and 7% a master's.
  - Most respondents experienced very little maths-specific continuing professional development.
  - Building a high-quality maths teaching workforce requires a better understanding of career pathways, differentiated high-quality initial training and more subject-specific professional development.

Cedefop (European Centre for the Development of Vocational Training) published a briefing note, *What future for vocational education and training in Europe?*, drawing on an analysis of VET developments since 1995 and a survey to develop three possible scenarios for VET in 2035.

- A pessimistic narrative sees VET focused on less attractive, lower-qualified and manual work, while more advanced skills remain the domain of HE.
  - Labour market polarisation reduces the relative importance of VET's traditional area of medium-level skills.
- An optimistic narrative sees VET expanding to higher levels and all ages, becoming increasingly important in responding to the needs of a service-oriented labour market, and helping to offset some of the effects of automation and polarisation.
- *Scenario 1: Lifelong learning at the heart – Pluralist VET*: vocational learning will not be restricted to the current VET providers, but form part of an integrated approach to lifelong learning.
  - Building on the current blurring of boundaries at upper secondary level; the focus will be on overall skills and competence, rather than VET as a separate sector.
  - VET will be anchored in broader qualification profiles, with a weaker link to specific occupations and jobs.
  - The target group will be significantly broader; tailored learning and problem-focused learning will become indispensable; progression and portability will be key features.
- *Scenario 2: Occupational and professional competence at the heart – Distinctive VET*: strengthens the focus on entry into occupations and professions.
  - VET's position as a separate subsystem is reaffirmed and strengthened; it is organised around clearly defined occupations and/or professions; young people are the core target group.
  - Work- and practice-based learning take priority, and work-based learning is established as a 'gold standard'.
- *Scenario 3: Job-oriented training at the heart – Special purpose and/or marginalised VET*: its focus is on training for jobs, reskilling and upskilling for short- and medium-term labour market needs.
  - VET's position is increasingly linked to continuing and further training in the labour market; employability and responding to groups at risk are of key concern.
  - VET is reoriented to the skills needs of rapidly changing jobs and functions and immediate skills needs; its target is mainly adults needing immediate re- or upskilling.
  - Shorter training courses are predominant, with some individual tailoring possible.

The scenarios outlined are the result of a three-year research project examining: changing definitions and concepts of VET; external drivers; the role of VET at upper secondary level; a lifelong learning perspective; VET's role at higher education (HE) levels. A set of thematic reports can be found here.

As part of the above project, Cedefop published *Cedefop Opinion Survey on Vocational Education and Training in Europe: United Kingdom*.

- At 51%, the UK had the joint third lowest level of awareness of VET with Italy; Malta (48%) and Cyprus (46%) were the lowest.
  - 80% in the UK think that VET prepares learners for a specific occupation, although many students are enrolled on basic or general VET programmes not directly linked to specific jobs.
  - A relatively low percentage compared to the EU average believe that VET always/often involves manual work, possibly due to recent advertising for apprenticeships.
- The UK is one of five countries where less than half of respondents (44%) had received information about VET when making a decision on upper secondary education.
- 75% thought that VET had a positive image, but only 25% would recommend it to young people and only 34% wanted the government to prioritise investment in VET.
- 63% thought that VET led to well-paid jobs, and 57% that it led to highly regarded jobs.
- The UK scored highly on satisfaction for both general (60%) and vocational (79%) upper secondary education.
- 84% of respondents felt that VET strengthened the national economy (EU 84%); 83% that it played an important role in reducing unemployment (80%) and 75% that it tackled social exclusion (78%).

The number of respondents that had studied in each UK country wasn't specified, but the results were adjusted to take different population size into consideration; however, the results can't be specifically matched to an individual national VET system.

Cedefop published *Globalisation opportunities for VET: How European and international initiatives help in renewing vocational education and training in European countries*.

- The cross-border flow of capital, goods, services, people and ideas, plus rapid technological developments, transforms occupations and the skills needed in the labour market.
  - It creates pressure on VET systems to respond quickly to changing skill needs and to renew their qualification requirements, training programmes and curricula.
- The research considers how 15 countries and five economic sectors – road transport and logistics; hospitality; automotive manufacturing; ICT; and health care – respond to such trends and the extent to which they are influenced by European and international standards and initiatives.
  - Although VET renewal is deeply embedded in national structures and steering mechanisms, cooperation between actors at European, national, sectoral and local levels is the key success factor in responding to global pressures.
- Drawing on examples of policy and practice that support such cooperation, the report makes several recommendations to improve the responsiveness of VET systems; these include, at national level:
  - Develop and implement coordinated VET strategies that consider higher-level initial, continuing and general VET as complementary components of lifelong learning, equipping individuals with the skills to cope with the changing labour market landscape.
  - Introduce systemic approaches for the regular revision of VET in relation to changing labour market needs.
  - Ensure further dialogue with and involvement of labour market stakeholders in the renewal and revision of VET systems at national, regional and local level.
  - Promote local partnerships between providers and companies as a way of addressing the challenges caused by globalisation.
- Recommendations at sectoral level include:
  - Promote sectoral dialogue between employers, employees and institutions responsible for VET development and delivery to develop trustworthy sectoral standards.
  - Support the establishment of sectoral skills councils, involving representatives of employers, employees and VET providers in VET renewal.

HE: APPLICANTS & STUDENTS

The Higher Education Policy Institute (HEPI) published *Homeward Bound: Defining, understanding and aiding 'commuter students'*.

- For a significant minority of today's students, the HE experience is very different from that of the majority of the UK's political and policy leaders.
  - The available data make it impossible to be precise about numbers, but it is estimated that a quarter of students live at home and commute to study, with higher proportions in some parts of the country, especially major cities.
  - In contrast, in many countries students are encouraged to attend their local university and stay in the family home.
- There is evidence that commuter students experience poorer outcomes, and are less engaged and satisfied with their experience.
  - The cost, time and unpredictability of commuting is often exacerbated by part-time work or caring responsibilities.
  - Students are also more likely to be first generation, have a lower income, be mature and be from an ethnic minority background.
- However, there are also advantages: close family/community networks can be maintained; it can be cheaper; students can remain in local employment; and they may be less distracted by social life.
  - It is important therefore not to project a 'deficit model', but rather seek to ensure students can more fully realise the benefits of HE.
- Policymaking tends to assume the residential model to be the norm, often leading to a neglect of commuter students, and an undervaluing of institutions that specialise in educating them.
- Policy recommendations include:
  - Finding a better way to define and compare data on commuter students, including consistency of data categorisation.
  - Ensuring the funding system adequately recognises and supports commuter students, including that concerns regarding cost of living are not restricting HE choices.
  - Policymakers concerned with part-time and mature students should consider the impact of student commuting on decisions to enter HE, as well as maintenance support.
  - Assessments of institutional teaching quality and impact on social mobility should take into account the proportion of students who are commuters.
  - If HE participation is to continue to increase, national policymakers need to consider the extent to which the state is prepared or able to support the majority of students moving away from home, and ensure such opportunities do not become dominated by the most privileged.

The Institute of Labor Economics (IZA) published *University Tuition Fees and High School Students' Educational Intentions*, based on analysis of the introduction and subsequent removal of fees in German states.

- The aim was to determine whether tuition fees influence the intention of secondary school students to go to university, and if the effect on those from low-income households is particularly strong.
- The introduction of relatively low university tuition fees of €1,000 per academic year was found to considerably lower young people's educational intentions and choices.
  - The intention of 17 years-olds to acquire a HE degree was down by around 8ppt (10%), and by 33ppt for those from the poorest 10% income households.

WIDENING PARTICIPATION

England's Office for Students (OfS) published *Understanding the evaluation of access and participation outreach interventions for under 16 year olds*.

- There is considerable investment in HE outreach activities to under-16s from disadvantaged backgrounds, as the effects of disadvantage are already manifest at Level 2 (GCSE); however, there is much room for improvement in the way such activities are evaluated.

- The barriers to effective evaluation are the usual ones: resources, data availability, senior buy-in and staff skills; however, pre-16 outreach is harder to evaluate than post-16, due to the long time-lag between activity and outcomes.
- There is also: an over-reliance on descriptive statistics and low use of inferential and/or multivariate analysis; a continuing emphasis on raising aspirations, despite its questionable role in attainment or participation; and a conflation of evaluation, monitoring and tracking data.
- Individual staff members play a critical role in framing, driving and developing evaluation practice, and there is little reported engagement with academic staff or use of independent evaluators.
- A number of elements of good practice could easily be adopted by providers, including: prioritising evaluation and resourcing it with expert staff; using 'theory of change' models; measuring impact through 'intermediate steps' towards HE participation; and a stronger engagement with the research literature.

A separate report offers tools and guidance for HE providers, developed from the research.

GRADUATES & GRADUATE EMPLOYMENT

Prospects published *What do graduates do? 2018/19*, its annual in-depth look at the Higher Education Statistics Agency's (HESA's) Destinations of Leavers from HE (DLHE) survey.

- Overall, the graduate labour market appears to have remained robust and by some measures is as strong as it has been for some time, despite 2017 being a politically disruptive year.
  - There were 329,325 UK-domiciled first degree graduates in 2017, 4% higher than in 2013, but well below the 2014 peak.
  - The employment rate was 76.6% (up from 74.2% the previous year); unemployment fell to 5.1% – the lowest rate since 1977/78, when it was 4.9%.
  - The rise in further study continued, with 41,005 first degree graduates continuing with their studies, up from 39,135.
- 73.9% of employed graduates were in professional-level positions in 2016/17, six months after graduating, up from 71.4% in 2015/16.
  - There were particularly large rises in the number of new nurses, software developers, marketers, management consultants, midwives, artists, photographers, niche or specialist engineers, business project managers, sports coaches, paramedics and housing officers.
  - There were again significant falls in the number entering teaching; there were also falls in graphic design, PR, journalism, youth work, probation and surveying, despite the latter suffering one of the most severe occupational shortages in the UK.
- A shortage of graduates appears to have helped to boost the proportion entering professional employment in each subject – almost all the subjects saw a rise.
  - More graduates in shortage subjects – such as IT, engineering, accountancy and marketing – went into vocationally-linked roles.
  - There were some interesting changes to the balance of occupations that could be linked to occupational shortages: maths graduates entered shortage areas of IT and engineering in larger numbers instead of business services roles, and more physics graduates entered IT.
  - However, sought-after architecture graduates were less likely to enter engineering and building roles than last year and more likely to work in financial services.
- There are longstanding and persistent concerns about skills mismatch and the underutilisation of graduates.
  - More working graduates were on permanent, full-time contracts after six months (61.3%) and fixed-term contracts of at least 12 months held steady, but 4% of graduates were on zero hours contracts (up from 3.6%), only 23% of whom were in professional-level jobs.

