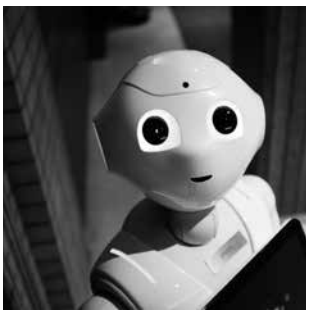
THE FUTURE OF WORK: A VISION FOR THE NATIONAL RETRAINING SCHEME

Part III: Building a workforce for the future

February 2019



CSJ The Centre for Social Justice

The Future of Work: A vision for the national retraining scheme
Part III: Building a workforce for the future

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About the Centre for Social Justice

Established in 2004, the Centre for Social Justice (CSJ) is an independent think tank that studies the root causes of Britain's social problems and addresses them by recommending practical, workable policy interventions. The CSJ's vision is to give people in the UK who are experiencing the worst disadvantage and injustice every possible opportunity to reach their full potential.

Since its inception, the CSJ has changed the landscape of our political discourse by putting social justice at the heart of British politics. This has led to a transformation in Government thinking and policy. The majority of the CSJ's work is organised around five 'pathways to poverty', first identified in our ground-breaking 2007 report, *Breakthrough Britain*. These are: family breakdown; educational failure; economic dependency and worklessness; addiction to drugs and alcohol; and severe personal debt.

In March 2013, the CSJ report *It Happens Here* shone a light on the horrific reality of human trafficking and modern slavery in the UK. As a direct result of this report, the Government passed the Modern Slavery Act 2015, one of the first pieces of legislation in the world to address slavery and trafficking in the 21st century.

The CSJ delivers empirical, practical, fully funded policy solutions to address the scale of the social justice problems facing the UK. Our research is informed by expert working groups comprising prominent academics, practitioners and policy-makers. Furthermore, the CSJ Alliance is a unique group of charities, social enterprises and other grass-roots organisations that have a proven track record of reversing social breakdown across the UK.

The 13 years since the CSJ was founded has brought with it much success. But the social justice challenges facing Britain remain serious. Our response, therefore, must be equally serious. In 2018 and beyond, we will continue to advance the cause of social justice in this nation.

Acknowledgements

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The Future of Work programme: overview

The Future of Work research programme was conceived in response to the 2017 report by the Centre for Social Justice (CSJ), *The Great British Breakthrough: Driving productivity growth in the UK*. That report concluded that there were several significant barriers to productivity growth in the UK and proposed a whole series of policy initiatives to address this. The barriers included: low investment, including low capital investment across the UK economy that had resulted in a slow take-up of new technologies and a low rate of investment in training of staff; a regional growth imbalance, explained by many factors including the deindustrialisation of large parts of the Midlands and North of England and by the competitive strength of London; and a lack of occupational mobility in the labour market, alongside low wage growth, that led a large number of people to just manage in low-paid and low-skilled work for the majority of their working lives. Where *The Great British Breakthrough* was retrospective, this report aims to look to the future. Work is changing, both here and across the globe, and Britain needs to be prepared for this. This has implications for people, for businesses, and for policy makers in Westminster, who need to be aware of the drivers of change, prepared for them and positioned for the future. If not, then Britain will not succeed in tackling the drivers of low productivity, issues connected with low pay and low skills, or in maintaining high levels of employment This research programme seeks to better understand the future of work, and in particular its impact on those at the bottom of the ladder. In order for the UK to have informed policy decisions and look after its most vulnerable, there is a need to understand fully the changes that are occurring, and could take place, in the world of work. These include socio-economic change, demographic trends, technology advancements, greater levels of globalisation, evolving skill demands and a cultural shift among younger workers. Informed policy decisions should help ensure employment rates remain high and that no one is left behind, allowing the market mechanism to work properly and intervening where needed. Work is a vital route out of poverty and central to future prosperity.

Structure

This paper is the third in a series of five separate reports, as part of The Future of Work Programme:

1. Working in Britain today: State of the nation
2. Regional revolution: Rebalancing growth and opportunity in post-industrial Britain
3. A vision for the National Retraining Scheme: Building a workforce for the future
4. Technology, AI and the future of work: Understanding how technology can be a job creator, not a job killer
5. The supply of labour: Population growth, immigration and an ageing workforce

Working Group

- Ben Houchen, Tees Valley Mayor
- Dr Adam Marshall, Director General, British Chamber of Commerce
- John Mills, CEO, JML Ltd
- Dame Helena Morrisey, Head of Personal Investing, L&G
- Chris Oglesby, CEO, Bruntwood
- Bridget Rosewell OBE, Founder, Volterra Partners
- Rt Hon Iain Duncan Smith MP, Former Secretary of State for Work and Pensions
- Carole Stott MBE, Chair, Association of Colleges
- Louise Woodruff, Joseph Rowntree Foundation
- Patrick Spencer, Head of Work and Welfare Unit, CSJ (lead author)
- Dr Gerard Lyons, CSJ (Chair of the Working Group)

Executive summary

The Centre for Social Justice's Future of Work programme has so far focussed on increasing the supply and improving the quality of jobs in the UK. In *Regional Revolution*, we looked at how growth has been inhibited by deep regional inequalities. This report takes a look at how we prepare the workforce of the future.

Our assumptions, as laid out in the June 2018 State of the Nation,[1] are that the future will be disrupted by globalisation and technological developments which will change the number and type of jobs available. Employers will demand new and more advanced skills from workers. The world of work will become more flexible, with employees expected to be more independent, work across national and cultural boundaries, and across a more diverse team. We can all expect to work several different careers during our working lives. This will happen against a background of increasing risk of mass unemployment related to either automation, globalisation and domestic market shocks (like the financial crisis of 2008). In summary, skills will become increasingly important and we need to radically rethink how we prepare our labour force for the future, helping workers become more productive and economically resilient.

Despite the UK education system being one of the most prestigious in the world (performing marginally better than the OECD average), 40 per cent of students leave education without achieving a pass in English and Maths GCSE, disadvantaged students perform significantly worse than non-disadvantaged students and since 2010 employers have increasingly reported problems in recruiting workers with the requisite skills their business needs.

Research also found that a shockingly low number of UK workers currently seek some form of training while in work. Just 10 per cent of workers in the UK are currently studying for a nationally recognised qualification. Our under-investment in up-skilling is an international anomaly. In 2015, the UK had fewer employees participating in vocational training courses than Belgium, Denmark, Germany, France, Netherlands, Sweden and Norway.[2] This is also a relatively new phenomenon, prior to the financial crisis employer investment in skills per employee was closer to £2,000 per year (compared to £1,500 today).[3] There is anecdotal evidence that a lot of current in-work training is focussed on health and safety and therefore not economically productive.

Unless we increase the proportion of our workforce who seek upskilling opportunities, which are proven to boost their economic resilience and productivity, the risk of mass unemployment is more severe. There are approximately 10 million jobs at risk of being lost

1 Centre for Social Justice, The Future of Work – Part I: State of the Nation (Centre for Social Justice, 2018)
2 Centre for Social Justice, The Great British Breakthrough (September 2017)
3 Centre for Social Justice, The Great British Breakthrough (September 2017)

due to automation. There are 1.4 million unemployed people in the UK and approximately 4.6 million people who are both low-skilled and low-paid. Evidence produced by the Social Mobility Commission shows that its low-skilled workers who are least likely to take up training opportunities despite being most at risk of redundancy.

This report outlines a vision for the National Retraining Scheme. At its core is the creation of a Personal Learner Account that will help nudge millions more British workers to seek upskilling opportunities throughout their working lives. Fundamentally we find it is essential that people retrain before they find themselves unemployed. We estimate a £125 billion boost to the economy if every worker increased their skill attainment by one level. This report also argues that the Government needs to urgently review the generosity of FE funding going forward. If taken up, these policies will help prepare the British workforce for the future.

Policy recommendations

Recommendation 1
The Department for Education, Department for Work and Pensions, HM Treasury and Cabinet Office should consult and bring forward legislation to set up the National Retraining Scheme Corporation (NRSC) as a non-departmental public body (NDPB) that answers to the Department for Education.

Recommendation 2
The same legislation should also lay the foundations for the introduction of a Personal Learner Account (PLA) that would be managed by the NRSC. The PLA would take the form of a digital savings account that individuals, employers and the Government (under certain conditions) could pay in to for the exclusive use for individuals who want to seek adult learning opportunities at accredited providers. Savings accrued in the PLA could also be used against borrowing an Advanced Learner Loan.

Recommendation 3
Ofsted would be responsible for approving accredited providers of adult learning opportunities which the PLA could be used for.

Recommendation 4
HM Treasury and the Department for Work and Pensions should look to replicate the *Movement to Work* model, working across different industries to provide training grants for unemployed individuals who are guaranteed a job by an employer.

Recommendation 5
If the Government is considering additional investment in the area it should target low-skilled, out of work individuals in higher risk groups via the PLA system. One specific example of how this could work at a level of five distinct groups and a credit of £500 is outlined on page 48. Specifically, we recommend the Government provides a credit for qualifying individuals, to be debited in to a PLA, that could then be used by recipients for training and upskilling.

Recommendation 6
Longitudinal Education Outcomes (LEO) are available by subject at Level 6 (graduate level in Higher Education). The LEO should include returns on investment linked to adult training for nationally recognised qualifications (from level 2 upwards). With 3.3 million people currently learning towards a nationally recognised qualification, the data should be collectible and robust. These should be available via the PLA but also online at the National Citizens Service.

Recommendation 7

As suggested in September 2018 publication *Future of Work: Regional Revolution,* LEPs should set up automation taskforces (combining employers, training providers, local government representatives, and unions) to work on providing workers at risk of displacement with options for either local training or jobs. Each automation taskforce would answer to the LEP, however in a Combined Authority they would answer to the Metro Mayor. As well as building options for displaced workers, each taskforce should help employers communicate training options for workers and develop internal transitions for staff at risk of being displaced.

Recommendation 8

HM Treasury should use the 2019 spending review to review the funding allocation for FE in Britain. We recommend the review should also consider best examples of closer working between HE and FE as well as new commitments to help support colleges attract good quality teaching staff, invest in physical infrastructure and ensure delivery of high-quality courses across the entire country.

Recommendation 9

The Department for Education should broaden the National Retraining Scheme funding pot to include a focus on education technology, and provides grants for both research organisations and education providers who want to develop and disseminate advanced technology in online formats.

chapter one

Skills and competencies across Britain today

Why are skills important

An individual needs skills and competencies to be economically valuable in the labour market. Without either, an individual has no productive value for an employer, could remain unemployed and may have to rely on welfare for income support. Without economic value in the labour market, the prospect someone has for positive life outcomes is heavily diminished.

Box 1: What are skills and competencies

There is a nuanced difference between a skill and a competency. A worker has a skill if they have learned a specific task, and perhaps even reached a certain recognised level of expertise in exercising that task. Skills could include:

- being licensed to drive an HGV,
- speaking a foreign language, or
- knowing how to operate a 3D printing machine.

Competencies are more often understood as soft skills and give a better understanding of how well someone can complete a task. A worker could be called a competent team manager or a competent trouble shooter. Soft skills could include:

- self-awareness,
- compassion,
- self-discipline,
- thoroughness, or
- positivity towards change.

There is some overlap, someone could be referred to as both a skilled and competent salesman, for instance, in which case they have both hard and soft skills. Both are hugely important for the economic value of a worker.

Having both hard and soft skills are linked with good jobs and higher incomes in life. The effect of education qualifications on earnings is the best means of measuring the impact that skills can have on earnings. Office for National Statistics (ONS) data published in 2011 found gaining A-levels was linked to a 15 per cent premium in earnings compared to someone with just a GCSE, and someone with a degree was on average paid 85 per cent more than someone with just GCSEs. The ONS found that this was consistent with results from 20 years prior.[4] A Department for Education report in 2014 found that:

> Individuals achieving five or more good GCSEs (including English and maths) as their highest qualification are estimated to have lifetime productivity gains worth around £100,000 on average, compared to those with below level 2 or no qualifications… [and] Men with 2 or more A levels as their highest qualification have lifetime productivity returns of around £90,000 compared to those with 5–7 good GCSEs; for women the figure is around £76,000.[5]

Skills and work are not just mechanisms for boosting economic wellbeing, they also have significant intangible benefits to an individual's wellbeing. The Royal College of Psychiatrists state that a job gives us social status, structure, mental and physical activity, a sense of identity and personal fulfilment. Unemployment is linked with poorer physical and mental health, and lower life expectancy.[6] The Joseph Rowntree Foundation recently released data showing households in the bottom quintile of the income scale are nearly three times more likely to experience isolation and loneliness.[7] The same report found children from low income households were more likely to have strained relationships with their parents (compared to wealthier children) and parents from low income households were more likely to report that their relationship is distressed.