The report includes detailed statistics on graduate employment by subject studied, as well as feature articles on topics such as apprenticeships, social mobility, gender and work experience.

From December 2018, DLHE is being replaced by a new Graduate Outcomes survey managed by HESA.

The Sutton Trust published *Pay As You Go? Internship pay, quality and access in the graduate jobs market*, based on survey data from thousands of young graduates and employers.

- The current law around unpaid internships is extremely complex and varies according to hours and responsibilities; there are significant indications that the law is not being properly enforced.
  - A third of employers didn't know whether or not various scenarios would be legal.
  - 47% of graduates thought unpaid internships were 'legal in most situations' or weren't sure.
- 46% of employers offer internships, with large employers twice as likely to offer them as small businesses.
  - 29% are paid at the minimum wage or higher, 9% at less than the minimum wage; 12% are unpaid but receive expenses; 6% receive no pay or expenses.
- 27% of graduates have completed an unpaid internship, with 70% of interns completing at least one unpaid.
  - 53% of unpaid internships were over four weeks in length; 11% were over six months.
- 43% of middle-class graduates had taken an internship (29% unpaid) compared to 31% of working-class graduates (23% unpaid).
  - Middle-class graduates were more likely to be funded by parents or savings and use personal connections to obtain internships.
  - Those from working-class backgrounds were more likely to work a paid job to subsidise their internship, and obtain them through an educational institution.
- Completing an internship was associated with higher salaries for all graduates; however there is evidence that completing multiple internships can have diminishing returns, and may actually have a negative impact on employment and wages.
  - While 74% of those from working-class households showed signs of social mobility after completion, it also served as a mechanism for maintaining class advantage.

England's Department for Education published *The impact of undergraduate degrees on early-career earnings*, analysis undertaken by the Institute for Fiscal Studies.

- Longitudinal Educational Outcomes (LEO) data were used to estimate the overall impact of attending HE on earnings at age 29, based on those who went into HE in the mid- to late-2000s.
- The average man who attended HE earns around 25% more than the average man (with five A*-C GCSEs) who did not; for women the gap is more than 50%.
  - HE students typically have higher prior attainment and are more likely to come from richer families, making them more likely to earn more anyway; once these characteristics are taken into account, the average impact of attending HE is 26% for women and 6% for men, and of graduating, 28%/8%.
  - Women who attend HE typically work longer hours than those who don't, and this impact may be larger at age 29, when they are less likely to have had children.
- Men who study creative arts, English or philosophy have lower earnings at 29 than those with similar background characteristics who didn't go to HE; studying medicine or economics appears to increase earnings by more than 20%.
  - For women, there are no subjects that have negative average returns, and studying economics or medicine increases their earnings by around 60%.
- 12 institutions show statistically significant negative returns for men, but only two for women; 18 universities give men average returns of more than 20%, while for women there are 66.
- Returns vary by GCSE grades and whether they have a STEM A level, but the variation is often down to the subject studied.

GuildHE and the HEAD Trust published *Understanding the limitations of graduate outcome measures in higher education* by London Economics.

- There are too many gaps in LEO data, which should carry a prominent health warning.
  - LEO omits: family, geographical and sectoral factors that have a significant influence on earnings and employment; and students who didn't go to secondary school in England.
  - The focus is only on early stages of a career.
  - Data on earnings from self-employment are incomplete and potentially inaccurate.

- For many degree-level subjects, graduate earnings are a wholly inappropriate measure of economic value.
  - Data on student loan payments and levels of public subsidy therefore don't capture the wider economic impacts associated with a degree that accrue indirectly to the Exchequer, businesses or society in general.

The report was written as part of the debate in England about variable tuition fees.

The Institute for Social & Economic Research (ISER) published *Early gender gaps among university graduates* in the *European Economic Review*.

- The researchers used data from six cohorts of university graduates in Germany to assess the extent of gender gaps in college and in labour market performance 12–18 months after graduation.
- Men and women enter college in roughly equal numbers, but more women than men complete their degrees.
  - Women enter college with slightly better high school grades, but women leave university with slightly lower marks.
- Immediately on graduating, male and female full-timers work a very similar number of hours per week, but men earn more than women across the pay distribution, with an unadjusted gap of about 20 log points on average.
  - Including a large set of controls reduces the gap to 5–10 log points.
  - Given the short period after graduation, the impact of marriage, children, career interruptions, negotiations with employers and promotions is minimal at this stage.
- The single most important proximate factor that explains the gap is field of study at university – the largest differentials in pay emerge among graduates from economics/business and STEM subjects.
- The importance of field of study indicates the relevance of pre-market choices, which then interact with subsequent market choices at the beginning of professional careers.
  - Such choices could be partly driven by gender differences in preferences (e.g. risk aversion), self-confidence, competitiveness, earnings expectations and valuation of non-wage benefits.
- Another possible channel is related to statistical discrimination against women, based on employers' difficulty in distinguishing more from less career-oriented women.

IZA published *International Mobility of Students in Italy and the UK: Does It Pay off and for Whom?*, based on Italian Institute of National Statistics and UK HESA graduate survey data.

- The benefits of international student mobility on labour market outcomes were examined around 6–12 months and three years after graduation for undergraduates (UK and Italy) and postgraduates (Italy only).
  - Mobile graduates seem to have better employment chances than non-mobile graduates.
  - There is no significant difference between Italian and UK first degree graduates with regard to getting a job.
  - Overall, mobility seems to be slightly more beneficial for Italian postgraduates compared to UK graduates, though this is only significant one year after graduation.

IZA published *The Impact of Brexit on International Students' Return Intentions*, examining the decisions of EU and non-EU students after graduating in the UK.

- EU graduating students were significantly more likely than non-EU graduating students to plan on leaving the UK after graduation immediately after the Brexit announcement.
  - This was particularly the case for those from the new EU countries and from the EU14 countries who were undecided about their migration plans.
- EU students face worries about future conditions affecting their costs, living standards and employability as a result of Brexit.
  - If the UK wants to continue to attract the best and the brightest, reducing uncertainty in terms of rights and economic prospects is vital.

IZA published *Work Hard or Play Hard? Degree Class, Student Leadership and Employment Opportunities*, based on a study in Belgium.

- Degree class and extracurricular activities were randomly assigned to 2,800 fictitious job applications that were sent to real vacancies.
  - These are two main characteristics by which graduates distinguish themselves from their peers.
- Both characteristics increased graduate interview rates to a similar and moderate extent.
  - Academic performance and extracurricular engagement increased rates by about 7%.
  - The effect of a higher degree class was driven by female (versus male) candidates, and candidates with a master's (versus a bachelor's) degree.

HE POLICY & INSTITUTIONS

Universities UK (UUK) published *Higher Education in Facts and Figures 2018*, a useful source of the latest data (in infographic form) for the UK.

- Coverage includes:
  - Students: by country of institution; by level and mode of study; age 18 entry rates (including disadvantaged students); by sex and subject; by age and ethnicity; by domicile; non-continuation rates; destinations; unemployment and (England only) salaries.
  - Staff: by nationality, function and cost centre; by sex, mode of employment and age; by ethnicity.
  - Finance: income and size of institutions; income by source; operating expenditure.

UUK, GuildHE and the Quality Assurance Agency for Higher Education (QAA) published *Degree Classification: Transparent, Consistent and Fair Academic Standards*, investigating the reasons behind the increase in first and upper second class degrees.

- It finds no conclusive evidence of either inflation or improvement; a wide range of factors could be driving the increase, including additional investment in teaching and learning and heightened student motivation.
- However, there is a risk that a continued increase may undermine confidence in the value of a UK degree, making the classification system less useful for employers and students.
- The report recommends that universities should make a sector-wide statement of intent leading to actions to protect the value of qualifications over time, including commitments such as:
  - reviewing and publishing evidence on their degree outcomes at the institutional level
  - agreeing common criteria to be used by all universities to describe the quality of work required for each degree classification
  - publishing and explaining in an accessible format the scoring systems and processes used to determine a student's final degree classification, including why any practice differs from accepted norms.

A consultation on the recommendations is underway, with responses due by 8 February 2019.

England's OfS published *Analysis of degree classifications over time: Changes in graduate attainment*, looking at first and upper second class degrees awarded by English providers between 2010/11 and 2016/17.

- 11.6ppt of the increase in first and upper second class degrees awarded is unexplained by changes in the graduate population.
- There are significant differences for graduates with different entry qualifications.
  - For example, graduates who entered HE with the equivalent of grades CCD or below at A level were almost three times more likely to graduate with first class honours in 2016/17 than in 2010/11.
- Analysis of 148 individual providers finds that in 2016/17:
  - 52% showed a statistically significant unexplained increase relative to both the sector and their own level in 2010/11.
  - 19% showed a statistically significant unexplained level of attainment above that of the sector in 2010/11, but no significant change relative to their own level in 2010/11.
  - 13% showed a statistically significant unexplained increase relative to their own level in 2010/11, but attainment not significantly above the sector level in 2010/11.

- Overall, the analysis corroborates concerns about grade inflation across the sector and reinforces the OfS view that it is essential that all providers take steps to curb inappropriate increases in the awarding of first class and upper second class degrees.

The OfS will update the analysis as data for later years become available.

UUK published *Public perceptions of UK universities*, the results of a poll of 2,000 UK adults.

- 9% feel negative towards universities, 48% positive, 31% neutral and 13% 'don't know'.
  - 66% would encourage their children to attend university.
  - 58% agree that universities have a positive impact on the UK; 4% disagree.
  - 55% agree that people who go to university can get better jobs than those that don't; 34% disagree.
  - 70% agree that UK universities are among the best in the world; 11% disagree.
- Perceptions vary across age groups.
  - 55% of 18–24 year-olds and 44% of 25–34 year-olds say universities have a positive impact on them personally, compared to 35% of people aged 65+.
  - 34% of 18–24 year-olds say universities have a positive impact on their local community, compared to 26% of those aged 65+.
  - 35% of 18–24 year-olds disagree with the statement 'university degrees do not equip graduates with the skills they need to be successful in the workplace', compared to 24% of those aged 65+.
- In general, sentiments towards universities are similar in all the devolved nations, however there are some differences.
  - Despite funding differences, debt and the cost of living are key concerns for all.
  - Those in Scotland are the most positive (59%), followed by those in NI (50%), England (46%) and Wales (44%).
  - In NI, there is a greater level of negativity about the impact of universities on the individual (28%), families (14%) and local communities (19%).
  - That said, NI citizens (53%) are more likely to disagree that universities seem remote, out of touch and inaccessible than those in England (39%) and Wales (36%).
- The areas the public would be most interested in hearing about are: university research leading to new medical treatments or designing new products (18%); and how university can be more affordable for everyone (14%).

UUK also published Made at Uni: The 100+ ways universities have improved everyday life*. The report – part of a campaign – lists 'breakthroughs' that have had an everyday impact in the fields of health, technology, environment, family, community, and culture and sport.*

The Centre for Economic Performance published *Universities and Industrial Strategy in the UK: Review of Evidence and Implications for Policy*.

- Few would dispute the potential contribution UK universities can make across the five foundations of the Government's Industrial Strategy: people, ideas, place, business environment and infrastructure; however, it is less clear how this can be maximised.
- The report examines:
  - how university finance and admissions policies can widen access for students from less well-off backgrounds
  - the expansion of the sector, and how trade-offs between quality and quantity can be managed
  - the international nature of UK universities – how they can continue to attract the best students and staff
  - how positive impacts of universities on local and regional economies can be maximised.
- It is important to improve the accessibility of the university system for poorer students, and address variability in the quality of teaching, particularly as the sector expands.
  - A fairer maintenance system and better information and advice for prospective applicants could help close the participation gap and improve matching of students to courses.
- Although university graduates still enjoy a degree premium relative to non-graduates, there is wide variation in returns across universities and course types.

- A university education might not be the best route for all students, compared to vocational and technical education options.
- Potential students need clear and comparable information of the likely returns of different post-school routes to make an informed decision.

- Universities (and FE colleges) will have an important role to play in reskilling and upskilling the workforce through lifelong learning.
- More can be done to improve the commercialisation of basic research so that inventions translate into marketable products or services, including increasing the demand for business R&D.
  - Universities can set up and grow innovation hubs to increase firms at the 'technological frontier', and play a bigger role in the diffusion of existing technologies.
- Brexit represents a large source of uncertainty; it is essential that UK universities continue to attract high-quality international students, staff and research collaborations.

UPP Foundation published *Civic University Commission Progress Report*, examining what modern civic universities are and how they should serve their civic role.

- Civic university is defined as being truly local, autonomous and charitable, having a public-centred view, and a strategy informed by partner engagement and analysis of local needs.
- There is a strong civic commitment and activity taking place in universities across the UK, however few universities have an explicit strategy for civic engagement based on analysis of local or regional needs.
  - Universities need to establish their civic role as a core focus of strategy alongside teaching and research.
- There has been a 'devastating decline in adult education', the founding mission for many universities.
  - 1.8% of over 25s in the UK were in tertiary education in 2015, one of the lowest percentages in Organisation for Economic Cooperation & Development (OECD) countries.
  - Government policy needs to enable a more supportive environment for adult education.
  - Universities' remit for widening participation needs to include adults as a crucial part; they need to deliver more flexible routes for adults back into HE.

HEPI published a policy note on *Fairer funding: the case for a graduate levy*.

- The levy would replace tuition fee loans and would be charged to employers for each graduate they employ, paid alongside their National Insurance contributions.
- The levy would be channelled straight back to the institution where the graduate studied, ensuring that it is effectively investing in the future employability of its graduates.
- Each institution would also have targets for student intake and retention; those that miss them would contribute to a Fair Access Fund, while those who outperform would receive subsidies from the Fund.
- While the current system balances competing interests to achieve the least worst outcome for the stakeholders with the most power, a graduate levy aligns stakeholders' interests.
- The key is to recognise that the 'market' in HE is not built on the student as customer; in the language of markets, students are a precious resource and universities are suppliers of educated graduates to employers and to the nation as a whole.

HE TEACHING & RESEARCH

***A case for using swivl for digital observation in an online or blended learning environment*, by researchers from the Economic & Social Research Institute and Hibernia College, RoI, was published in the *International Journal on Innovations in Online Education*.**

- The use of digital video to enhance professional development for online and blended learning programmes in HE is examined, with particular reference to initial teacher education.
  - The successful integration of digital technologies in classrooms depends on the skills and competencies of teachers.
- Swivl is an innovative technology that allows for 'non-intrusive digital observation', such as of a school placement.

- Digital technologies such as this can support policy objectives on widening access to teacher education and enhance efficiencies in the provision of teacher education.
- Similar technology can be used in any profession looking for authentic ways to assess and develop real-life practical experiences within courses.
- Such technology has the potential to reform the reflective and evaluative processes in place for online and blended education environments.

- Challenges of introducing digital observation to the classroom include many relating to ethical standards, data protection regulations, and the protection of participants; it is essential to ensure these risks are fully addressed.

Advance HE published *Analysing Qualitative Data: A Guide for University and College Practitioners*, the sixth research and data briefing.

- The successful execution of small- to medium-scale research projects relies on juggling competing commitments, delivering to tight timeframes and dealing with pressure to present 'headline' findings with meaningful outcomes.
- The briefing discusses methods to demonstrate the success or failure of an initiative, report on progress or help make sense of a problem in an institution.
  - It is particularly relevant to practitioners working on research projects in the areas of equality, diversity and inclusion, teaching and learning, and governance, leadership and management.

The British Academy and Royal Society published *Harnessing educational research*, an assessment of the state of research into formal education to age 18 in the UK.

- There is increasing recognition of the need for the teaching profession to be research-informed.
- Eight recommendations for the four UK governments, UK Research & Innovation (UKRI), HE institutions (HEIs) and a wide range of stakeholders include:
  - Create an Office of Educational Research (OER) to operate across the four UK nations.
  - The OER should review the distribution of educational research capacity across the UK.
  - Improve coordination and collaboration across the educational research ecosystem.
  - The supply of future educational researchers is declining; the pipeline should be secured, with relevant training and better links between research students, policymakers and teachers.
  - More support for teachers to use evidence and research to develop practice and understanding.
  - Break down the practical and cultural barriers between policymakers and researchers.
  - Support the production and use of evidence synthesis, and give researchers greater recognition for the expertise needed.

WORKFORCE ISSUES

Advance HE published *Does diversity of staff impact student outcomes in higher education?*, a literature review of existing evidence.

- There is a dearth of UK research, suggesting robust studies are needed; literature is dominated by evidence from the USA.
  - The majority of the literature relates to gender and race, with little relating to other characteristics or socioeconomic background.
  - Most relates to diversity of academic staff and the impacts on students; there are few mentions of the diversity of support staff or leadership.
- USA evidence suggests staff diversity could make learning and teaching more diverse and inclusive, and may enhance support for BME and female students.
- UK-based evidence offers many hypotheses for the possible impact, e.g. increasing recruitment of underrepresented groups, improving BME student attainment and encouraging more women and BME students to progress to academic careers, but these are not supported by empirical evidence.

Advance HE published *Guiding Principles for Teaching Promotions* for institutions who may wish to revise their reward and recognition structures to include a clearer focus on teaching.

- The principles reflect changes in the academic role and support the reward and recognition of teaching equitably compared with research and other academic achievements.

- The principles were developed with three groups in mind: individuals seeking promotion where teaching is part or all of their case; institutions looking to develop or review criteria for teaching promotions; and students, because recognising and rewarding teaching benefits them.

GuildHE published *Practice-Informed Learning: The Rise of the Dual Professional*, on the impact of 'practitioner-teachers' who combine teaching with professional practice or industry activity.

- Practice-informed learning is valued by students for providing real-world experiences, credibility and access to professional networks, and opportunities to gain transferable workplace skills.
- Benefits extend to staff, employers and institutions.
  - Staff can gain inspiration, access to professional networks and development opportunities, and be challenged to re-examine their activity beyond teaching.
  - Employers can benefit directly through the contributions of students and graduates to the business, and by developing a route to wider engagement with institutions.
- Challenges are associated with mainstreaming practice-informed learning related to contracts, training and timetabling.
  - More needs to be done to support practitioners to value both elements of their professional careers and to raise the status of dual-professionals.

19 case studies include two from St Mary's University College, Belfast –with Belfast Zoo, on 'sustaining practice-informed collaboration', and with Innovation Factory on 'student engagement with SMEs'.

England's Department for Education published *Incentive programmes for the recruitment and retention of teachers in FE*, a literature review to help identify the incentives that offer the best value and are the most effective.

- Financial incentives are just one of a wide range of strategies employed to maximise recruitment; however, payments to individuals – such as bursaries – can enable people to go into teacher training who would not otherwise have been able to do so.
  - The ability to tailor incentives to meet local need (e.g. gaps in subject areas) is appreciated by providers/colleges.
- There is less evidence related to the use of financial incentives and their impact on retention; however, non-financial incentives – particularly the provision of mentoring and support – appear to play a key role in the successful transition to teaching, and for continued retention.
- Awareness of incentives available to serving FE teachers appears to be limited, suggesting that any activities to support retention need to be promoted widely to ensure positive take-up.
- Some common themes emerge regarding the delivery and management of incentives:
  - Awareness: including the need for clear communications about financial incentives to ensure there is no confusion as to eligibility and how they are applied.
  - Simplicity: simple, clear eligibility criteria without too many restrictions.
  - Targeting: both in terms of local need and shortage subject areas to maximise impact.
  - Flexibility: to reflect local demand in teaching provision.
  - Commitment: funding programmes in two- to three-year cycles to support planning.
  - Timing: incentives need to be marketed early in the academic year, to ensure that potential candidates are not already enrolled onto other schemes.

IZA published *Are Professors Worth It? The Value-added and Costs of Tutorial Instructors*, examining whether instructors with a higher academic rank teach tutorials more effectively.

- The academic rank of those leading tutorials was found to be unrelated to students' current and future performance and only weakly positively related to their course evaluations.
  - Despite substantial differences in formal qualifications and wage costs, instructor academic rank is unrelated to students' current and follow-on grades – professors are not better than student instructors in increasing student performance.
- Universities could increase research output and substantially reduce costs by assigning students or lower-ranked instructors instead of professors to tutorial teaching.

The Workplace

APPRENTICESHIPS & TRAINEESHIPS

The OECD published *Seven Questions about Apprenticeships: Answers from International Experience*, based on studies that were supported by countries including the UK.

Can apprenticeships provide a useful contribution in every country?

- High-quality apprenticeships offer a form of learning that is relevant across economies and countries, however there needs to be fair competition between apprenticeships and alternative forms of education and training.
  - Design features will vary by national and sectoral context, so that they are attractive to both employers and prospective apprentices – the secret is to get the balance right between the costs and benefits incurred by each.

Should employers receive financial incentives to provide apprenticeships?

- There is a strong case for public investment, particularly when apprenticeships are focused on young people; however governments should be wary of universal tax breaks or employer subsidies.
  - They would be better served by targeting funding at increasing the speed at which apprentices become fully productive.

What is the right wage for apprentices?

- Governments should ensure that pay is high enough to attract apprentices, but low enough to reflect that they will be largely unproductive – a balance that will vary by sector and occupation.

How long should an apprenticeship last?

- If apprenticeships are too short, employers lose out on the cost-benefit balance; too long, and apprentices are subject to exploitation.
  - Duration should reflect both the level of difficulty and learner characteristics, and countries have developed approaches to shorten duration for more skilled and experienced workers.
  - Social partners should ideally be engaged in the design.