This final point is emphasised by work from the Learning and Work Institute who argue that skills are a key mechanism for reducing intergenerational poverty.[8] There is a clear link between a parent's educational attainment and income with the life outcomes of their children. US political scientist Robert Putnam reported that children in better educated and higher income households were more like to be read to regularly, receive emotional encouragement and develop more inquisitive and creative minds. Children from less educated and lower income households were more likely to grow up in stressful households which in turn meant they had slower and more stifled emotional and cognitive development.[9]

In summary, skills are not only a fundamental driver of employment, incomes and productivity, but are also inextricably linked to better life outcomes.

4 ONS, Earnings by Qualification, 2011 (24 August 2011) [accessed via: webarchive.nationalarchives.gov.uk/20160106203540/http://www.ons.gov.uk/ons/rel/lmac/earnings-by-qualification-in-the-uk/2011/earnings-by-qualification-in-the-uk.html]

5 Department for Education, The economic value of key intermediate qualifications: estimating the returns and lifetime productivity gains to GCSEs, A levels and apprenticeships (December 2014)

6 Royal College of Psychiatrists, *Is Work Good For Your Mental Health* [accessed via: www.rcpsych.ac.uk/usefulresources/workandmentalhealth/worker/isworkgoodforyou.aspx]

7 JRF, Impact of poverty on relationships (2014) [accessed via: www.jrf.org.uk/data/impact-poverty-relationships]

8 Learning and Work Institute, Skills and Poverty (2016)

9 Putnam R. Our Kids: The American Dream In Crisis (New York, 2015)

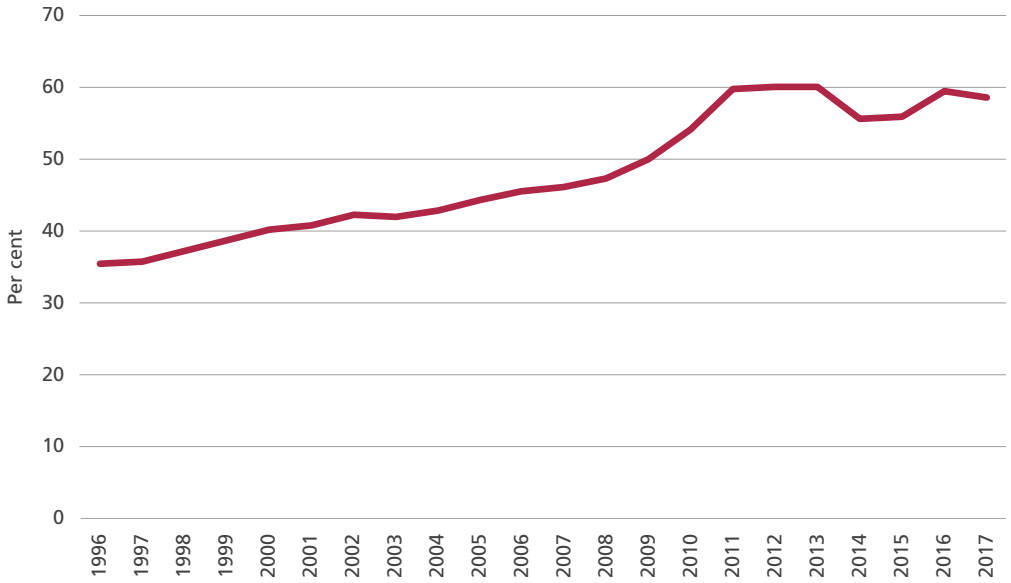
UK education, skills and training audit

It is hard to offer a comprehensive overview of the UK labour market in terms of hard and soft skills. However, there are a number of different proxies that could be used to produce and estimate the level of skill attainment across the UK workforce. These usually take the form of (a) aptitude tests and (b) employer surveys. Surveys often incorporate questions regarding training opportunities for workers in the UK.

Secondary school academic results and Higher Education enrolment

A common means of measuring hard skills in the UK is to look at educational attainment among UK students. Using GCSE pass rates (defined as reaching a grade A*–C or 9–4 score), the rate of pupils that pass GCSE has improved since the mid-90s. The chart below shows that the pass rate has risen from 35 per cent in 1995/1996 to between 55 and 60 per cent since 2010/11.

Figure 1: Percentage of pupils achieving a pass in English and Maths



Source: Department for Education

The rate of students achieving Level 3 qualifications by age 19 has also increased in recent years. Department for Education data only goes back as far as 2004, in which time there has been a 43.7 per cent increase in the percentage of students reaching the Level 3 attainment level. In 2017, 373,855 students, 60.6 per cent of the cohort, had achieved a level 3. The two most significant qualifications were A-levels and vocational qualifications (outside of apprenticeships). 64 per cent of students who reached a level 3 in 2017 took A-levels, while 30 per cent took a vocational qualification. A small minority took the International Baccalaureate and Advanced Apprenticeships.

Participation at a higher education organisation has flatlined below an historic high in 2010/11 when 2.5 million students (1.9 million undergraduates and 589,000 post-graduates) were studying at university. By 2016/17 this had fallen to 2.3 million,

after there had been a 10 per cent decline in enrolments of first year first degree undergraduates and more than a halving in the number of part-time undergraduate students and students looking to take a Foundation degree.[10]

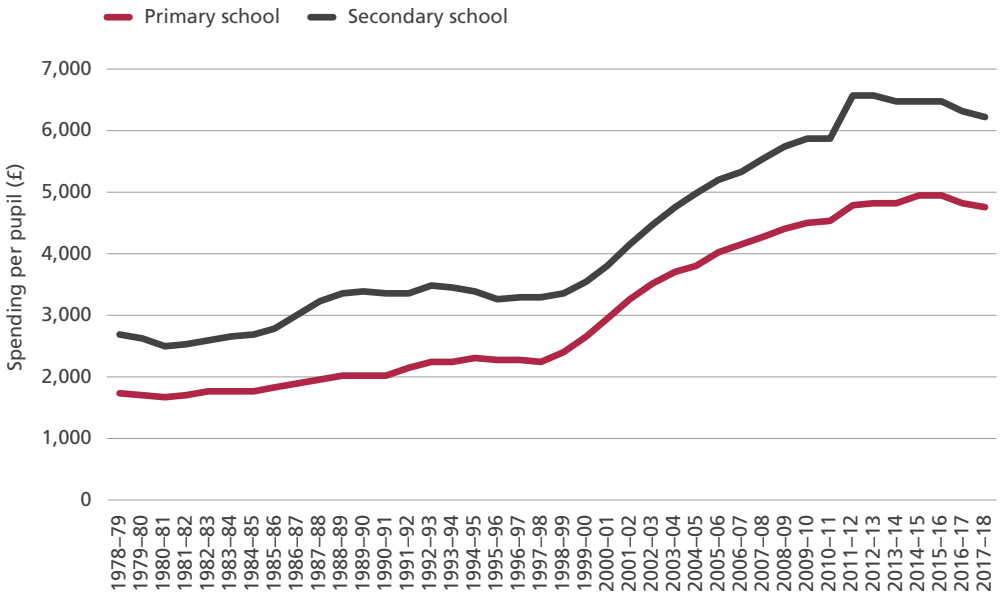
Table 1: Population by highest level of qualification

Highest level of qualification	England and Wales	%
All categories	**45,383,964**	**100**
No qualifications	10,300,237	23
Level 1 qualifications	6,035,927	13
Level 2 qualifications	6,925,544	15
Apprenticeship	1,626,097	4
Level 3 qualifications	5,601,365	12
Level 4 qualifications and above	12,332,125	27
Other qualifications	2,562,669	6

Source: Nomis (Census 2011)

Many factors have helped drive improved standards in schools in recent years. While there has been a significant increase in secondary education real terms funding over time, as a share of national income education spending has fluctuated. Structural reforms to the secondary school market (such as the creation of academies and free schools) and policy programmes such as the London Challenge have also helped improve school attainment in recent years.

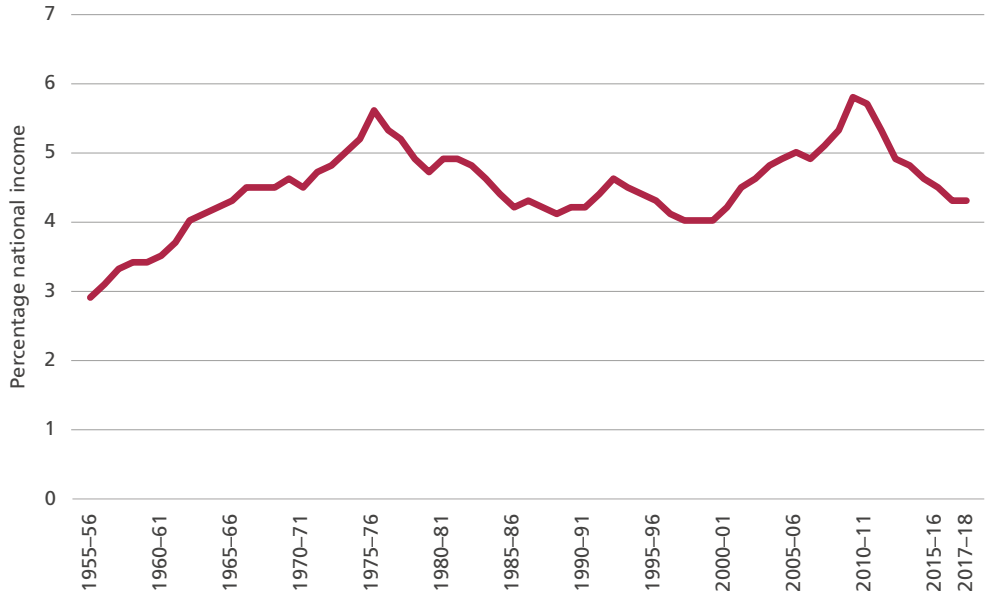
Figure 2: Primary and secondary school spending per pupil (2018/2019 prices)



Source: Institute for Fiscal Studies

10 Higher Education Statistics Authority, Who's studying in HE?

Figure 3: Total education spending as a share of national income



Source: Institute for Fiscal Studies

In the 2016/17 academic year, Academies and Free Schools had an average pass rate at 65.6 per cent, 7 percentage points above the national average for all schools. Selective Schools remained the highest achieving school type that year with a pass rate at 96.2 per cent. Faith schools also outperform non-religious schools. Jewish, Muslim and Hindu faith schools all registered pass rates above 80 per cent.[11] Over 40 per cent of those reaching a level 3 came from sixth form colleges or general FE colleges. There has been a significant decrease in the number of students who complete Level 3 at a maintained school, from nearly half to just 13 per cent. There has been a correspondingly significant jump in the number of students reaching Level 3 at Academies and City Technical Colleges, as well as General FE Colleges.