How to ensure a good learning experience at work?

- Those supervising on-the-job training should be trained themselves, and work practices should be designed to maximise learning; assessments should go beyond testing theoretical and technical knowledge and skills, addressing personal interaction or social skills.

How to make apprenticeships work for youth at risk?

- It is more effective to increase the speed at which the apprentices can become skilled and productive, rather than offering subsidies to employers who take on those with lower attainment or from disadvantaged backgrounds.

How to attract potential apprentices?

- Schools need to be proactive and strategic, providing careers guidance that starts young, broadens ambitions, ensures regular encounters with careers professionals and gives young people opportunities to discover what it is like to follow different pathways.

SKILLS POLICY

The Institute for Public Policy Research (IPPR) Scotland published *The future is coming: ready or not? Delivering a successful 21st century skills system for Northern Ireland and Scotland*, the third report in their comparative study.

- For too many, low-paid work is a trap that leads to low-paid careers.
  - On average, only 2.5% of workers in NI and 6.2% in Scotland progressed from low-skilled work per quarter between 2013 and 2018; this compares to a UK average of 6%.
- The challenge now is to get people into higher-quality work, rather than to get them back into work.
  - A fully-flexible lifelong learning offer will be needed to increase participation among older workers, and increase employer engagement and investment.
  - Curricula will need to be based on skills, attributes and a competency-based approach.

- The system will need to be an 'early adopter' of new technologies.
- The costs of transition will be large and should be shared between the public and employers.

- Given the prospect of automation, technological change, ageing and wider economic change, the need for a 21st century skills system is all the greater.
- Recommendations for NI include:
  - Establish an Automation & Ageing Taskforce and a new Displacement & Retraining Strategy.
  - Engage every young person in learning and training until the age of 21 by 2025.
  - Set a new target to increase the number of over-21s engaged in the skills system by 45,000 per year by 2025.
  - Carry out a review of lifelong learning.
  - Provide smart information, advice and guidance for learners and employers under the banner of 'Progression NI'.
  - Establish a new Progression Account worth up to £1,000 per year for 10,000 lower-paid workers (an investment of up to £10m).
  - New cross-cutting 'missions' for the skills system focused on key challenges and opportunities, bringing government, employers, learners and the system itself together at the national level and through regional mission groups.
  - Introduce collaboration-based outcome agreements across the skills system.
  - Introduce City Deals that place skills provision, career progression and productivity at their heart, addressing current economic challenges and preparing for the changes of the future.

The report was supported by the Further Education Trust for Leadership (FETL).

The Commission on Sustainable Learning for Life, Work & Changing Economy, set up by Pearson, published its first report: *Creating a workforce for a prosperous and productive future*.

- The UK faces three distinct challenges:
  - Skills shortages where organisations struggle to recruit – affecting about 1% of employees
  - Skills gaps: where employees have lower skills than the business needs – affecting about 10%
  - Skills underutilisation: where employees are not using all their skills – affecting a significant 35–45%.
- The regional picture is important: we urgently need a mechanism that effectively links local employers, schools, colleges and universities, so that students don't leave formal education and automatically relocate to find meaningful work.
  - The UK ranks 11th out of 30 OECD countries in terms of productivity; has fallen three places to 12th in the World Economic Forum (WEF) competitiveness rankings; has two thirds of workers in businesses with productivity below the industry average.
- In summary, the UK needs:
  - an organised, long-term, stable system that grows, responds and develops as demands change
  - transparency of information about need, including regional priorities and opportunities
  - engagement with the network of employers, training providers and awarding bodies that draws their energies into improving and adapting the learning environment
  - widespread realisation that a workforce should be continually learning
  - proper, focused and accessible funding, not just for technical skills, but for the wider social and interpersonal skills that make an effective worker.
- The UK is already some way down the path towards a number of undesirable outcomes:
  - An increasingly 'hourglass-shaped' economy resulting in a bifurcation of both the economy and the skills base
  - Poorly targeted investment in skills funding, damaging individual, organisational and national achievements
  - Increasing fragmentation and inefficiency
  - Learners of all ages compromised in their ability to develop meaningful skills

- Policy and regulation working at odds with the needs of industry and the workforce.

- At an extreme, UK industry will become less efficient and less able to deliver competitively priced and desired outputs, including the highly valued UK education sector itself.

The Commission is an expert group established with support from Pearson to provide an independent overview of the challenges facing education in the UK and to generate practical solutions.

UUK and the CBI published *The Economic Case for Flexible Learning: Main findings and policy recommendations*.

- A joint project has been examining how the UK's productivity could be improved through more flexible HE learning opportunities.

- Overall, there is significant potential to:
  - improve the life chances and employment outcomes of those qualified to Level 2/3 who wish to undertake further study later in life while working full-time, in order to change or improve their careers
  - increase productivity in businesses through addressing skills shortages and greater use of upskilling.

- However, the barriers to more flexible learning include:
  - The regulatory and funding system, particularly in relation to shorter courses and less intensive learning, and undertaking further study at older ages
  - The extent of investment needed to scale up more flexible provision in institutions combined with uncertainties in projecting future demand for more flexible ways of learning
  - The emphasis from employers in addressing future skills shortages is through recruitment rather than through upskilling, and, where upskilling of staff is favoured, shorter courses are required.

- Policy recommendations include:
  - The apprenticeship levy needs to better support flexible learning.
  - The post-18 education system must move towards providing more flexible course options and shorter courses.
  - Government, education institutions and employers must work together to help learners progress from Levels 2 and 3 study into Levels 4, 5 and beyond.

The findings are taken from a number of sources:

- *The learner perspective – UUK's* Lost Learners *survey*
- *The provider perspective – UUK's* Flexible learning: the current state of play in UK higher education
- *The employer perspective – Skills Needs in England – a survey of CBI members.*

UUK published *Routes to High-level Skills*, exploring the extent and nature of partnerships between HE, FE, employers and other parts of the tertiary education system.

- Partners are taking innovative approaches to ensure that collaboration results in programmes that are industry-relevant, meet defined skills needs, and provide coherent progression and flexible opportunities to engage in learning.

- This type of collaboration tends to emerge from pre-existing relationships, driven by:
  - economic needs: addressing skills needs and improving graduate employability
  - social needs: enhancing accessibility to attract a broader range of potential learners and support social mobility
  - policy developments, such as the apprenticeship levy.

- Additional benefits for institutions include shared learning and staff development, enhanced financial sustainability, stronger relationships and opportunities to develop new partnership projects.
  - Challenges include competing interests, demands and expectations and different terminology and perspectives.

- Developing partnerships can require a significant time and resource input, particularly if creating a new programme, model of working or flexible learning opportunities; there is unlikely to be established practice or learning to work from.

- Eight detailed case studies illustrate how this type of collaboration can grow and work in practice; key ingredients for success include:
  - Finding areas of focus where institutions aren't in competition with each other
  - Early identification of a shared goal or vision
  - Recognising and respecting each other's strengths
  - Identifying and mapping progression routes
  - Focusing on specific local skills needs.

Nesta published *Digital Frontrunners: Designing inclusive skills policy for the digital age*.

- Digital innovations create opportunities to empower citizens, improve society and grow economies; but the fast pace of change is disrupting the labour market, causing continuous shifts in the demand for skills.
- In order to foster inclusive and adaptable labour markets that enable everyone to reap the benefits of digitalisation, there are four key challenges governments should prioritise:
  - Anticipate the skills that will be in demand
  - Serve the diverse needs of workers across contexts
  - Build a resilient labour market system that can adapt to changes in skills demand
  - Discover and promote services that drive people's intrinsic motivation to learn.
- The following is a pathway to designing appropriate policies:
  - *Dialogue*: assemble partners with a stake in the labour market; help the group to collaboratively identify key issues that need to be addressed.
  - *Discover*: gather information to fully understand the issues identified; innovate with research techniques to ensure timely, relevant skills forecasting and useful insights into stakeholder needs.
  - *Define*: evaluate the information and collectively define key goals.
  - *Develop*: prototype and evaluate multiple solutions that have the potential to achieve the defined goals.
  - *Deliver*: test approaches on a small scale, iterating in different locations and communities that may have different needs.

Launched in May 2018, Digital Frontrunners is an experimental programme that aims to find solutions to the challenges of digital transformation by facilitating collaboration between senior policymakers and other stakeholders from digitally advanced countries in northern Europe.

Nesta published *Creativity and the future of skills*, the first report from its Creative Industries Policy & Evidence Centre, looking at how the word 'creativity' is being used in the job market.

- Using data from Burning Glass Technologies, they reviewed 35m UK job adverts between 2013 and 2017, resulting in three key lessons for policymakers:
  - Creativity is likely to become even more important in the future job market – the surprisingly small number of jobs asking for creativity are much more likely to grow as a percentage of the workforce by the year 2030.
  - Employers don't just value creativity alone: they need talent with project management and organisational skills too.
  - Creative occupations don't have a monopoly on creativity; education and skills policymakers should look beyond sectoral boundaries when formulating policies to invest in the workforce's creativity.

The European Commission published *Mapping Digital Social Innovation: Skills and Learning* as part the digital social innovation (DSI) DSI4EU project running from January 2018 to June 2019.

- There are three main areas where DSI currently plays a key role:
  - Initiatives that use technology as a tool in the classroom to enhance learning
  - Initiatives that seek to reduce inequality of access and outcomes
  - Initiatives that support the development of digital skills, both for employment and individual empowerment.

- Projects in the last category include ones that: introduce maker technologies to young people; teach coding and programming; encourage digital social entrepreneurship; or support the wider DSI ecosystem, for example by running conferences or school challenges.
  - These approaches are increasingly being adopted into mainstream policy, practice and discourse; schools and universities are starting to accredit courses as part of their curriculum; many traditional education institutions are beginning to adopt distributed models and digital tools and to value social impact.
  - Such initiatives don't just teach digital skills, but also promote wider learning; the majority encourage people to tackle social challenges; many focus on reducing inequality.
- Successful DSI projects are rooted in communities, and most of the outputs are open-source and accessible for further development, creating a repository of solutions to social challenges.
- There are two main challenges:
  - Funding: both for starting new initiatives and for sustaining and scaling existing initiatives
  - Acceptance and adoption: DSI initiatives are still largely seen as 'alternative education', resulting in reluctance by policymakers, educators and parents to adopt them.
- Among other recommendations, policymakers should:
  - Advocate for DSI as an integral element of educational structures and make the social, economic and cultural case for its adoption.
  - Support the creation of an ecosystem of projects and other stakeholders by developing networks of support and knowledge sharing.
  - Make creating socially-aware and socially-active citizens a necessary part of educational curricula.
  - Encourage and facilitate the creation and recognition of certification for DSI-related courses, so that people feel confident to invest in them.

More information about DSI4EU can be found here.

Cedefop published *Skills forecast: trends and challenges to 2030*, providing an 'early warning system', in order to help policymakers make timely decisions about education and training investment.

- The overall working age population is expected to increase by 3.7% between 2016 and 2030, while the labour force increases by 1%.
  - The UK and RoI will both see relatively high increases in working age population.
- In the medium term, total employment is projected to grow by around 0.5% per annum from 2020 to 2025, then to slow down due to long-term demographic trends.
  - Service sectors are expected to be the main drivers of employment growth over 2016–30, while basic manufacturing employment is expected to decline.
  - The sectors expected to see the fastest employment growth are legal and accounting, R&D, advertising and market research, other professional and administrative services, and support service activities.
- Predicted employment trends will drive continued polarisation, with significant growth in employment for high-skill occupations (managers, professionals and associate professionals), plus some growth for less skilled jobs related to sales, security, cleaning, catering and caring occupations.
  - Job losses are projected in medium-skill occupations, such as skilled manual workers (especially in agriculture), and for clerks.
  - Analysis highlights a shift towards more autonomy, less routine, more ICT, fewer physical tasks, and more social and intellectual tasks over the forecast period to 2030.
- New workers will still be needed in medium-skill occupations to replace those who leave or retire: replacement demand (RD) rates average 3.7% each year across all countries, though this varies by country and occupation.
  - The highest rates across the EU are in occupations with more seniority (such as managers and senior officials), and in sectors such as agriculture and fishery, with their aged workforces.
- While the problem of overqualification of young graduates may be resolved in the long term, as the effects of the crisis unwind, the immediate prospects are for overqualification for many people employed in both high- and low-skill occupations.

SKILLS GAPS & SHORTAGES

The Edge Foundation published *Skills Shortages in the UK Economy*, its third *Skills Shortage Bulletin* gathering key data from a range of recent publications.

- It features data from:
  - The UK Employer Skills Survey
  - *Educating for the Modern World: CBI/Pearson Education & Skills Annual Report [see below]*
  - The Migration Advisory Committee's interim update on European Economic Area (EEA) workers in the UK
  - The Skills and Employment Survey *[see p.26]*
  - Youth Employment UK's *Youth Voice Census [see p.2]*.
- It also puts a spotlight on the creative industries and the demand for both creative and technical skills.

The CBI published *Educating for the Modern World: CBI/Pearson Education & Skills Annual Report*.

- The report is based on survey responses from 379 businesses and trade associations representing over 28,000 employers; 67% had at least some employees in NI, Scotland or Wales.
- 79% expect to increase the number of high-skilled roles over the coming years, and 66% are concerned there will be a lack of sufficiently skilled people to fill them.
  - More than 80% expect to maintain or increase their investment in training.
- 60% value broader skills, such as listening and problem solving, as one of their three most important considerations when recruiting school and college leavers; 45% rank readiness for work as the single most important factor.
  - 74% say they prefer a mixture of academic and technical qualifications, or that they view all qualifications equally.
- Almost 75% have a link with an education institution, down from 81% in 2017.
  - The top three activities are: visiting the institution (83%); offering information about apprenticeships and traineeships (70%); and giving careers advice and talks (68%).
  - 65% are willing to play a greater role but report significant barriers including: inadequate guidance on how to make encounters worthwhile for young people (48%); difficult, time-consuming processes around, for example, health and safety and safeguarding (47%).
- The number of firms with apprenticeship programmes has fallen since the introduction of the apprenticeship levy, from 83% in 2017 to 70% in 2018.
  - Over 25% have decided to absorb the levy as an added cost of doing business rather than a skills policy.
  - 59% have experienced difficulty in recruiting apprentices or expect to do so in the next three years.
  - Confidence in the apprenticeship levy would be boosted by: being allowed to use levy funds to cover a wider range of costs for training (59%); greater flexibility in spending the funds (51%); less bureaucracy (47%).
- 87% of businesses that employ graduates have maintained or increased their recruitment.
  - 79% regard a 2:1 undergraduate degree or above as a good measure of academic ability, despite increasing numbers being awarded.
- 85% plan to maintain or increase their investment in training in the year ahead, while 62% expect to retrain at least some employees to take up new roles, over half driven by new technologies or new services.
  - The main barriers are: lack of funds and the costs of training (53%); lack of appropriate training or qualifications available (39%); the difficulty of releasing employees (38%); finding a provider who can deliver when and where training is needed (37%).

The Chartered Institute of Personnel & Development (CIPD) published *Over-Skilled and Underused: Investigating the untapped potential of UK skills*, based on a survey of 3,700 employees and three online focus groups.

- 17% said their roles required no qualifications for entry, and 27% only school-level qualifications.
  - 54% said advanced literacy skills were needed to do their job, 33% advanced numeracy and 15% advanced ICT.
  - Communication, problem solving, teamworking, customer handling, and planning and organisation were rated as the most important skills for respondents' jobs.
- Nearly half overall reported being mismatched, with 37% over-skilled and 12% under-skilled.
  - 30% of respondents who needed a degree to get their jobs said only lower qualifications were actually needed to perform their roles.
- Over-skilled workers were less satisfied than those in well-matched roles, and nearly twice as likely to want to quit.
  - They were more likely to say their job offered poor prospects for career advancement, training and skills development.
  - Well-matched workers were much more likely to agree there was trust between management and employees.
- 26% reported 'lack of opportunities' as the biggest barrier to progression, followed by 'lack of confidence' (14%).
  - Only 12% of those earning less than £20,000 per annum had been promoted in their current organisation, compared with 45% of those on £40,000 or more.
- 24% had undertaken no training in the past year, with older, low-wage, part-time and self-employed workers the worst affected.
- Line managers were seen as gatekeepers to opportunities but were viewed to have neither the time nor experience to fulfil their roles effectively.

Accompanying the report is a guide for employers and managers to counter skills mismatches through good people management practice.

The National Centre for Universities & Business (NCUB) published *Talent 2050: Engineering Skills and Education for the Future – Phase 1*, a review of engineering skills development in the UK.

- Although much has been done to stimulate the supply of trained engineers into industry, the challenge still exists, including the under-representation of women, ethnic minorities and the disabled.
- Findings include:
  - Defining STEM and/or digital skills remains a challenge; core technical skills are needed for employment but also a broader skillset is required for practical employability.
  - Recruitment and selection processes are not optimised to enhance diversity, with fixed qualification requirements, such as A level physics and Chartered Engineer registration, seen as a barrier.
  - The supply of STEM and digital skills via schools is not meeting rising demand.
  - Intersectoral mobility and recruitment will be more important if the UK is perceived to be a less welcoming work or study destination post-Brexit.
  - Workforce planning is not practised widely in the UK and a lack of centralised thinking may impact the ability to define which skills will be required.
  - More retraining for the existing workforce is needed, and different routes into engineering might provide the missing skills more effectively.
- Recommendations include:
  - Engineering needs to reach beyond existing STEM employees for a more diverse workforce.
  - Consider a more inclusive approach to recruitment based on the potential to gain the right skills.
  - Encourage greater literacy and numeracy skills but reconsider the requirement for English and maths qualifications; encourage employers to develop those who display practical talents.
  - Ensure upskilling and reskilling are fully supported for those in work, including in SMEs.
  - Digital skills need to be fully integrated, with regional support, in an industrial strategy.

Phase 2 will report early in 2019.

Lloyds Bank published the fifth *UK Business Digital Index 2018*, a survey of the online behaviour and attitudes to digital technology of 2,000 small businesses and charities.

- Basic digital skills are defined as: managing information, communicating, transacting, creating and problem solving.
- The data sample for NI was small and therefore should be treated with caution; findings include:
  - 53% of small businesses have full basic digital skills, down 12ppt (UK average: 58%).
  - 60% of charities in 'North', including NI and Scotland, have full basic digital skills (up 1ppt, the highest in the UK).

ARTIFICIAL INTELLIGENCE & AUTOMATION

NI's Department for the Economy (DfE) published *Automation NI – The Future of Work*.

- The paper considers the implications of automation from a historical perspective, reviews the literature on its impact over the next two decades, applies the findings to NI, and discusses some of the steps required to prepare for the future.
- Society is on the cusp of a technological disruption caused by advancements in automation such as big data, blockchain and the internet of things.
  - Opinion is divided between those who are hopeful and those who are fearful of what the new era might bring.
- The literature identifies a wide range of potential labour market outcomes; NI appears to be particularly vulnerable due to the economy's sectoral and occupational composition.
  - Based on sectoral estimates, 31.1% of NI employment is at risk, compared to 30% across the UK; occupational estimates suggest the figures to be 50%/46%.
- However, a range of jobs will also be created, many of which don't yet exist.
- Historically, automation and technological progress have been good for society, but there must also be measures in place to help those whose skills may no longer be in demand – whether automation turns out to be a friend or a foe very much depends on the decisions taken now.

NI's DfE published *Understanding Artificial Intelligence [AI] Jobs and Skills Needs*.

- Burning Glass Technologies' data is used to provide a deeper understanding of potential job opportunities and the skills that people need to take advantage of them.
- UK GDP could be 10% higher by 2030 because of AI, primarily due to: increased product quality; more personalised and greater variety of goods; increased productivity through augmentation of the labour force and role automation.
  - In NI, an estimated 85,000–424,000 jobs (10–50%) are at risk, with low- to medium-skilled workers, particularly males, most affected.
  - However, 43,000–595,000 jobs could be created from automation.
- Across the UK, half of all AI jobs posted are predictably in ICT; however, AI is also creating jobs for management consultants and business analysts, marketing and sales directors, biological scientists and chemists, and HE teaching professions.
- NI has an opportunity to be a global leader in developing and supporting AI, and is already creating jobs in education, healthcare and professional services as well as ICT, which typically need people with STEM subjects.
- According to the latest Skills Barometer, many of the subjects needed are going to be under-supplied in NI in the coming years.
- Clever solutions may be needed, such as recruiting people with non-STEM subjects who show relevant skills, and the Assured Skills model of retraining.

Further research is planned with Ulster University Economic Policy Centre to understand the specific implications of automation (including AI) on the NI economy and further tailor future labour market projections.

The Centre for Cities published *Can cities outsmart the robots? The future of skills in UK cities*.

- Some cities will be more vulnerable to automation and AI than others, and without action, socioeconomic divides across the country are likely to widen.

- It is critical that the skills system adapts to ensure every city is equipped to respond to these changes.

- Technological change means analytical and interpersonal skills that complement machines – such as negotiation, coordination and critical thinking – are becoming increasingly important in UK cities, while the demand for physical skills has decreased.