In terms of demographics, girls have consistently outperformed boys in recent years. Socio-economic background continues to be significantly associated with educational outcomes. In 2017, 27.2 per cent of the pupils qualified as disadvantaged.[12] The Department for Education produces an attainment gap index that ranks pupils according to their average score in English and Maths GCSE and then measures the gap in attainment between disadvantaged and non-disadvantaged pupils. Analysis of 2016/17 GCSE results found that the:

> Average rank of disadvantaged pupils was 0.37, meaning the average pupil was just over a third of the way up the distribution, while that of other pupils was 0.55, more than halfway up the distribution.[13]

Put simply, being disadvantaged increases the probability that a pupil will not reach the basic level of attainment in Maths and English GCSE. Sutton Trust research from 2011 shows the school readiness gap between advantaged and disadvantaged five-year-olds is

11 Gov.uk, SFR57/2017: GCSE and equivalent results in England 2016/17 (provisional)
12 Note: Pupils are defined as disadvantaged if they are known to have been eligible for free school meals in the past six years (from year 6 to year 11), if they are recorded as having been looked after for at least one day or if they are recorded as having been adopted from care.
13 Department for Education, Revised GCSE and equivalent results in England, 2016 to 2017 (January 2018)

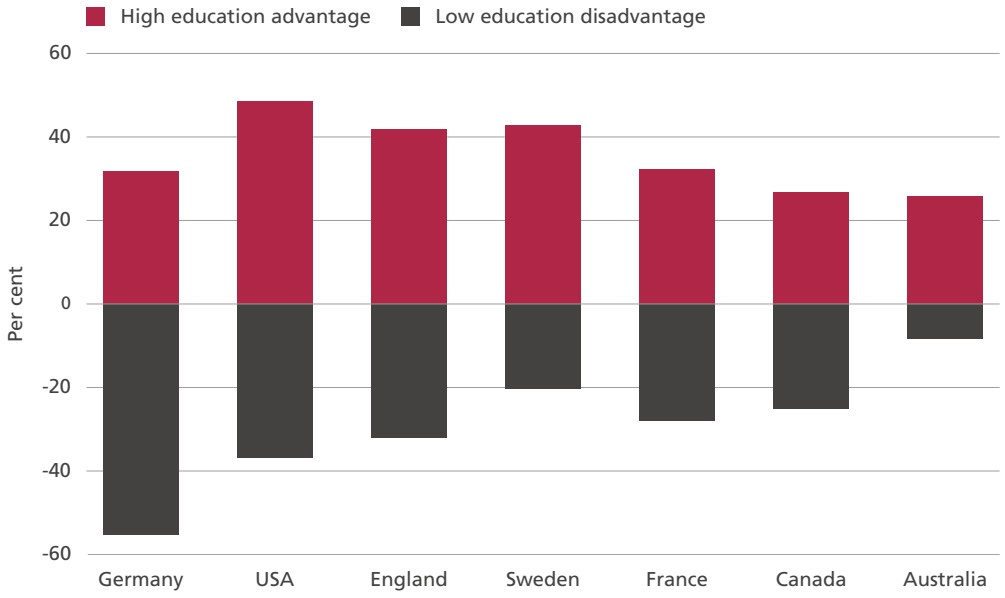
Table 2: Percentage of UK students achieving Level 3 by institution type

Cohort (19 in …)	Number in cohort	Percentage achieving Level 3 by institution type							Number achieving Level 3 by age 19	Percentage achieving Level 3 by age 19
		Maintained school	CTCs/ Academies	Independent school	Sixth Form College	General FE, tertiary and specialist colleges	Work-based learning	Other		
2004	614,564	19.6	0.2	5.4	7.2	8.6	1.0	0.2	259,251	42.2
2005	618,397	20.3	0.3	5.3	7.4	10.9	1.1	0.5	282,313	45.7
2006	633,117	20.5	0.3	5.2	7.6	11.5	1.2	0.5	296,811	46.9
2007	653,657	20.8	0.3	5.2	7.8	12.4	1.1	0.6	314,809	48.2
2008	647,457	20.9	0.3	5.2	8.0	13.3	1.2	0.6	321,260	49.6
2009	658,408	21.5	0.4	5.3	8.1	14.2	1.4	0.5	338,173	51.4
2010	665,139	21.8	0.7	5.3	8.5	15.4	1.7	0.5	357,968	53.8
2011	661,689	22.9	1.0	5.5	8.8	16.0	1.9	0.4	373,920	56.5
2012	640,619	23.2	1.7	5.5	9.2	16.0	2.0	0.4	371,272	58.0
2013	640,930	20.4	5.2	5.7	9.5	16.1	2.0	0.4	378,848	59.1
2014	626,238	12.7	13.6	5.7	9.7	16.1	1.8	0.4	376,027	60.0
2015	619,372	9.6	17.1	5.7	9.7	16.1	1.9	0.5	374,626	60.5
2016	631,710	8.8	18.0	5.8	9.6	15.5	2.0	0.6	380,624	60.3
2017	616,941	8.0	19.1	5.9	9.8	14.9	2.0	0.8	373,855	60.6

Source: Department for Education

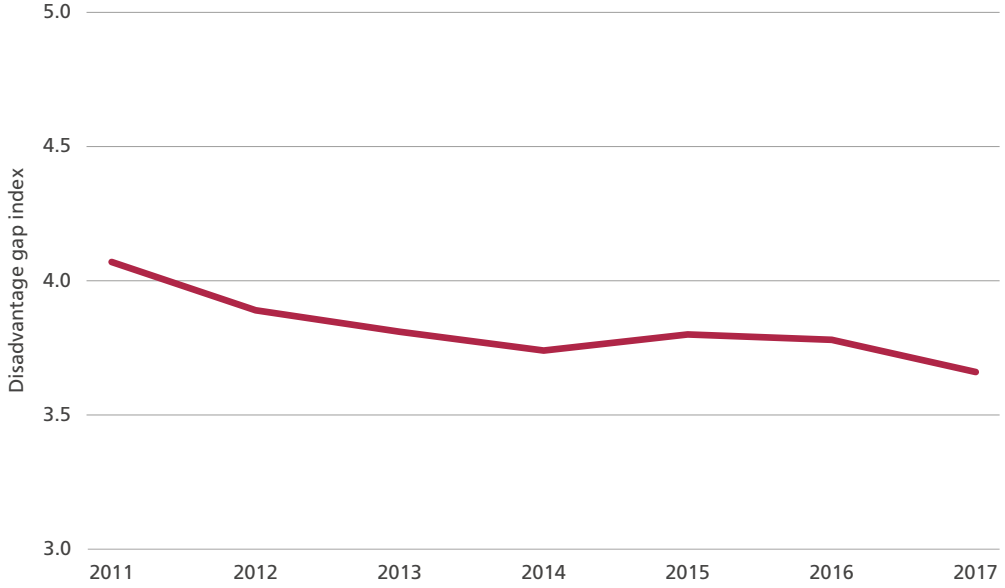
consistently worse than most other countries[14] apart from the US.[15] These gaps persisted through adolescence up to university age and beyond. The gap in attainment between advantaged and disadvantaged adolescent English students was bigger than that of Sweden, France, Canada and Australia but smaller than the gaps of Germany and the USA (where the gap between the disadvantaged and average student was particularly pronounced, see below).

Figure 4: Gaps in achievement during adolescent years



Source: Sutton Trust

Figure 5: Trend in the disadvantaged pupil's attainment gap index (England, state-funded schools)



Source: Department for Education

14 Note: Germany, Australia, Canada, the USA, France, Sweden, Denmark, Finland and Italy

15 Sutton Trust, What prospects for mobility in the UK? A cross-national study of educational inequalities and their implications for future education and earnings mobility (November 2011)

Despite this bleak international comparison, the attainment gap between advantaged and disadvantaged students in the UK has slowly fallen since 2011.

In summary, education outcomes in Britain have improved over the last 20 years. Today approximately 60 per cent of people leave education with economically valuable qualifications (judged as level 3 or above) and nearly half of all students who leave school go on to university. However, 40 per cent leaving school without any good qualifications is still too high, especially considering the probability of leaving education without reaching that level of attainment increases with disadvantage. There is still a large portion of older workers without any good qualifications either, with the census 2011 showing that 50 per cent of individuals over 16 have a level 2 qualification or lower.

OECD PISA – International comparative survey of students

The OECD PISA survey of approximately half a million students across 72 countries is the benchmark international comparative measurement of student educational attainment. Students aged 15 years old are assessed in science, mathematics, reading, collaborative problem solving and financial literacy. The 2015 survey found "Students in the United Kingdom perform above the OECD average in science (509 score points) and reading (498 points) and around the OECD average in mathematics (492 points)".[16] Our position relative to other countries has been stable since 2006.

In maths, reading and science, Wales performed below that of England, Northern Ireland, Scotland and the OECD average. In all three areas, England outperformed Wales, Northern Ireland and Scotland.

In science and reading, the UK performed better than the OECD average in terms of the percentage that failed to reach the baseline and in term of the percentage who were considered top performers. Across the OECD, 21 per cent of students did not reach the baseline level of proficiency in science and 20 per cent don't reach the baseline in reading. In the UK 17 per cent failed to reach the baseline in science, whereas 18 per cent failed to reach the baseline in reading. Socio-economic disadvantage was less of an inhibitor to success in the academic field of science in the UK, when compared to the OECD average. The UK was also found to produce more top performers in science and reading than in other OECD countries.[17]

OECD PIAAC – International comparative survey of adult skills

The most commonly used comparative analysis of skills among adults is called the Survey of Adult Skills (PIAAC) and is also conducted by the OECD and partner organisations. The survey involves interviewing 5,000 adults between the ages of 16 and 64, asking questions on the generic skills they use at work, as well as a computer-based survey to assess literacy, numeric, and problem-solving skills. While the purpose is to inform policy makers of deficiencies in the education and training system within each country, the comparative nature of the PIAAC survey allows for the UK labour force to be compared with OECD competitors. The only major drawback is that adults from Scotland and Wales are omitted from the survey therefore results from PIAAC are almost uniquely representative of the English labour force.

16 PISA, United Kingdom Country Profile (2016) [accessed via: www.oecd.org/pisa/pisa-2015-United-Kingdom.pdf]
17 PISA, United Kingdom Country Profile (2016) [accessed via: www.oecd.org/pisa/pisa-2015-United-Kingdom.pdf]

The most recent PIAAC survey was completed in 2012. It found that England's performance in literacy "was not significantly different from the OECD average".[18] However, there was a high degree of variation in the performance of the best and the lowest scoring adults. There was also a gap in the performance between young and older adults. England's performance in numeracy tests was below average, and again there was a large variation in performance between the best and worst performing adults and a gap in the performance of young and older adults. In summary, there were 9 million adults of working age in England who have low basic functioning skills (in numeracy and literacy).[19]

PIAAC results also suggest that age and socio-economic disadvantage factors drive outcomes for adults. One of the more concerning outcomes was the fact that BAME communities under-performed significantly in the numeracy test.

England performed below the OECD average on problem-solving. However, England's higher than average participation rates are expected to have skewed that result. Overall, England replicated other OECD trends, such as younger adults outperforming older adults and employment having a big impact on a respondent's ability to score highly.

Younger adults entering the UK labour market perform below that of international competitors, suggesting many leaving UK education are not 'work ready'. There is a strong theme that performance is determined by a third variable. The OECD stated in their analysis of extreme low proficiency that there was a strong association with characteristics typical of lower income households:

> The characteristics most likely to be associated with low proficiency were having a low level of education, belonging to certain ethnic groups, having poorer general health, having parents who have low levels of education, not having computer experience in everyday life, and working in certain occupations. Despite the age group findings, it is noteworthy that being in a younger age group was not significantly associated with having lower skills. Surprisingly, speaking English as an Additional Language was also not associated with low literacy and problem solving, although it was associated with low numeracy.[20]

Department for Education – Employer Skills Surveys and Employer Perspectives Survey

Employer surveys remains a popular means of gauging both the demand and supply of skills in the UK labour market. The Department for Education run two surveys; an Employer Skills Survey (ESS) and an Employer Perspectives Survey (EPS). The ESS is a larger survey, collecting evidence from 87,500 respondents (compared to the 18,000 surveyed for the EPS).

> There were 226,000 skills shortage vacancies in 2017, an increase of 247% since 2011.
>
> **Employer Skills Survey**

The ESS over time has shown an increase in the number of vacancies and number of vacancies that are due to a lack of skills (SSVs). SSVs have risen from 91,000 in 2011 to

18 Department for Business, Innovation and Skills, The International Survey of Adult Skills 2012: Adult literacy, numeracy and problem-solving skills in England (October 2013)
19 OECD Skills Studies, Building Skills For All: A Review Of England (OECD, 2016)
20 Department for Business, Innovation and Skills, The International Survey of Adult Skills 2012: Adult literacy, numeracy and problem-solving skills in England (October 2013)

226,000 in 2017. The proportion of establishments facing this problem has doubled from 3 per cent to 6 per cent, and SSVs now represent nearly a quarter of all vacancies.[21] SSVs were reported by the ESS to lead to increased workload for staff, lower levels of morale, increased turnover of staff and reduced productivity and efficiency. In each of the four surveys from 2011 to 2017, skilled trades and associate professionals were occupations in most demand by employers.

Table 3: Employer skills survey results 2011–2017

Vacancies and skill-shortage vacancies (SSVs)	2011	2013	2015	2017
% of establishments with any vacancies	14%	15%	19%	**20%**
% of establishments with any hard-to-fill vacancies	4%	5%	8%	**8%**
% of establishments with SSVs	3%	4%	6%	**6%**
% of establishments that are SSVs	16%	22%	23%	**22%**
Number of vacancies	587,000	655,000	927,000	**1,007,000**
Number of skill-shortage vacancies	91,000	146,000	209,000	**226,000**
Skills gaps				
% of establishments with any staff not fully proficient	17%	15%	14%	**13%**
Number of skills gaps	1,485,000	1,410,000	1,380,000	**1,267,000**
Number of staff not fully proficient as a % of employment	6%	5%	5%	**4%**
Training				
% of establishments training staff over the last 12 months	65%	66%	66%	**66%**
% of establishments providing off-the-job training in the last 12 months	47%	49%	49%	**48%**
% of workforce trained	55%	62%	63%	**62%**
Total days training	115m	113m	118m	**114m**
Training days per employee	4.2	4.2	4.2	**4.0**
Total training expenditure	£43.8bn	£41.1bn	£43.6bn	**£44.2bn**
Training expenditure per employee	£1,600	£1,500	£1,600	**£1,500**

Source: UKCES, Department for Education, Employer Skills Survey

The EPS offers insight in to what employers are looking for when they have a vacancy to fill. In the 2016 survey, more than half of respondents (52 per cent) said that academic qualifications were of little or no value, whereas 66 per cent stated they were more likely to look at recent work experience. Approximately half of employers in England found that students leaving education at 16 were not work ready (it was 49 per cent in Northern Ireland, 44 per cent in Wales and 65 per cent in Scotland), however the probability of being

21 Department for Education, Employer Skills Survey 2017 (August 2018)

prepared increased as the graduate highest qualification rose. 81 per cent of employers across the UK thought university graduates were work ready, whereas approximately 59 per cent thought 18-year-old school leavers were work ready and 70 per cent thought 18-year old college leavers were ready for work.[22]

The ESS results show two-thirds of UK organisations have offered training to staff in the last 12 months. Training spend in the UK has risen marginally over the last 6 years.[23] It is unclear however, how much of this training is genuinely economically valuable and productivity boosting as opposed to training for on-boarding new staff (in the form of health and safety training for instance). The Centre for Social Justice polled workers in 2017 and found that more than 50 per cent of workers had not considered any form of professional development training, and nearly two-thirds had not taken part in any form of professional development training.[24] The 2017 Adult Participation in Learning Survey found just 19 per cent of adults were currently doing some learning activity, while well over half of respondents admitted to either not having completed any studying or learning in over 3 years or not at all since leaving education.[25]

Results from the ESS also showed a decline in the number and percentage of staff who are being trained to receive a nationally recognised qualification. In 2017, this was 3.3 million, or approximately 18 per cent of the 17.9 million people being trained, a decline of 2 percentage points since 2015. Employers who complained of having employees with inadequate skill levels cited deficiencies in both technical and personal skills. These included poor digital and analytical skills, as well as poor levels of self-management, leadership, sales and customer service.[26]

> 10% – the proportion of the workforce currently engaged in training for a nationally recognised qualification.
>
> **Employer Skills Survey**

Previous research published by the Centre for Social Justice found that investment in skills is low in the UK by international standards. Analysis of 2015 Eurostat data shows that 35 per cent of UK employees are currently employed in companies that provide vocational training options.[27] This is lower than Belgium, Denmark, Germany, France, Netherlands, Sweden and Norway.[28] In 2019 the Social Mobility Commission found that, "In 2018, only 30 per cent of the UK's employees received CVT compared to the EU average of 41 per cent, and this proportion is well below that of other European G7 countries (France, Germany and Italy)". The ESS estimate of £1,500 per employee per year in training expenditure is low by historical standards, as previous research showed that pre-2007 crisis expenditure was closer to £2,000 per employee per year.

22 Department for Education, Employer Perspectives Survey 2016 (June 2017)
23 Department for Education, Employer Skills Survey 2017 (August 2018)
24 Centre for Social Justice, The Great British Breakthrough: YouGov Polling Results (January 2018) [accessed via: www.centreforsocialjustice.org.uk/library/great-british-breakthrough-yougov-polling-results]
25 Egglestone, C., Stevens, C., Jones, E., and Aldridge, F. Adult Participation in Learning Survey 2017 (Learning and Work Institute, Department for Education, August 2018)
26 Department for Education, Employer Skills Survey 2017 (August 2018)
27 Eurostat, Participants in CVT courses by sex and size class – % of persons employed in enterprises providing CVT courses [accessed via: ec.europa.eu/eurostat/web/products-datasets/product?code=trng_cvt_13s]
28 Centre for Social Justice, The Great British Breakthrough (September 2017)

Learning and Work Institute (LWI) – Adult Participation in Learning Survey

The LWI survey 5,000 adults aged 17 and over across the UK every two years. The 2017 report found that the participation rate for adult learners (37 per cent) was at the lowest point since the survey began. Giving some historical context, in 2001 participation rates were 46 per cent, and in 2010 they were 43 per cent. Researchers found that "participation in learning is lower among adults who have higher levels of disadvantage in employment and those who live in areas that have the highest levels of multiple deprivation" and while controlling for social grade, age, highest level of qualification and working status the "likelihood of participating in learning increased as social grade and highest level of qualification increased and decreased as age increased".[29]

Confederation of British Industry

In 2017, the Confederation of British Industry (CBI) released its most recent Education and Skills Report. It reported that two-thirds of businesses see skills gaps as a threat to UK competitiveness but go on to cite the INSEAD global talent competitiveness index which places the UK third in the world (behind Switzerland and Singapore) for its depth in quality of human capital.[30]

The CBI survey goes in to more granular detail on how many businesses are configuring their training programmes in the current environment. Two-thirds of businesses are reacting to the newly imposed apprenticeship levy, with 58 per cent expecting to create new apprenticeships. Half of survey respondents said they either struggled to fill apprenticeship places either now or expected to in the future.

Manpower

The global recruitment specialist Manpower surveys employers around the world every year, asking detailed questions on problems related to skills shortages. In the past two years, it is obvious that while the UK performs relatively well compared to other countries, skill shortage vacancies are a growing problem. In 2017, 19 per cent of employers reported difficulty in filling jobs because of a shortage of skills.[31] In concurrence with other surveys, high skilled trade occupations were considered the hardest to fill. The five most cited reasons for failing to fill a role included:

1. Lack of available applicants (37 per cent)
2. Lack of experience (17 per cent)
3. Lack of hard skills (16 per cent)
4. Looking for more pay than is offered (12 per cent)
5. Lack of soft skills (9 per cent)

These talent shortages were most felt by larger companies (over 250 people in size). In response to this talent shortage, the Manpower survey found employers were most likely to invest in training. Between 2016 and 2018, the percentage of employers offering training edged up from 53 per cent to 54 per cent.[32]

29 Egglestone, C. Stevens, C. Jones, E. and Aldridge, F. Adult Participation in Learning Survey 2017 (Learning and Work Institute, Department for Education, August 2018)
30 CBI/Pearson Education and Skills Survey 2017, Helping the UK Thrive (July 2017)
31 Manpower, 2018 Talent Shortage Survey (2018)
32 Manpower, 2018 Talent Shortage Survey (2018)

British Chambers of Commerce (BCC)

The BCC captures employer attitudes in it's Quarterly Economic Survey (total respondents are approximately 7,000). The most recent survey, released on 8th October, found:

> The percentage of firms [in manufacturing] attempting to recruit fell from 77 per cent to 67 per cent. Of these, 75 per cent reported recruitment difficulties… [while in the service sector] The percentage of firms looking to recruit fell from 60 per cent to 47 per cent, the lowest since Q1 1993. Of these, 72 per cent reported difficulties – an all-time high for the survey.[33]

There are four conclusions to draw from the assorted research above regarding the quality of skills in the UK labour market:

a. The British education system is competitive and produces better outcomes than the OECD average. However, evidence suggests young people leaving education are less work ready than their OECD counterparts. The gap in attainment between UK graduates and the OECD average is most pronounced for disadvantaged households and demographics. Older workers close the gap.
b. Despite that, the quality of educational outcomes has steadily risen in recent years. More people are leaving school with qualifications than at any point in history. However, these people are more likely to come from wealthier households, with less than 50 per cent of Free School Meal students reaching the basic level of attainment in English and Maths. Evidence from 2011 also suggests this a bigger problem for the UK than most other OECD countries.
c. Since 2010, employers seem to find it increasingly difficult to meet their skill needs, as a result there are more skills shortage vacancies (SSVs) in the economy than at the end any point since the end of the last recession. The recent PIAAC results show there are some 9 million working age adults with low basic skills. While hard skills remain important for employers, the lack of soft skills among prospective recruits is becoming significant.
d. The increase in SSVs has coincided with more money spent on staff training (most surveys found expenditure of training had increased). However, fewer workers are participating in adult learning opportunities in 2017 compared to any time in the last 18 years. Less than 1 in 5 workers are currently taking part in some form of adult learning. Also, increases in training expenditure haven't contributed to significant wage growth (manpower found that less than a third of employers increased wages to attract better talent), which corroborates with some anecdotal evidence to suggest most training is in the form of Health and Safety or 'onboarding'.

So, while the British education system has improved, the supply of UK labour is increasingly disappointing the demand. Fundamentally British workers chronically under invest in their own skill capabilities. The next chapter looks more at this question of how skill demands will change in the future.

33 BCC Quarterly Economic Survey: Uncertainty bites as survey shows UK economy is stuck in a rut (8th October 2018)

chapter two

The future of occupations and skills

Predicting changes in the demand for skills and different occupations in the future is precarious work. Employers are often surveyed to talk about skill demands in the immediate and near term. There has been research to better understand how the workplace and day-to-day experience of working life will change in the medium-term. This has then been used to infer changing demands for skills. There is also extensive analysis covering which occupations are likely to be automated or affected in some way by technology.

High vs low or hard vs soft – What skills do employers want?

The common consensus is that in recent years, the British economy has seen relative growth in the number and proportion of low-skilled labour within the labour market. However, this is not the full picture. Between 2006 and 2017, there was a significant increase in the number of high skilled occupations (Managers, Directors, Professionals and Associate Professional positions) in the UK economy in the order of 1.9 million new roles. Over the same period there was an increase of just 509,744 jobs that are considered mid and low-skilled (Caring and Leisure, Sales and Customer Service, Process and Plant Machine Operators, and Elementary Occupations). There was however a significant decline in the number of mid-skilled jobs (trades people and administrative and secretarial work) of 417,015 jobs. Over this period, low-skilled occupations declined as a share of the UK labour market. In 2017 they made up 36 per cent (a decrease of 2 percentage points since 2006) of jobs, compared to higher skilled occupations which made up 44 per cent (an increase of 4 percentage points) of jobs.

Alongside the increasing number of higher skilled occupations, there is evidence to suggest that jobs in the UK require higher order qualifications among candidates. Analysis of educational attainment across occupation types by Maarten Goos and Alan Manning (2003) found that between 1979 and the end of the 20th Century, there had been more than a doubling in the number of workers with education qualifications at level 3 (A-level) or above. In their words "it is noticeable that educational up-grading has occurred among all jobs".[34]

34 Goos, M. and Manning, A. Lousy and Lovely Jobs: the Rising Polarization of Work in Britain (LSE, 2003)

Table 4: Changes in occupational structure in the UK labour market

Year	Managers, directors and senior officials	Professional occupations	Associate professional and technical	Skilled trades	Administrative and secretarial	Caring, leisure and other services	Sales and customer services	Process, plant and machine operatives	Elementary occupations
2006–2017	350,874	1,097,500	533,441	(114,783)	(302,232)	557,467	74,650	(185,892)	63,519
	16%	24%	16%	-5%	-9%	27%	3%	-10%	2%
2010–2017	187,252	827,171	418,797	107,460	22,184	274,928	132,517	94,663	22,977
	8%	17%	12%	5%	1%	12%	6%	6%	1%

Source: ONS

Dr Alan Felstead and other authors from Cardiff University analysed respondents to the Skills and Employment Survey over the previous several decades, and found that there had been a marginal increase in the demand for high level generic skills such as numeracy, literacy and self-planning. However there had also been an acceleration in demand for specific skills and soft skills; computer competency, complex problem solving and social competencies.[35] This coincided with a significant increase in the proportion of jobs that required a higher education qualification – from 20 per cent in 1986 to almost 40 per cent in 2017.