- Two main factors explain the changes: the changing composition of the labour market and changes in the skills required in existing occupations.
  - Employment in the UK has continued to polarise with a decline in routine manual occupations and a move towards high-skilled occupations.
  - Tasks requiring analytical and interpersonal skills are less easily replicated by machines compared to those requiring physical skills.

- Variation in educational attainment and participation in extracurricular activities and work experience suggests that some cities are less well equipped to adapt to these changes.
  - Lifelong learning can help adults adapt to these changes, yet there are huge disparities between places at all education stages.

- Recommendations include:
  - Cities should establish 'Skills Compacts' to promote collective responsibility and action for improving education and training, including schools, FE colleges, training providers, universities, businesses and the third sector.
  - The four UK administrations need to increase flexibility for cities to experiment and tailor provision.
  - England's Department for Education, with employers and skills experts, should lead on creating a common framework to define interpersonal and analytical skills, and review how they can be embedded in each educational stage.
  - The UK Government should work across departments to increase investment and participation in lifelong learning, supported by a new 'What Works Centre for Adult Education'.

The Institute for Employment Studies published *The impact of artificial intelligence on the HR [human resources] function*, part of its *Perspectives on HR 2018* series.

- The potential benefits of AI in the global workplace are explored, such as increased efficiency and access to business data; the risks are also examined, such as introducing unconscious bias into systems, employee and consumer objections, and the potential to stifle learning cultures.
  - If routine cognitive tasks are taken over by AI, there are concerns that learning methods, such as watching then copying the actions of an experienced colleague, will be lost.
  - Thinking must not be dulled by replicating AI's logical and linear thinking; there must be space for human intuition and flair.
  - AI's strengths must not be misunderstood or human capabilities underestimated.

- The role of HR in minimising the risks of AI is examined, and tips are presented for HR professionals on maximising the benefits of AI.

TRAINING & DEVELOPMENT

The NI DfE published *Factors Influencing Positive Outcomes on the Training for Success [TfS] Programme*, the results of a data science project.

- Data science involves using new tools and innovative methods to provide rich, informed measurement and analyses on the economy, the global environment and wider society.
  - For this research, predictive modelling allowed service providers to identify young people at risk of non-achievement on the TfS programme at the point of enrolment, allowing providers to offer additional support.

- The two factors with the largest effects were the supplier and the individual's qualifications on entry.
  - Other important factors included deprivation and age, with those aged 16+ having a lower likelihood of success.
  - Other statistically significant factors included: disability; the TfS strand, which is correlated with prior educational achievement; some Local Government Districts, which suggests a possible

geographical or area-based effect; start month, with those who started in September having a higher likelihood of success, possibly explained by differences in the client group.

OLDER WORKERS & ADULT LEARNING

Age, health and other factors associated with return to work for those engaging with a welfare-to-work initiative: a cohort study of administrative data from the UK's Work Programme **led by University of Glasgow researchers, was published in *BMJ Open*.**

- The challenges facing those aged over 50 who have health problems and have lost their job include their increasing age, multi-morbidity and training.
- Factors examined included age, education and health conditions, while the experiences of workers over and under 50 were compared.
  - 50% of workers fall out of work between ages 50 and 60; this can be as a result of company changes, lack of skills or health problems.
- 62% of all job seekers returned to work during the two-year study period, but only 20% of those with health conditions.
  - Training and skill levels were a factor – those with higher educational levels were more likely to return to work.

CESifo Group Munich (CESifo) published *The Wider Benefits of Adult Learning: Work-Related Training and Social Capital*.

- While there are numerous studies showing that work-related training affects individual labour market outcomes and benefits the performance of a firm, there is rarely any causal evidence on the extent of further non-pecuniary benefits from continuing education and training.
- Focusing on the case of Germany, where participation rates are close to the OECD average, the paper:
  - introduces a flexible econometric framework to evaluate its wider benefits
  - applies the framework to identify the effects of work-related training on measures of civic/political, cultural, and social participation, all of which are related to individual social capital.
- There are significant positive effects on civic/political and cultural participation.
  - Specifically, the following show improvements after participation in training: participating in local politics; volunteering in clubs, organisations and community services; being active in artistic/musical activities; and attending classic and modern events.
  - The effects are much stronger for females than males, and civic/political participation increases most strongly for affluent, highly educated individuals.

The Open University (OU) published *Refugees' Educational Resources (RefER) Project Final Report*; the project sought to understand the learning resources offered by organisations working with refugees and asylum seekers in the UK.

- Data was gathered from 26 organisations that support refugees and asylum seekers in the UK via e.g. counselling, English language teaching and legal advice.
  - A Resources Audit lists details of 500+ free, online resources for refugees and asylum seekers and frontline staff, on topics including digital literacy and study skills, and inclusion and equality.
- RefER 'highlighted how much work is needed to fully understand and value the contribution refugees and asylum seekers can and are making to the UK'.
- The most helpful online learning resources are mobile-friendly and 'multimodal', include multilingual support, and contain content directly related to the daily needs of users.
- The main challenges include the cost of getting online; lack of online learning experience and scepticism about its value; lack of trust in the internet; linguistic, cultural and technical barriers; difficulty finding a suitable learning space; and the isolation of learning alone.
  - Possible solutions include the provision of digital devices, facilities and support, more face-to-face contact with local people, and English language learning resources targeted at refugees and asylum seekers.
- Five recommendations include involving refugees in the decision-making process and planning of their futures, and providing recognition of their skills in the form of badges and certificates.

The OECD published *Skills on the Move: Migrants in the Survey of Adult Skills*, providing new evidence on migrants' characteristics and contexts, and considering how these relate to the skills migrants possess.

- On average, literacy, numeracy and problem-solving skills of foreign-born adults are lower than those of the native-born in virtually all countries studied, but those skills gaps vary greatly across countries and migrant groups.
  - Cross-country differences are largely due to migration policies and geopolitical factors.
- Most countries' migrants are a more heterogeneous group than natives, even when comparing those with similar educational qualifications.
  - Migrants' skills will depend on their level of education, where it was acquired, their age at arrival and how long they have been in the host country.
- Training to reduce language-related and skills-related barriers to participation in the labour market and society is often hindered by financial and non-financial factors – the 'unrealised demand' for training is higher among migrants than among natives.
- Across the OECD, migrants are more often unemployed or inactive, and those who are in employment tend to have lower returns to education in terms of earnings than their native-born peers.
- Overall, educational attainment and literacy proficiency are importantly associated with generalised trust and political efficacy among both migrants and natives.

EMPLOYMENT: RIGHTS, RESPONSIBILITIES & WAGES

Cardiff University published the final three reports in a series presenting first findings from the 2017 Skills and Employment Survey, a study of 3,306 20–65 year-old workers in Great Britain; this is the seventh in a series that began in 1986.

***Work Intensity in Britain* shows how the intensity with which people work changed between 2012 and 2017.**

- Work intensity continued to increase slowly, with the proportion of those in jobs where they were required to work at 'very high speed' for most or all of the time rising by 4ppt to 31%.
- Teachers and nurses were particularly affected, with both groups required to devote a much higher work effort than other professional groups or the rest of the workforce.
  - By 2017, 92% of teachers strongly agreed that their job required them to work very hard, up 10ppt.
  - 90% of teachers and almost 75% of nurses reported that they often or always came home from work exhausted.
- The proportion of women working in 'high strain' jobs, combining very high work effort with low task discretion, rose by 5ppt to 20%.

***Participation at Work in Britain* examines trends in an area seen as an important determinant of personal wellbeing and a key factor for enhancing motivation and productivity in advanced economies.**

- Between 2012 and 2017 task discretion declined, although this type of participation had the strongest association with employee wellbeing and work motivation.
  - The decline was particularly sharp for those in intermediary class positions and for female part-timers.
- There was an increase in semi-autonomous teamwork, but the proportion of employees involved was relatively small (less than 25%) and semi-autonomous teamwork was only weakly related to higher levels of wellbeing and work motivation.
- Formal arrangements for participation (e.g. consultative meetings, quality circles) declined, but the proportion of employees reporting high influence over organisational decisions that affected their work increased from 26% to 30%.
  - Influence through organisational participation was associated with considerable benefits for wellbeing, in particular for enthusiasm at work, perceived fairness, and the reduction of insecurity about the effects of organisational change.

Insecurity at Work in Britain **looks at issues such as risk of job loss, anxieties about the job being downgraded, worries about being treated badly and unexpected changes to working hours.**

- In 2017, the risk of job loss was at its lowest level in over 30 years, with 9% of workers reporting that they had a 'better than evens' chance of losing their job in the next 12 months, down from 18% in 2012.
- 28% were anxious about having their pay reduced, down from 37% in 2012, with anxiety levels falling much quicker for men than women.
- 7% of employees were very anxious that their working hours could change unexpectedly – more than 2.5 times those who work on zero hours contracts according to official data.
  - Those working insecure hours also suffered from other types of insecurity, such as greater risk of job loss, greater anxiety of job status downgrading and more worry about unfair treatment.
  - They also reported lower pay, speedier dismissal for poor work performance and higher work effort.

The three previous reports covered Productivity, Skills Trends and Fairness (see NI Skills Research Digest Q3 2018*). All six reports can be found here.*

The CBI published *Change and Opportunity: CBI/Pertemps Employment Trends Survey 2018*, the results of a survey of 350 businesses from all sizes and sectors across the UK.

- 48% consider that the UK has become a less attractive place to invest and do business over the past five years, and 65% believe it will become less attractive over the next five years.
- The main threats to competitiveness are: access to skills (83%), access to labour supply (60%) and labour costs (53%); businesses are not optimistic that these will be tackled effectively in the years ahead.
  - 59% see the rise of a new threat over their ability to move UK workers across the EU.
- 94% believe a flexible workforce is vital or important to competitiveness and the prospects for business investment and job creation.
- 88% see achieving a diverse and inclusive workforce as important or vital to their future success.
  - 94% have taken action in the past five years to increase diversity and build more inclusive workplaces, mainly: improving progression opportunities (62%); investing in training for line managers (55%); and introducing and extending flexible working opportunities (54%).
  - The benefits of inclusive workplaces include: increased recruitment and retention (60%); increased skills and capabilities (50%); and increased levels of staff engagement (47%).
- 93% are taking action to improve gender diversity and reduce the gender pay gap.
  - Main actions focus on improving gender diversity at all levels (50%), and introducing or improving data collecting and monitoring (40%).
- 44% say that maintaining high levels of employee engagement is a workforce priority in the coming year, closely followed by retaining talent (43%).
  - Drivers of employee engagement are: effective line management (44%); pay (41%); training and development (32%); and progression opportunities (28%).

The CIPD and LCP published *Reward Management: Focus on employee benefits*, the results of a survey of UK workplaces.