> The proportion of jobs that require Higher Education qualifications doubled between 1986 and 2017 to 40%.
>
> **Alan Felstead, Skills Trends at Work in Britain (2017)**

Although higher level qualifications are increasingly popular with employers, they are just one of several characteristics that are assessed. 65 per cent of respondents in the EPS felt relevant work experience was significant or critical, 56 per cent felt passing Maths and English was significant or critical, while 49 per cent felt vocational qualifications were, and just 46 per cent (similar to the proportion of higher skilled occupations in the UK economy) felt academic qualifications were significant or critical.[36]

The Employer Skills Survey found that specialist skills and knowledge, specific to the role, were the most common reason for a skills shortage vacancy. Soft skills such as complex problem solving were nearly a third less common among respondents for causing SSVs.[37] In 2013, the ESS found that 71 per cent of employers stated their skill requirements would change within 12 months.[38] With so many employers looking for different, higher order, and diverse skills, retraining and upskilling is more important than ever.

Taking the debate on to specific skill demand in the future, NESTA's seminal work details the skills that will be in demand in the UK's future; problem solving, originality, fluency of ideas, active learning, systems evaluation, deductive reasoning, systems analysis and monitoring. Importantly, they note that the UK economy will require both knowledge and skills in the future, but soft skills will be increasingly in demand.[39]

35 Felstead, A. et al. Skills Trends at Work in Britain (2017)
36 Department for Education, Employer Skills Survey 2017 (August 2018)
37 Department for Education, Employer Skills Survey 2017 (August 2018)
38 Department for Education, Employer Skills Survey 2013 (January 2014)
39 NESTA, *Future of Skills – Employment in 2030* (2017)

The UKCES said in 2014:

> Self-management, alongside core business skills, such as project management expertise, and the ability to promote your personal brand, will become increasingly vital. Personal agility and resilience, such as the ability to adapt to or embrace change is important within this context.[40]

The Centre for Social Justice carried out interviews with a wide range of employers as part of research for this project and we found that mid- to higher-skill employers, predominantly offering professional and associate professional roles, looked for personal resilience as a soft skill or characteristic among potential recruits.

How will organisations change in the future?

Firms will change in the future, in terms of what role they play within a supply chain, how people work within them, and their terms of employment. As a result, the experience that employees have working for firm will change rapidly as well. The UKCES established 13 trends that would define the future of work in Britain of which three were an ageing workforce, desire for greater life-work balance flexibility and greater levels of technology in the working environment. They said in 2014:

> Businesses are increasingly able to create and disband corporate divisions rapidly, as they shift tasks between slimmed-down pools of long-term core employees, international colleagues and outsourced external service providers.

They cited survey results showing 50 per cent of businesses admitted flexible working was standard practice, while 67 per cent of global employees were working in more collaborative ways and 57 per cent reported an increase in the number of colleagues who were located in different geographical locations.[41]

A World Economic Forum report in 2016 found that changing work environments and flexible working arrangements were the biggest socio-economic change currently being felt in the business world while mobile and cloud internet technology was the most significant technological trend.[42]

The EU Commission attempted a look in to the future of how organisational design and workplace culture will change the future of work. Their 2016 paper foresees the complete change in corporate architecture and role design. Whilst corporations and supply chains become more global, workers are expected to interact with teams from other continents, manage tasks as part of a wider international project, and co-ordinate the delivery of services or products across international boundaries. An individuals' role within this new process will become increasingly transient, meaning temporary positions will become more common, and whilst workers can expect more autonomy and flexibility they can also expect to work for many different companies in numerous industries and sectors over their working life.

40 UKCES, The Future of Work: Jobs and Skills in 2030 (Evidence Report 84, February 2014)
41 UK Commission for Employment and Skills, The Future of Work – Jobs and skills in 2030 (2017)
42 World Economic Forum, The Future of Jobs – Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution (2016)

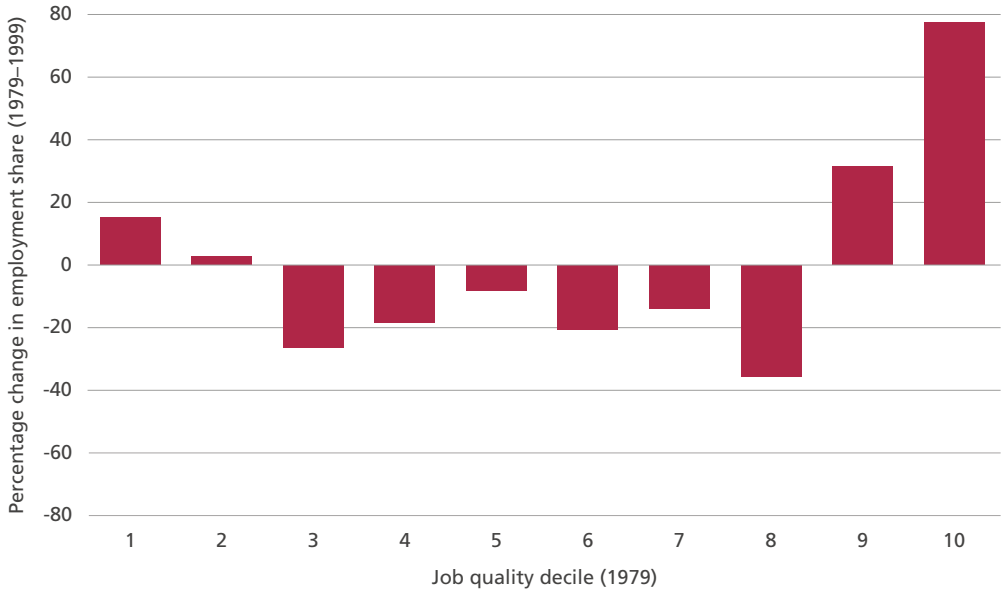
How will technology change our jobs in the future?

There are conflicting theories on the effect of technology on jobs – whether they will displace high-, mid- or low-skilled occupations, whether they will have enough of a productivity impact to lead to an increase in roles across the skill spectrum, whether job transitions are possible for both low and high skilled workers.

Frey and Osborne (2013) predict that technology will lead to massive job displacement. They take a 'technological capabilities' point of view and identify barriers to automation and how difficult those barriers are to overcome. Each job's characteristics are measured against their difficulty to automate. Their headline findings suggest that 47 per cent of total US employment is in the 'high risk' category meaning nearly half of jobs are "potentially automatable over some unspecified number of years".[43]

The most likely jobs to be automated according to the Frey and Osborne model include Telemarketers, Title Examiners, Hand Sewers, Mathematical Technicians, Insurance Underwriters, Watch Repairers, Cargo and Freight Agents, and lastly Tax Preparers. The least likely include Recreational Therapists, First Line Supervisors of Mechanics, Installers and Repairers, Emergency Management Directors and Mental Health/Substance Abuse Workers. Publication *Bruegel* published findings that replicated the Frey and Osborne model with EU and UK data and has found that 54 per cent of jobs are at risk in the EU and 47 per cent are at risk in the UK.[44]

Figure 6: Percentage change in employment share by job quality decile



Notes: Employment data are taken from the LFS using 3-digit SOC90 codes. Employment changes are taken between 1979 and 1999. Quality deciles are based on 3-digit SOC90 median wages in 1979 taken from the NES.
Source: Goos and Manning (2003)

43 Frey, C. and Osborne, M. The Future of Employment: How Susceptible Are Jobs To Computerisation (Oxford University, 2013)

44 Bowles, J. Chart of the Week: 54% of EU jobs at risk of computerisation [accessed via: bruegel.org/2014/07/chart-of-the-week-54-of-eu-jobs-at-risk-of-computerisation]

Goos and Manning (2003) use the findings of Autor et al (2003) to claim that technology will impact jobs based on the routine nature of the task, as opposed to the skill-based nature of the task. This will lead to both high and low skill non-routine jobs (from management roles to personal assistants and shelf stackers) being protected from technological disruption. Routine tasks however (machine operators for example) are more likely to be displaced. The Goos and Manning results below show a J-curve, with the largest increase in high skilled jobs (corresponding with ONS data showed earlier). This concurs with survey results from the CBI in 2018 which found that 79 per cent of businesses expected to increase the number of high skilled rolls in the coming years.[45] Of course, high skilled occupations created as a result of technology could include jobs linked to biometric monitoring, AI bot analysis, cyber-security management or wearable technology design and production.

How will economics change the jobs market of the future?

The work of Goos and Manning (2003) referenced above, highlights an increasingly polarized labour market according to job quality. Occupation types they expect to decline include 'Craft and Related Occupations' – such as labourers in foundries, allied trades and engineering – and 'Plant and Machine Operatives'. Occupation's they equally see increasing include higher skilled 'Professional Occupations' and 'Managers and Administrators' – such as management consultants and business analysts – as well as lower skilled 'Personal and Protective Services Occupations' – such as care and education assistants.[46] Jobs market polarization has also been witnessed in the US.[47]

The plight of mid-skilled jobs is not a foregone conclusion however. Many of the non-routinous jobs that we expect to be protected from automation are to be found in the mid-skilled technician and trades sector. Consumer demands for heterogenous products, with a greater emphasis on bespoke products are expected to increase the demand for workers in skilled trades and manufacturing firms that produce high-spec products. Bespoke handmade golf clubs, audio-visual engineers building home cinema systems are two examples of occupations and industries that fit this description. Goos and Manning note that routine workers who lost jobs due to technology were more likely to transfer to new industries where similar but non-routine jobs were increasing in number. This better reflects the income effect that technology investment has in an economy.

The decline in routine jobs has been as much due to globalisation as it has technology. Any job that produces a homogenous product that is easily replicated can be re-located to lower cost countries. The offshoring of manufacturing jobs to the Far East has been one of the defining trends of post-Cold War economic development. It has had huge ramifications for communities and national politics. And despite the commitment of some political leaders to reverse this trend, the increasingly fluid flow of capital across national

45 CBI/Pearson Education and Skills Survey 2018
46 Goos, M. and Manning, A. Lousy and Lovely Jobs: The Rising Polarization of Work in Britain (LSE, 2003)
47 Holzer, H. Job Market Polarization and U.S. Worker Skills: A Tale of Two Middles (Brookings, 2015)

boundaries is unlikely to reduce the ability of the global economy to allocate capital as efficiently as possible, ensuring products are produced at the lowest cost possible. UKCES pointed to the shift to Asia as one of the major trends that will continue to impact the UK:

> With Asia projected to account for about 60 per cent of global middleclass consumption in 2030, the continent promises high growth and profitable investment opportunities along with a strong and growing workforce. This may mean further off-shoring and outsourcing of jobs for the UK. It will certainly mean more intense international competition for its businesses.[48]

In summary, economic trends will change what jobs and occupations will be available in the future, but it is no foregone conclusion that they will be skewed towards high-, mid- or low-skilled occupations. Instead it is more likely to be determined by the routinous nature of the role and the homogeneity of the good or service produced.

48 UK Commission for Employment and Skills, The Future of Work – Jobs and skills in 2030 (2017)

chapter three

Disruption and vulnerable workers

What risks and disruptions do workers face in the future?

The risks perceived here reflect our research on future trends that are likely to shape our economy.

Unemployment related to technology and automation.

As we have already noted, the extent to which technology will cause unemployment is widely debated. The number or percentage of jobs that are at risk of automation linked to technology vary.

Table 5: Summary of estimations on the impact of technology on jobs

Authors (year)	Country	Jobs at risk (%)
Frey an Osborne (2013)	UK	35% (by 2030)
Arntz, M., T. Gregory and U. Zierahn (2016)	OECD	10%
PWC (2018)	UK	30% (by mid-2030s)
McKinsey	Global	42%
Bank of England	UK	50% (by 2035)

Note: 42 per cent of jobs are at least 50 per cent automatable.

The variation in forecasts is partly due to conflicting theories on whether entire occupations will be automated rather than just tasks within an occupation. This is linked to disagreements over whether someone can manipulate their role according to the impact of technology, which in turn is a function of whether there is a greater income or substitution effect to greater technology investment.

PWC forecasts 30 per cent of UK jobs will be automated, equivalent to 10.43 million jobs, by 2030. This is then broken down by industry (see below). The industries estimated to lose the largest percentage of their own workforce will be water, waste and sewage management, wholesale and retail, manufacturing, administration and support services as

well as transportation and storage. Water, sewage and waste management is estimated to lose 63 per cent of all jobs. However, given it is a smaller employer in the economy, the effect on the broader country will be less critical.

PWC estimate that automation will disproportionately effect men with low levels of education (although workers across the gender and skill spectrum will be affected):

> For those with just GCSE-level education or lower, the estimated potential risk of automation is as high as 46 per cent in the UK, but this falls to only around 12 per cent for those with undergraduate degrees or higher.[49]

Table 6: Jobs at risk from automation by industry (2030)

Industry	Employment share (%)	Job automation (% at risk)	Jobs at high risk of automation
Wholesale and retail trade	14.8	44.0	2.25
Manufacturing	7.6	46.4	1.22
Administrative and support services	8.4	37.4	1.09
Transportation and storage	4.9	56.4	0.95
Professional, scientific and technical	8.8	25.6	0.78
Human health and social work	12.4	17.0	0.73
Accommodation and food service	6.7	25.5	0.59
Construction	6.4	23.7	0.52
Public administration and defence	4.3	32.1	0.47
Information and communication	4.1	27.3	0.39
Financial and insurance	3.2	32.2	0.35
Education	8.7	8.5	0.26
Arts and entertainment	2.9	22.3	0.22
Other services	2.7	18.6	0.17
Real estate	1.7	28.2	0.16
Water, sewage and waste management	0.6	62.6	0.13
Agriculture, forestry and fishing	1.1	18.7	0.07
Electricity and gas supply	0.4	31.8	0.05
Mining and quarrying	0.2	23.1	0.01
Domestic personnel and self-subsistence	0.3	8.1	0.01
Total for all sectors	**100**	**30**	**10.4**

Source: PWC

49 PWC, Will robots steal our jobs? The potential impact of automation on the UK and other major economies (2018)

Unemployment related to further globalisation

Globalisation was one of the most significant economic trends of the 20th century. Best understood as the increased integration of national economies, it is supported by the free flow of capital, movement of people and trade in goods and services. So far, globalization has had a major impact on the global economy and UK labour market in three ways:

1. **Economic growth** – Globalisation has boosted the volume and size of economic transactions around the world. As Mark Carney said in September of 2017, across the world economy in the years following the fall of the Berlin Wall:

   > Capital controls were liberalised, the euro was constructed, and China prepared to join the WTO. Product and financial markets became increasingly integrated, with trade growing at an annual rate of 10 per cent and capital flows of 20 per cent. The effective global labour force doubled, and more than a billion people were lifted out of poverty.[50]

   Government data for the UK has found that absolute poverty has declined by more than 60 per cent since the early 90s.[51]

2. **Outsourcing and off-shoring** – the reduction in trade barriers, growth in global banking systems, and improved technology that reduces the time and cost of transporting goods across the world, have all increased the opportunities for outsourcing and off-shoring production of manufactured goods and some services. Companies in other countries have comparative competitive advantage over UK firms at producing certain products (due to lower cost of labour, lower tax rates, cheaper access to raw materials, and higher quality workers). In many cases manufacturers will assemble parts that have been made across the world; a Boeing 787 Dreamliner is a US manufactured good, but its Rolls-Royce engine comes from the UK, its cargo access doors are made by Saab in Sweden, the landing gear is developed by Kawasaki in Japan, and the passenger entry doors are produced in France by Latecoere. Off-shoring can occur across the value chain, a UK government report in 2010 found that:

   > In the pharmaceuticals sector, Contract Research Organisations (CROs) are increasingly used for outsourcing clinical trials. CROs now account for over 40 per cent of annual research spending by pharmaceutical firms, compared to 4 per cent in the early 1990.[52]

   Between 1994 and 2009, the number of manufacturing jobs in the UK declined by approximately 2–2.8 million, a huge majority of which were production trade jobs (normally found on factory floors). In recent years, service sector companies have offshored parts of their business model. In 2006 Barclays Bank was the first major UK bank to agree a deal with the unions to outsource jobs to another country. British Airways and Adecco both have call centres in India.[53] Energy company Npower has been criticised for outsourcing 1,400 jobs to India. Scottish Provincial Press (SPP) has moved

50 Speech given by Mark Carney, [De]Globalisation and inflation (2017 IMF Michel Camdessus Central Banking Lecture, 18 September 2017)

51 Department for Work and Pensions, Households below average income: 1994/95 to 2016/17 [accessed via: www.gov.uk/government/statistics/households-below-average-income-199495-to-201617]

52 Department for Business, Innovation and Skills, *Manufacturing in the UK: An economic analysis of the sector* (December 2010)

53 Gagliardi, L, Iammarino, S. and Rodriguez-Pose, A. Offshoring and the Geography of Jobs in Great Britain (LSE and SERC, October 2015)

pre-press and design to an Indian firm. Caldeira, a Liverpudlian textile manufacturer produces cushions and decorative pillows in China. HSBC recently announced it was relocating IT jobs to Poland, India and China.

3. **Wage polarisation driven by low-skilled labour** – The political narrative across western politics is that globalization and subsequent decline in blue collar routine jobs (normally found in the manufacturing sector) has supressed employment opportunities, wages and living standards for the low-skilled and disadvantaged. This belief was verified by the Lakner-Milanovic global growth curve that charted global income growth for households across the income distribution between 1988 and 2008 and found that the big winners in the period of heightened globalisation were the 'emerging middle class' (from China, India and South America) and the 'elite plutocrats' (those in the top 1 per cent of the distribution). The Western working and lower-middle classes (found around the 80th per centile of the global income distribution) had conversely seen a relative stagnation in their incomes. Adam Corlett from the Resolution Foundation believes these results over-estimate the effect of globalisation, stating that uneven population growth, country selection and outliers like Japan have supressed wage growth in wealthier countries. He goes on to say:

> The view that average incomes of the lower and middle classes of the rich world have stagnated over this particular period as a whole is not supported by the data, but the US has seen particularly unequal growth.

And when he explored detailed UK data, found:

> Strong growth for most of the income distribution across the period as a whole.[54]

Figure 7: Replication of the Lakner-Milanovic global growth incidence curve ('elephant curve'), 1988–2008

Source: Resolution Foundation

54 Corlett, A. Examining an elephant Globalisation and the lower middle class of the rich world (Resolution Foundation, September 2016)

However, whether the perception is valid or not, the sense among the British lower middle class is that globalisation and foreign competition has negatively impacted their economic opportunity.

The reality is that further integration of the British economy with trading partners will boost growth, but also increase the probability that firms and entire industries will cut head count and or shut down in the UK. This could increase the forces of job and wage polarization in the UK, with more people being forced in to lower skilled jobs.

Unemployment related to domestic market shocks

Linked closely to unemployment resulting from globalisation, unemployment related to domestic market shocks remain a major threat to UK workers. Domestic market shocks include firms defaulting as a result of cost and competition pressures. Jobs lost in the process of a bankruptcy are not relocated to foreign countries or transitioned within the same firm.

Recent examples of mass unemployed triggered by firm collapse include Carillion which fell in to crisis due to intense domestic competition for contracts that put downward pressure on operating margins. Some 43,000 staff lost their jobs. British Home Stores (BHS) went in to receivership after years of competitive pressure from the internet reduced traditional high street foot fall. Thai conglomerate SSI shut down Redcar Steel site in 2015 as a result of declining global steel prices, leaving nearly 2,000 local people out of work. The Rio Tinto Aluminium smelter at Lynemouth was closed in 2012 as a result of high energy costs that made the plant un-competitive. 323 jobs were lost at the plant, including another 3,500 along the plant's supply chain. In each of these examples, no-one lost their job to an algorithm or a developing country.

Unlike unemployment related to technology development, corporate defaults can lead to sudden spikes in localised unemployment, are hard to predict and can often result in pressure for political intervention. The Tata Steel site at Port Talbot has been under pressure due to rising costs and the declining price of steel globally. In 2016, Tata announced it intended to close the site. As a result, the UK Government announced it was willing to support a buyer of the site, while the Welsh Government committed £60 million in grants and loans to support Tata's continual employment of some 40,000 jobs locally.

A good example of an instance in which union and political intervention worked was the rescue package agreed between chemical manufacturer Ineos and Unite union at Grangemouth. Ineos agreed to make a £300 million investment, saving some 3,370 jobs after the union agreed to a three-year freeze to pay and strikes.

Low productivity and economic marginalisation due to changing demands for skills

Technological development, structural changes within our national economy but also on a global level, demographic developments and socio-cultural developments will all change what we do for work and also how we work on a daily basis. We have heard already of the increasing importance of soft skills, the ability to work with technology, resilience and effective leadership/communication skills. As Feldman found, employers will also generally look for higher order skills and recruits with higher value educational qualifications. These changes may negatively impact certain demographics, for instance those that are persistently low performers at school, and older workers who score poorly in terms of technological aptitude.

Who is vulnerable in the future of work?

The unemployed

Unemployment is at historic lows in the UK. Just 1.4 million people are registered as unemployed, economically active but without a job. These people are most at risk from further economic disruption linked to technology, globalisation, domestic market shocks and changing skill demands. Being unemployed is linked to worse mental and physical health outcomes, occupational skill depletion and social atomisation. Being out of work for a long period of time increases the difficulty of re-entering the job market either at the same skill level or at all. The unemployed are also more likely to be financially unstable, stretched and under resourced. There are fewer recourses for support, without an employer an individual has lower probability of accessing good quality training opportunities.

The low-skilled and low-paid

As employers demand higher order skills and better soft skills, it will be the low-skilled and low-paid that will be most vulnerable. As technological trends and globalisation change the shape and nature of our working environments and economy, it will also be the low-skilled and low-paid who risk becoming economically marginalised. Well educated, high skilled, well-paid workers will have both financial and social capital to fall back on. However low-skilled and disadvantaged workers will not have that means of recourse in that crisis moment of unemployment.

Despite the declining proportion of low-skilled occupations in the UK economy, there were approximately 9.8 million people in low-skilled occupations in 2018,[55] with an estimated 3.1 million people being classed in insecure work.[56] Resolution Foundation data found 3.8 million people (39 per cent of the low-skilled cohort) in low-skilled occupations fell below the low pay threshold (two-thirds of the median hourly earnings). Whereas 4.6 million fell below the Living Wage.[57] This concurs with the PWC figure which found 44 per cent of workers with low levels of education and were at risk of automation – equivalent to 4.3 million.[58]

> Approximately 4.6 million people across the UK are in low-skilled employment and paid below the Living Wage.

Using the same Resolution Foundation data on low pay to predict which industries have a higher proportion of low-skilled and disadvantaged workers, the hotel and restaurants, wholesale and retail, and health and social work industries all rank high. There is a disproportionate level of low pay outside of London and the South East, around the ex-industrial regions in the North and Midlands of the UK. Low-skilled and disadvantaged individuals are more likely to be part time and work in small private companies.[59] Younger people are also expected to be paid below the threshold, but we feel this reflects work experience or desire for flexibility and not necessarily skill level or disadvantage.

55 ONS, Labour market economic commentary: February 2018
56 Learning and Work Institute, Healthy, Wealthy and Wise (2018)
57 D'Arcy, C. Low Pay Britain 2018 (Resolution Foundation, 2018)
58 PWC, How will automation impact jobs? (2018) [accessed via: www.pwc.co.uk/services/economics-policy/insights/the-impact-of-automation-on-jobs.html]
59 Ibid, D'Arcy, C. (2018)

The disadvantage of being low-skilled and low-paid is compounded by a predisposition against participating in further learning or training. The Learning and Work Institute publish survey results each year, showing the participation rates by demographic characteristic. The 2017 survey found:[60]

- Lower income and lower skilled households are less likely to participate or engage in training opportunities.
- Being long out of work is associated with being much less likely to seek training.