- Among the findings:
  - 97% of employers are planning to maintain or increase spend on benefits in the next two years.
  - The number of different benefits employers offer appears to have been declining gradually since 2013, and there is limited appetite for introducing new benefits next year.
  - Where changes are planned, the provision of employee diversity networks to promote workplace inclusion rate as the most popular.
  - Professional development benefits – covering initiatives such as secondments, mentoring programmes and business apprenticeships – are most likely to attract extra money.
  - Just a quarter of respondents say they assess the value they get from their expenditure on employee benefits provision.

- Half of the organisations say they operate a formal work–life balance policy and almost a fifth plan one in the next year – the more women there are in management, the more likely it is that this policy is offered.
- A small majority anticipate that the ageing population will have an impact on their HR practices over the next five years; the area most likely to change is how work and jobs are designed and how hours are organised.

Acas (Advisory, Conciliation and Arbitration Service) published *Improvement required? A mixed-methods study of employers' use of performance management systems*, a research report by NatCen.

- In recent years, the relevance of performance management (PM) systems has been called into question, set against the context of changing business models, workplace structures, technological developments, patterns of workplace conflict and the needs of a diverse workforce.
- The research comprised a quantitative survey of 1,000 HR and general managers, a deliberative event exploring underlying motivations and beliefs, and two case studies from small organisations in the public and voluntary sectors.
- Key findings include:
  - 84% of organisations don't use any PM system; most of them don't think they need one.
  - Of those that do have one, only 15% use a 'highly formalised' system – more frequently in the private sector.
  - PM systems are used for a range of activities, most commonly planning talent and career development (16%), and setting individual targets, monitoring performance against objectives and improving productivity (11% each).
  - All organisations at the deliberative event prioritised identifying training and development gaps as being among their system's key purposes; however only 10% of survey respondents identified this as a use.
  - PM systems were generally valued for contributing positively towards organisational performance; 57% of survey respondents said their system worked well.
  - 60% thought their system was a good way to improve performance, although 9% reported a negative effect; 11% thought it was demotivating for employees.
  - 55% of the organisations had a recognised trade union and/or employee representative body, but only 21% of them had involved these groups in designing the PM system.
  - 50% said their system was customised for people with flexible work arrangements, such as part-time workers; however, only 26% said their system could be customised for staff with special needs, disabilities and neurological conditions.
  - 63% of survey respondents judged their PM system to be a fair way of assessing performance regardless of race, gender, age and personal characteristics; 4% disagreed, while 34% were ambivalent.
  - Digital systems are rapidly growing in importance, with a large proportion of respondents using online-based systems; specialised apps and remote digital tools will help promote more continual, 'soft touch' PM, in some cases completely replacing annual appraisals.

The OECD published *Good Jobs for All in a Changing World of Work: The OECD Jobs Strategy*.

- A whole-government approach is needed, combining policies that encourage economic growth with those that protect workers, foster inclusiveness and allow workers and firms to make the most of ongoing challenges and opportunities.
- Key policy principles include:
  - The need for counter-cyclical macroeconomic policies for stabilising economic and labour market outcomes and preventing temporary downturns from turning into low-growth traps.
  - Flexibility in product and labour markets is essential to create high-quality jobs, but the gains and costs must be fairly shared between business and workers.
  - Policies need to strike the right balance between employment flexibility and stability, enabling resources to be reallocated to more productive uses, while ensuring sufficient stability to foster learning and innovation.
  - The education and training system must equip workers with the necessary skills, and support education and training throughout working lives.

- Inclusion is best promoted by shifting from remedial to preventive policies, for example by tackling barriers to the acquisition of education and skills through targeted interventions in the (pre)school years and in the transition to work.
- A life-course perspective is essential, with continuous opportunities to develop, maintain and upgrade skills, and working conditions that continue to adapt.
- Activation measures, wage-setting rules and the tax-and-benefits system can combine to make work pay by protecting workers rather than jobs.
- In order to ensure product and labour market dynamism, workers need help to move from declining businesses, industries and regions – education and training should be linked to individuals rather than jobs; workers need protection against labour market risks, including through access to social protection.

The Jobs Strategy also provides guidance for implementing reforms.

The Carnegie UK Trust published *Fulfilling Work in Ireland: Discussion Paper*, on how the changing labour market and economy are impacting the quality of work and wellbeing of workers in the RoI.

- 'Fulfilling work' combines both 'hygiene factors', which relate to extrinsic conditions such as pay and job security, and 'motivators', which relate to intrinsic qualities such as sense of achievement and personal development.
- The Irish labour market has distinctive strengths that have enabled fulfilling work for many, despite the strain caused by the recession.
- Key findings include:
  - 43% of people in Ireland say their working hours fit very well with their family and social commitments (EU 28%, UK 38%).
  - 47% say their job offers good career progression (EU 39%, UK 49%).
  - 89% say they receive effective training (EU 84%, UK 85%), with access to training actually increasing during the recession; this is possibly partly due to more job losses being in lower-paid sectors, where there tends to be less training.
  - 80% feel their manager helps and supports them always or most of the time (EU 58%, UK 72%).
  - 68% feel able to apply their own ideas at work (EU 54%, UK 62%); 61% feel they can influence decisions that matter (EU 47%, UK 54%).
- The changing structure of the labour market is affecting workers in RoI as it is elsewhere, resulting in more atomised and contingent forms of work and associated worker insecurity.
  - Involuntary part-time work rose by 26.6% during the recession's worst years, and is particularly concentrated among young people and women and in the retail, hospitality and cleaning sectors.
  - Working excessive hours is also a growing and harmful trend, with 45% of workers working more than 10 hours a day at least once a month (EU 32%, UK 44%); self-employed people work substantially more hours than employees – a trend seen across Europe.

The NI Better Jobs Index is mentioned as an example of a more systematic means of valuing, defining and measuring job quality.

International Comparisons

The European Commission published *Education and Training Monitor 2018*, plus 28 country reports; most but not all of the report focuses on school education.

- EU and country progress is measured on six EU Education & Training 2020 targets:
  - The share of early leavers (aged 18–24) from education and training to be less than 10% (10.6% in 2017).
  - The share of 30–34 year-olds with tertiary education attainment to be at least 40% (39.9%).
  - 82% of recent graduates from upper secondary to tertiary education (aged 20–34) who are no longer in education or training to be in employment (80.2%).
  - At least 15% of adults (aged 25–64) to participate in formal or non-formal learning (10.9%).
  - At least 95% of children to participate in early childhood education and care (95.3% in 2016).

- The underachievement of 15 year-olds in reading, maths and science to be below 15% (19.7%, 22.2% and 20.6% respectively in 2015).

- The lead theme for this report was 'citizenship education and civic competences'.
  - The contribution of HE to active citizenship is not monitored in the EU on a regular basis, although in almost 50% of EU member states, legislation supports HEIs in promoting democratic and civic values.
  - In Bulgaria, Hungary, RoI, Latvia, Portugal, Slovenia and Scotland decisions on the promotion of active citizenship are left to HEIs.

- Investment in education across the EU consolidated in 2016, up 0.5% to 10.2% of total public spend.

- Most of the UK report looks at the nation as a whole and England specifically, with comments about the different systems in the devolved nations.
  - Details relating specifically to NI include the college hubs initiative.

Additional material can be found on a dedicated webpage.

The European Commission published *Structural Indicators for Monitoring Education and Training Systems in Europe: 2018* and *2017*.

- The 2018 report contains data with over 35 indicators on education policies in six areas: early childhood education and care; achievement in basic skills; early leaving from education and training; HE; graduate employability; and learning mobility.
  - The 2017 document features over 30 indicators in five of the above areas, omitting learning mobility.

- The indicators provide information on national policies and structures that contribute to achieving the six EU Education & Training 2020 targets *[see above]* plus the following seventh benchmark:
  - At least 20% of graduates of HE and 6% of 18–34 year-olds with an initial vocational qualification should have completed part of their education or training abroad.

Includes separate data for the four UK nations.

The European Commission published *National Student Fee and Support Systems in European Higher Education 2018/19 – Eurydice Facts and Figures* for 38 countries, including the 28 EU member states.

- The report shows how fee and support systems, including grants and loans, interact in HE in Europe.
  - It describes the range of fees charged to students in publicly-funded HE, specifying the categories of students that are required to pay and those who may be exempt.
  - It explains the types and amounts of public support available in the form of grants and loans, plus tax benefits and family allowances.

Includes separate data for the four UK nations.

The European Commission published *The Structure of the European Education Systems 2018/19: Schematic Diagrams – Eurydice Facts and Figures* for 43 systems from 38 countries participating in the Erasmus+ programme.

- Information is presented on the structure of mainstream education from pre-primary to tertiary level.
  - Post-secondary non-tertiary programmes, and tertiary-level main programmes are included.

Includes separate data for the four UK nations.

The OECD launched *Education Policy Outlook Reforms Finder*, a searchable website containing information about more than 1,000 education policy reforms in 35 education systems.

- The database incorporates information published in the Education Policy Outlook country profiles and comparative reports.

The WEF published *The Global Gender Gap Report 2018*, measuring the relative gaps between women and men across four key areas: health, education, economy and politics.

- The report – which has been published since 2006 – benchmarks 149 countries on their progress towards gender parity on a scale from 0 (disparity) to 1 (parity).

- Overall, Iceland (0.858), Norway (0.835) and Sweden (0.822) have the greatest parity; the UK is 15th, with a score of 0.774.

- The UK scores 0.999 for Educational Attainment, 0.970 for Health & Survival, 0.705 for Economic Participation & Opportunity and 0.421 for Political Empowerment.

- The Educational Attainment sub-index captures the gap between women's and men's current access to education through ratios of women to men in primary, secondary and tertiary education.
  - A longer-term view of the country's ability to educate women and men in equal numbers is captured through the ratio of the female to the male literacy rate.

The International Labour Organization (ILO) published *Global Wage Report 2018/19: What lies behind gender pay gaps*.

- The report provides a critical assessment of the standard measures commonly used to estimate gender pay gaps, and proposes a new, simple, complementary way of measuring them that removes some of the major 'composition effects' arising from clustering around specific hourly wages.
- Using the traditional measures, on average women currently continue to be paid approximately 20% less than men.
  - Based on monthly earnings, the UK has the third highest mean gap (36.3%) among high-income countries and the fourth highest median gap (35.2%).
  - Using the 'factor-weighted' measure, the UK's mean gap drops to 13th in the high-income list (18.1%) and its median gap drops to 14th (14.8%).
- Part of the gender pay gap can be explained in some countries by differences in the labour market attributes of women and men, including their levels of education, and the fact that they tend to work in occupations or industries that pay less.
- In terms of what lies behind the 'unexplained' part of the pay gap the report finds:
  - In many countries, women are more highly educated than men within the same occupational categories but earn lower wages.
  - In some countries, wages of women and men with similar levels of education tend to be lower in highly feminised occupations than in other occupations; wages also tend to be lower in enterprises that are highly feminised.
  - The 'motherhood' pay gap ranges from 1% in Canada to 30% in Turkey.
- When seeking to tackle the gap, an important question is whether in a particular country it is mostly driven by pay gaps at the bottom, in the middle or at the top of the wage distribution, as this will have important policy implications.