A 2018 report found again that the least qualified adults were most likely to miss out on training and education opportunities.[61] The Social Mobility Commission released a report in January 2019 which found that the poorest and least qualified adults are the least likely to access training:

> Graduates are over three times more likely to participate in training than those with no qualifications (30 per cent vs 8 per cent in 2017)… almost twice as many people in managerial, professional and associate professional occupations access to training (30 per cent) compared to those in intermediate (16 per cent) or routine and manual occupations (18 per cent).[62]

In summary, there are 4.6 million people in work, low-skilled and disadvantaged who are most likely to find themselves out of work and unable to find a new job. They are also less likely to take-up training opportunities that will improve their chances to increase their productivity or transition in to new jobs.

Disadvantaged groups that are marginalised in the labour market – poor students, the disabled, single parents and certain ethnic minorities

Economic marginalisation extends past the unemployed, low-skilled and low-paid. Certain groups within the UK also exhibit poor outcomes in the labour market.

The most obvious group who could be vulnerable in the future of work will be disadvantaged children who underperform in the education system. A student receiving free school meals is 50 per cent more likely to fail to reach a pass in English and Maths GCSE. All disadvantaged ethnic groups outperform disadvantaged white students. At GCSE the average attainment 8 score for white boys with FSM is 29.5, compared to 40.5 for Asian boys with FSM. More advantaged white girls on average achieve 50.3.

As we have seen repeatedly, underperformance in school is linked to worse outcomes in the labour market. However, while disadvantaged white students underperform at school, white workers perform comparatively well in the labour market. Black, Asian and minority ethnic (BAME) workers have higher unemployment rates. This trend is reversing though, the rate of unemployment among BAME workers has declined by 41 per cent since 2001, while white unemployment has remained almost stagnant.

60 Egglestone, C. Stevens, C. Jones, E. and Aldridge, F. Adult Participation in Learning Survey 2017 (Learning and Work Institute, Department for Education, August 2018)
61 Pennacchia, J., Jones, E., Aldridge, F. Barriers to learning for disadvantaged groups (Department for Education, Learning and Work Institute, August 2018)
62 Social Mobility Commission, The adult skills hap: is falling investment in UK adults staling social mobility? (2019)

Table 7: Unemployment by ethnic background, September 2018

Ethnic background	Number unemployed	Unemployment rate (%)	Unemployment rate change (%, 2001–2018)
White	1,139,000	4	-11
Black/African/Caribbean/ Black British	102,000	10	-29
Indian	43,000	5	-44
Pakistani	37,000	8	-56
Other ethnic group	50,000	6	-42
Mixed/multiple ethnic groups	37,000	9	-17
Bangladeshi	20,000	10	-56
Chinese	7,000	4	-66
Total	**1,435,000**	**4**	**-13**

Source: ONS

As well as certain ethnic minorities, single parents are at a disadvantage in the labour market. ONS data has shown that parents with dependent children have higher employment rates than men and women without dependent children. There is however a significant increase in the inactivity rate, from 3.5 per cent to 17.5 per cent, among women with children compared to women without children (a result of many mothers wanting to stay home and care for children). This bounce is much less pronounced for men, where the inactivity rate jumps from 0.9 per cent to 1.7 per cent.[63] Single parents have lower employment rates than parents in a couple:

> Of single fathers 71.7 per cent are in employment compared with 93 per cent of fathers in a couple. Of single mothers 68.5 per cent are in employment, while 75 per cent of mothers who are in a couple are also in employment.[64]

Younger parents are likely to be unemployed, and the younger the child the greater the probability that a mother is not in work.

Finally, disability employment rates are comparatively low. House of Commons library figures show that in June 2018 3.8 million people with a disability between the ages of 16 and 64 were in work, an employment rate of 50.7 per cent. The employment rate for working age individuals without a disability was 81.1 per cent. The unemployment rate for working age adults with a disability is 8.8 per cent, 2.5 times that of adults without a disability. The inactivity rate for disabled adults is 44.4 per cent, 2.8 times that of adults without a disability.[65]

Workers in areas facing high levels of automation related disruption

Place is a major determinant of life chances. While automation is unlikely to have a big bang disruptive effect on the national economy, smaller economies around the country may see spikes in unemployment related to single employers laying off large

63 ONS, Families and the labour market, England: 2017
64 ONS, Families and the labour market, England: 2017
65 House of Commons Library, People with disabilities in employment (August 2018)

workforces. The Centre for Cities forecasted the towns and cities that were most likely to face disruption in their local labour markets as a result of automation. The top five on the list were industrial towns across the Midlands and North of England including Mansfield (29.4 per cent of jobs locally at risk of being lost to automation), Sunderland (29.2 per cent), Wakefield (29.2 per cent), Stoke (28.4 per cent), and Doncaster (26.5 per cent). At the bottom were Oxford and Cambridge with less than 13 per cent of jobs at risk.[66] The risk in these towns extends further than those who lose their job. In smaller towns, many supply chain jobs are at risk if a major employer disappears. A major employer, such as SportsDirect in Shirebrook, laying off workers would impact local food and clothes retailers, nearby hotels who supported travelling business people, and the demand for housing locally. Jobs in turn could be lost in each of these supporting markets. Therefore, workers in areas with high levels of local jobs at risk of automation are a vulnerable group in the future of work.

Older workers that face social and economic marginalisation in the workplace

The demographic likely to be most vulnerable to changing demands in the workplace will be older workers who may struggle to keep pace with technological and social developments. There are currently 1.2 million workers over the age of 65 and 9 million workers between the ages of 50 and 64.[67] Falling fertility rates and lower mortality rates have helped contribute to an ageing population. By 2030, it will be common for both men and women to survive well in to their 80s (compared to their 70s in the 1990s). Indeed, in 2017 the proportion of the UK population aged 65 or over was 18.2 per cent, compared to 15.9 per cent in 1997 (an increase by 2.3 percentage points in 20 years).[68] This percentage is projected to grow to 24 per cent by 2037.[69] In 2014, for the first time, the median age of the UK population exceeded 40 years old, up from 33.9 year in 1974.[70] The UK median age in 2018 stood at 40.5 years, similar to many others developed countries.[71] Government research has predicted that half of all adults in the UK will be over 50 years of age by the mid-2030s.[72] This demographic change presents potential challenges and opportunities for the UK labour market.

Government research found that "negative attitudes towards older people, taking the form of outdated stereotypes, unconscious bias, and age discrimination, can prevent them from staying in or returning to work".[73] It is probable that older workers will struggle to keep ahead of the skill curve, as the Government Office for Science also pointed out "the need to re-skill is likely to be particularly important for individuals whose jobs are less suitable for older workers or whose jobs are likely to be automated".

While older workers may struggle in a changing work environment, it is not likely that returning to education will be a popular option either. Older workers are also more likely to struggle with a health condition which can increase the risk of economic marginalisation.

66 Centre for Cities, Cities Outlook 2018 (January 2018)
67 ONS, A05 SA: Employment, unemployment and economic inactivity by age group (seasonally adjusted)
68 ONS (JULY 2018) ONS Population Overview
69 ONS (JULY 2018) ONS Population Overview
70 Government Office for Science (2016) Future of an Ageing Population.
71 World Population Review (2018) Countries by Median Age. [Online] worldpopulationreview.com/countries/median-age [Date Accessed 07/01/19]
72 DWP (2017) Fuller Working Lives: Evidence Base 2017. A Partnership Approach.
73 Government Office for Science, Future of an Ageing Population | Working Lives (Gov.uk, 2016)

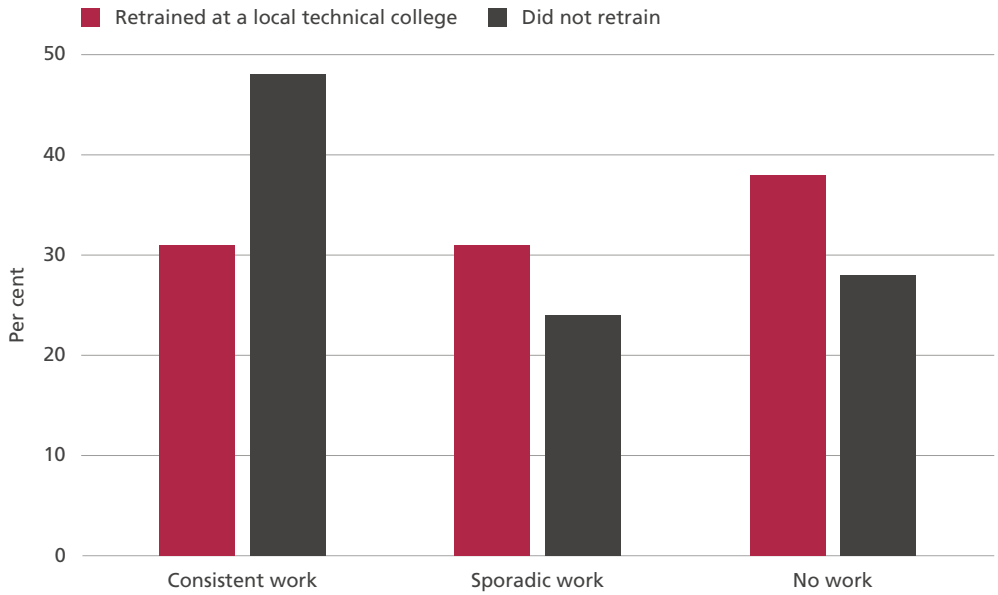
chapter four

Evidence on the limits of retraining displaced workers

> How easily can a vocational college teach laid-off people a new identity, as well as new skills? What does it take for a campus to absorb droves of worried, angry factory workers who were out of school, in most cases, for a few decades and may not have liked school as kids? Most fundamentally, does retraining succeed in an environment in which work remains scarce.
>
> **Amy Goldstein, Author**

This report is premised on the idea that a large increase in unemployment across the UK is a significant economic and social risk going forward, and that training and upskilling can mitigate that risk. However, evidence from the US shows that while training is of inherent benefit to people in-work, there are limits to the effect of retraining unemployed individuals on their long-term employment outcomes.

Figure 8: Employment outcomes for displaced workers in Janesville, Wisconsin after 4 years



Source: Amy Goldstein, Janesville (New York, 2017)

Amy Goldstein's book *Janesville* charted the impact of a major factory closure in the small Midwestern town of Janesville, Wisconsin. After a car factory closed, many workers were encouraged to sign up to 2-year college courses that ranged from human resources management, to social work qualifications and electrical power distribution. Goldstein found that the displaced workers who signed up to college courses (with no guarantee of a job at the end of their course) faired worse in the labour market once they finished. Compared to both their pre-displacement career and workers who did not retrain, they earned less and were more likely to remain unemployed.

Working with economists Kevin Hollenbeck and Laura Dresser, Goldstein found that after four years Janesville employees who retrained were approximately 5 percentage points less likely to find work, when compared to displaced workers in nearby towns that did not retrain. They were less likely to find consistent work, and more likely to find either intermittent work or no work at all. Goldstein then looked at wages and found "compared with before the recession, the earnings of those with at least some work dropped, on average, by 36 per cent".[74] In short, those displaced workers who focussed on getting back in to work quickly were marginally better off than those who took a prolonged period of time out of the labour market to retrain and up-skill.

Table 8: The impact of training on unemployed workers in US

	Laid-off workers who enrolled at a local technical training college	Laid-off workers who did not retrain
Average quarterly earnings, 2007 (USD)	7,294	7,239
Average quarterly earnings, 2011 (USD)	3,348	6,210
Average change (USD)	-1,935	-534
Average change (%)	-35.5	-7.5

Source: Amy Goldstein, Janesville (New York, 2017)

This corroborates the findings from Steven Davis and Till Von Wachter, who concluded their analysis of earnings losses associated with job displacement in the US between 1974 and 2007 by saying "long-tenure workers who lose jobs in mass-layoff events experience large and persistent earnings losses compared with otherwise similar workers who retain their jobs".[75] They go on to say that stimulative policies that increase demand for labour and reduce unemployment are the best for workers in the long term.