Government

NORTHERN IRELAND

The RoI Higher Education Authority, in conjunction with the DfE, published *An Analysis of Existing Statistics on Student Flows Between the Republic of Ireland and Northern Ireland in Higher Education*.

- The cross-border flow of students continues to be a key element of cultural and educational collaboration.
  - In 2015/16 3,395 HE students crossed the border – 1,200 NI students to RoI HEIs, and 2,195 RoI students to NI HEIs.
  - 2,115 were undergraduates, 1,280 were postgraduates; 2,150 were full-time, 1,245 were part-time.
- 1,200 NI students were enrolled at RoI HEIs in 2015/16 (up 24% from 2011/12); 2,195 RoI students were enrolled at NI HEIs (down 38%); over the same period:
  - Numbers of RoI students at NI HEIs fell sharply at both undergraduate and postgraduate levels (44% and 29% respectively); part-time undergraduate RoI students at NI HEIs fell by 71%; full-time postgraduate RoI students fell by 47%.
  - The number of postgraduate NI students at RoI HEIs didn't change much, although the number of undergraduate students increased by 30%.

- NI students accounted for 0.6% of total enrolments at RoI HEIs in 2015/16 (up 0.1ppt from 2011/12); RoI students accounted for 4% of total enrolments at NI HEIs (down 2.2ppt).
- The number of cross-border applications for full-time undergraduate places is somewhat in line with the overall trend in cross-border enrolments – there are now more NI applicants to RoI HEIs than vice versa.
- Females are more likely than males to enrol cross-border at undergraduate level in the RoI or NI.
  - 57% of NI undergraduate students at RoI HEIs in 2015/16 were female; 67% of RoI undergraduate students at NI HEIs were female.
  - NI postgraduate student enrolments at RoI HEIs are more gender balanced, however RoI postgraduate enrolments at NI HEIs are predominantly female.
- 381 RoI HE students were enrolled in NI FE colleges in 2015/16 (down from 672 in 2012/13), most in the North West Regional College.
- Brexit could have a substantial effect on the flow of students between RoI and NI.

ENGLAND

The Centre for Progressive Policy (CPP) published *Skills for Inclusive Growth*, exploring the groups most at risk of being let down by the skills system in England.

- *Young learners who fail to progress through the skills system:* of those who don't achieve a Level 2 (L2) qualification by age 18, almost three fifths won't by the age of 25 either.
  - Even those who do achieve a L2 often don't progress any further, showing that a lack of information continues to act as a constraint for this group.
  - Progressing from a L2 to L3 apprenticeship increases an individual's annual earnings by more than £2,000 in the first year; yet an estimated 37,530 16–18 year-olds each year don't take that step.
- *Adults in low-paid work:* investment in adult skills is too low by international standards, and falling further still, with investment by businesses lower in real terms than it was in 2011.
  - Government funding of adult skills fell by 34% in real terms between 2010/11 and 2015/16.
  - Yet people with a L3 qualification are 19ppt more likely to escape low pay than those with no formal qualifications.
  - Highly skilled, well-paid adults are 18ppt more likely to take part in training than their less well-off peers; those completing a L3 course are 20ppt more likely to go on to further learning than those completing a L2.
  - There is a 35ppt variation between positive destination rates from adult learning across different local authorities.
- *Workers at risk of displacement:* a new approach is needed to respond to continual structural economic shifts disrupting the composition of jobs in the economy.
  - The policy response must be to prioritise retraining of workers at risk of displacement so they can move into alternative, high-quality employment.
  - There are 29 local authorities with both a higher than average percentage of workers in at-risk jobs and falling overall employment.
- Recommended policy changes include:
  - Fully implement the 'Baker Clause' to provide school pupils with information on the career opportunities presented by vocational education.
  - Publish annual data on progression rates between the levels of apprenticeships.
  - Show clear progression routes into L3 for all L2 qualifications.
  - Extend the proposed National Retraining Scheme to cover all adult workers at risk of displacement.
  - Use new Skills Advisory Panels as a forum for employers to share their forecasted skills requirements with local FE institutions.

England's Department for Education published *Labour market impact of progressing more learners to Level 3*.

- In Germany, an additional 22% of the population aged 25–64 is qualified to the equivalent of NVQ L3 or higher, relative to the UK.
  - This equates to an additional 6.3m people in England.
- An increase to the proportion qualified to L3 for this population could mean an increase in annual wages for workers in England of £14.4b.

SCOTLAND

The Scottish Funding Council (SFC) published *EU Exit and Scottish colleges and universities*, on the implications of Brexit for FE and HE.

- It examines the possible implications for staff and students, research collaboration with European institutions, and funding arrangements and sources.
  - Funding includes universities' research income from European Commission sources, and college programmes backed by the European Social Fund (ESF).
- Valued EU connections include:
  - *Erasmus+*: 1,600 Scottish students went to European countries to study, train or volunteer in 2016–17.
  - *Staff*: 21.6% of Scottish university teaching and research staff are EU nationals.
  - *College student places and skills development*: ESF programmes provided £14m match-funding in Scottish colleges in 2017–18.
  - *Research*: 10.7% of HEIs' research income was from EU Commission sources on a three-year average to 2016–17.
- Possible implications for universities and colleges include the following:
  - If EU students have to pay university tuition fees after Brexit, Scotland is likely to see a decline in the number of EU undergraduate students; this could affect some courses offered by universities due to reduced demand.
  - Post-Brexit immigration policy for graduates could also affect the number of EU students coming to study in Scotland, as they may choose to study elsewhere if they are unable to stay after graduation.
  - Fewer EU university graduates or college leavers in some subjects could impact on the skilled workforce required.
  - A drop in the number of EU students would weaken the international atmosphere of campuses and the communities where they are located.
  - If fewer EU students undertake postgraduate study, this will have an impact on Scotland's research capacity.

The Scottish Government's Enterprise & Skills Strategic Board published *Working Collaboratively for a Better Scotland: Strategic Plan*.

- The Board was formed in November 2017 to coordinate the activities of Skills Development Scotland, Scottish Enterprise, Highlands & Islands Enterprise and the SFC, plus the new South of Scotland Economic Partnership.
- Four interconnected missions focus on: future skills needs; business creation and growth; business models, workplace innovation and fair work; and export growth.
- 14 initial actions for the agencies and 18 recommendations for government include:
  - Embedding a culture of lifelong learning at all stages of an individual's career, including a stronger emphasis on work-based learning.
  - Improving leadership and management skills.
  - Challenging industry to adopt progressive new business practices and workplace innovation.
  - Defining the meta-skills (described as 'higher-order skills… that enable other skills to be developed') for use in future skills provision.
  - Developing digital, sales and international language training programmes for exporters.
  - Using funding for education and training providers to offer more agile support for upskilling and reskilling staff.

- Integrating, expanding or re-designing forms of upskilling and reskilling support such as Individual Training Accounts or tax incentives.
- Creating a flexible and sustainable funding model for the expansion of work-based learning.
- Increasing international awareness and exposure throughout the education system.
- Increasing investment in college and university spin-outs and in organisations driving entrepreneurship, innovation and research.
- Developing a National Asset Register of sectors, skills and capabilities.

The Scottish Government published its *Economic Action Plan 2018–20*, with measures as part of its response to the Enterprise & Skills Strategic Board recommendations (*above*); the Plan includes a Skills section.

The Royal Society of Edinburgh (RSE) launched *Tapping All Our Talents 2018: A progress review of women in science, technology, engineering and mathematics in Scotland*, on the changes that have taken place since a report in 2012.

- 30% of female STEM graduates in the UK were working in the sector (up 3ppt since 2012).
- 10% of maths professors (up 7ppt) and 10% of chemistry professors were female (up 5ppt).
- 23% of those in core STEM professions in the UK were female (up 10ppt).
- STEM FTSE 100 companies are expected to meet a voluntary target of 33% of women on boards by 2020.
  - The number of female executives in FTSE 100 companies remains below 10%.
- 18% of those studying for computing-related qualifications at Scottish Credit & Qualifications Framework levels 3–5 were female (down 14ppt).
- The proportion of female students in most college and university STEM subjects has seen only incremental improvement or further decline.
- 14 recommendations are made under four themes: leadership for culture change; better data to improve understanding; behaviour change; and strong, sustained partnerships between education and industry.

WALES

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

REPUBLIC OF IRELAND (RoI)

The Expert Group on Future Skills Needs (EGFSN) published *Digital Transformation: Assessing the Impact of Digitalisation on Ireland's Workforce*, on the impact of adopting digital technologies over the next five years.

- One in three jobs is at high risk of being disrupted, mostly causing changes to job roles and tasks, plus the hypothetical creation of 46k fewer jobs than would have been created without digitalisation.
  - Most at risk of disruption are sectors associated with repetitive, manual tasks that can be replaced by automation, including agriculture, retail, manufacturing, and transport and hospitality; and jobs including elementary, low-skilled occupations, plus several sales and customer service occupations.
  - The potential impact will be felt particularly by those with lower levels of educational attainment.
- Education and training providers need to do more to enable access to provision, and employers need to support workers to upskill and reskill; some have already begun the upskilling process.
  - Public bodies will need to work with employers to identify likely job losses, and then help them to retrain and reskill for employment in other areas.
  - There are implications for the types of skills people are taught via formal education.
  - The concept of lifelong learning will become more of an imperative.
- Five key focus areas for the future are vision, collaboration, data, technology and skills, with the following skills of particular importance:
  - Leadership – innovative thinking on how technology can be used to improve processes and business activities, including emotional intelligence and strategic thinking.

- Interpersonal – involving change management and content presentation, facilitation and conflict resolution, vital in implementing technology while maintaining a positive and productive culture.
- Business – to enhance project manager effectiveness or analyse and understand new approaches to programme management, such as design thinking, and the ability to influence stakeholders, partners and those in other organisational 'silos'.

SOLAS (Further Education & Training Authority) published *National Skills Bulletin 2018* on behalf of the National Skills Council, examining the labour market in RoI and the skills needs of the economy.

- The report supports policymaking in employment, education and training, and immigration (particularly the sourcing of skills in short supply in the Irish and EU labour market), and informs careers guidance and choices.

SOLAS published *Review of pathways to participation in apprenticeship*, examining diversity among Irish apprentices.

- Significant groups are currently underrepresented in the national apprenticeship system, including women and those with disabilities, while there is a significant minority from lower socioeconomic backgrounds.
- Five areas for action include creating new pathways via pre-apprenticeship courses.

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