The unfortunate realisation that retraining hasn't worked for many displaced workers in the US has led to a complete re-evaluation of the Workforce Investment Act (WIA), enacted under President Bill Clinton that provided Federal funds for workforce investment activities (until it was repealed in 2014). Journalists at the New York Times found the WIA

74 Probublica.com, Rare Agreement: Obama, Romney, Ryan All Endorse Retraining for Jobless—But Are They Right? (October 2012) [accessed via: www.propublica.org/article/rare-agreement-obama-romney-ryan-endorse-retraining-for-jobless-but-are-the]
75 Davis, S. and Von Wachter, T. Recessions and the Costs of Job Loss (Brookins Institute, 2011)

resulted in "many graduates winding up significantly worse off than when they started — mired in unemployment and debt from training for positions that do not exist, and they end up working elsewhere for minimum wage".[76]

The World Bank recently analysed 40,000 pieces of analysis on youth employment programmes (that included cash transfer subsidies as well as training opportunities) across the developed and developing world, looking to find concrete evidence on how interventions can boost employment prospects. They found that less than a third of youth employment programmes were successful at increasing earning and employment outcomes for participants, and most of the time those effects were small.

The conclusion that can be taken from this is that (a) upskilling and retraining is best sought for those in-work or guaranteed a job post-training and (b) displaced workers and the long unemployed are best served by getting back in to work and not taking prolonged periods out of the job market.

76 Williams, T., Seeking New Start, Finding Steep Cost (New York Times, August 2014) [accessed via: www.nytimes.com/2014/08/18/us/workforce-investment-act-leaves-many-jobless-and-in-debt.html]

chapter five

A vision for the National Retraining Scheme

The problem presented is simple; employers are increasingly struggling to find workers with the requisite skills needed for the job. There is little evidence to suggest this trend is going to reverse as technology, socio-economic demographics, globalisation and other factors impact the way we work. British workers are less likely to seek adult learning opportunities than international competitors, and British employers have historically underinvested in upskilling and training. The low-skilled and low-paid are much less likely to seek adult learning opportunities. Without reversing this situation, it is likely we will see skills shortage vacancies increase in number, productivity continue to stall, and we risk destabilising the strong employment rate we currently enjoy.

For UK workers to remain competitive in the future, we have to increase the number and proportion of people that consider, take-up and benefit from mid-career learning opportunities. This will require efforts to increase demand for training opportunities.

> Today, my Right Honourable Friend the Education Secretary and I are launching an historic partnership, between government, the CBI and the TUC – to set the strategic direction for a National Retraining Scheme. Its first priority will be to boost digital skills and to support expansion of the construction sector. And to make a start immediately, we will invest £30 million in the development of digital skills distance learning courses, so people can learn wherever they are, and whenever they want.
>
> **Philip Hammond, Chancellor of the Exchequer, November 2017**

The new National Retraining Scheme (NRS) was announced as a Government initiative in both the Autumn Budget speech of 22nd November 2017 and the Industrial Strategy White Paper.[77] Since then the Government has convened a high-level advisory group (consisting of the TUC and CBI, among others) that will inform and structure the future NRS. In that time the Government has announced funding £64 million for digital and construction skills, £30 million to test the use of artificial intelligence and innovative

77 HM Government, Industrial Strategy; Building a Britain fit for the future (November 2017)

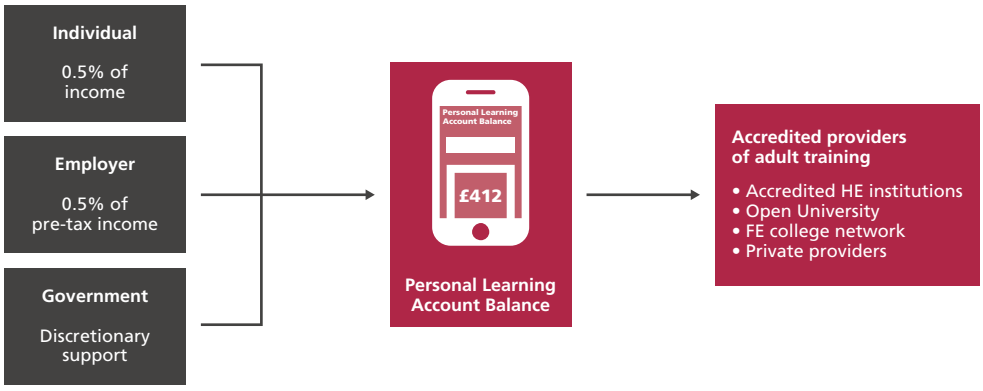
education technology in online digital skills courses, £34 million to expand 'innovative' construction training programmes for jobs such as groundworkers, bricklayers, roofers and plasterers and finally £100 million for the first stage of the NRS roll-out which:

> Will include a new careers guidance service with expert advice to help people identify work opportunities in their area and what they need to do to get the skills to land the job. This will be backed up with state-of-the-art courses combining online learning with traditional classroom teaching to help people develop the key transferable skills for jobs of the future.[78]

More government support for the provision of digital skills, distance learning and careers advice are welcome and we support their continuation. However, the CSJ believes the NRS should be a broader more succinct mechanism to support all workers, especially vulnerable groups, to pursue retraining and upskilling at any point in their career. We set out in this chapter, how that can happen.

In work training – National Retraining Scheme and the Personal Learner Accounts

We propose the NRS takes the form of a Personal Learner Account (PLA).[79] It would be modelled on the previous policy of *Individual Learning Accounts* that was implemented in the early 00s under a Labour Government with some success (see Appendix for more detail). This digital account would be available to all workers, if they choose it, who are economically active (either in work or unemployed but looking for work). This would not be actively offered to individuals currently economically inactive. The PLA would be a digital savings account that could be paid in to by the individual (through 0.5 per cent of their pre-tax income), their employer (0.5 per cent of the employees' post-tax income) and the Government (under certain conditions). The savings would then be available for exclusive use towards accessing training via an accredited provider. The graphic below illustrates how this would work.



78 Gov.uk, Government support to boost skills and prosperity (October 2018) [accessed via: www.gov.uk/government/news/government-support-to-boost-skills-and-prosperity]

79 Note: The Learning and Work Institute have advocated for a Personal Learning Account (*see Power to the People, The Case for Personal Learning Accounts* (LWI, July 2016)). While we in no way want to plagiarise the name, we felt it's continued use would help increase awareness. Our recommendation for implementation differs from that proposed by the LWI. The LWI were given privileged access to this report before its release.

The foundational principle of the PLA is that it is demand led, the power to make training decisions is in the hands of the individual. The alternative is a supply side top down model where training programmes are designed centrally, and workers offered the opportunities to access them. Alternatively, the Government could force businesses to offer a quota level of staff training programmes each year. Both of these currently exist in the form of the Apprenticeship Levy and the Work and Health Programme. They have been criticised for being inefficient and can lead to misuse of public funds, an added cost for businesses, or poor labour market outcomes for individuals.

The PLA is, like the auto-enrolment pension programme, an opt-out for workers when they sign a contract with an employer. They choose whether to commit 0.5 per cent of their pre-tax income and force employers to contribute also. Survey data used by Bright Blue think-tank found that 66 per cent of the English public felt individuals themselves should pay for some of the cost of higher education, while 68 per cent felt that organisations (Government and business) should help shoulder some of the cost also.[80] Government support for an individual's PLA is available under certain conditions (we address these later).

It is not part of the apprenticeship levy, where businesses above a certain size pay 0.5 per cent of their revenue towards creating apprentice positions within their business. The PLA sits beside the Apprenticeship Levy, we judge the financial burden for businesses to be reasonable given the return to upskilling in the workforce and reflects their current underinvestment in skills and training.

The savings accrued would be substantial over time. Our model of a worker on a median income (in 2018 terms) shows they could save £2,761 by their 30th birthday. A part time Certificate of Higher Education in Business Management at the Open University would cost £2,928 in the first year.

Salary (in 2018)	Savings by Age 25	Age 30	Age 40	Age 50
£16,900	£858	£1,728	£3,515	£5,455
£27,000	£1,364	£2,761	£5,664	£8,715
£35,000	£1,767	£3,579	£7,342	£11,298

Finally, the money saved in the PLA could be used to reduce the size of an Advanced Learner Loan. If an individual has saved £2,000 in their PLA and they sign up for a loan that costs £6,300 over two years, we forecast they could save approximately £130 annually in interest payments alone by using money saved in the PLA to pay for the course.

Support for people out of work

As we saw in Chapter 4, the effect of large-scale retraining programmes, designed for unemployed people that keep them out of the labour market for long periods of time without any guarantee of a job, are potentially negative. While retraining and upskilling is an inherently positive step for any individual, the costs associated with being out of work and the difficulty in predicting job demand in the near future, significantly increase the risk that retraining will not lead to employment and higher wages in the near future. The primary aim for policy makers is to help the unemployed back in to work as quickly as possible.

80 Shorthouse, R. and Dobson, J. Going Part-time (Bright Blue, 2017)

The PLA is primarily designed to be offered by default to individuals who are offered the opportunity to opt out. It aims to nudge people in to investing in their own upskilling. However, when someone is out of work, the PLA should be leveraged as a mechanism to help people to find work. A financial incentive deposited into a PLA could be used to induce a desire to find work. The Government could work with major employers (who have a clear need for certain skills, occupations and workers) to help direct unemployed individuals in to new jobs. The Government could guarantee a training subsidy for individuals who commit to retraining for specific jobs advertised by those employers. This is a similar model to the *Movement to Work* charity that connects employers to unemployed youths with guarantees of both training and a job.[81] An example could be the announcement from Openreach to create 3000 new engineer jobs for the roll out of fibre broadband in the UK.[82] If an employer guaranteed a job for a Universal Credit claimant, contingent on them carrying out a training course before being hired, the Government could use the PLA to channel funding for that training.

Support for vulnerable groups

As we noted earlier, low-skilled, low-paid and unemployed groups are least likely to receive support for adult learning opportunities. A 2018 report on barriers to learning for disadvantaged groups, the Department for Education found that providing financial support encouraged low income households to pursue learning opportunities "where participants had received financial support to contribute to, or cover, the costs of learning they said that this learning would not have been possible otherwise".[83]

The Government therefore could for example commit to subsidising training for low-skilled individuals in vulnerable groups that face disadvantage in the UK labour market. Those groups could include:

- Unemployed and over the age of 50.
- Unemployed and a single mother.
- Unemployed and a single father.
- Unemployed and with a disability.

Demographic	Number of potential claimants	Award	Total cost to government
Older aged (over 50) and unemployed	296,000	£500	£148,000,000
Single mothers unemployed	567,000	£500	£283,500,000
Single fathers unemployed	56,400	£500	£28,200,000
Disabled and unemployed	1,000,000	£500	£500,000,000
Total			**£959,700,000**

While Level 2 qualifications are free for anyone under the age of 23, this support will be hugely important to the many workers over the age of 23 and wanting to seek qualifications from Level 2 upwards to professional licenses.

81 www.movementtowork.com
82 uk.reuters.com/article/uk-bt-openreach-jobs/bts-openreach-to-hire-3000-trainees-for-fibre-roll-out-idUKKCN1PM001
83 Pennacchia, J., Jones, E., Aldridge, F. Barriers to learning for disadvantaged groups (Department for Education, Learning and Work Institute, August 2018)

It is hard to predict the full cost of this policy, due to variation of take-up rates, over-lapping conditions (where for instance someone qualifies as both over the age of 50 and a single parent). However, we forecast the potential cost assuming full take-up and no overlap to be approximately £960 million.

Cost of the Personal Learner Account and Return on Investment[84]

As well as the vulnerable group subsidy, at £960 million, the predominant cost to Government will be through the lost income tax revenue. Because the employee's contribution to the PLA is made before tax is deducted, the Government bears a cost in foregone revenue. Assuming the same number of people take-up a PLA as did for an auto-enrolment pension (12.9 million people) each with an average salary at the national median (£28,758 per annum), the total cost in terms of foregone tax revenue would equate to £57 per person or £735.3 million in total personal income tax revenue lost (in 2018/19 terms).

The total cost for employers across the UK would be £1.86 billion.[85] We estimate that the employer contribution for a worker on median wage of £28,758 would be just £144 per annum, far less than the £1,500 per person that businesses reportedly spend on employee training.

The return on investment from helping boost the number of workers training for a nationally recognised qualification is hard to calculate precisely. However, there are a number of benchmarks which we believe could indicate a positive social and economic effect from a boost tax revenues for HM Treasury.

- Researchers at London Economic and the European Commission estimated the baseline social rate of return to education investment in the UK was between 10 and 11 per cent.[86] By our calculation, this equates to approximately an additional £190 million in tax revenue every year over a 30-year period.
- A Department for Business, Innovation and Skills 2015 paper found a "10 per cent increase in the total amount of training variable per employee would increase productivity by 2 per cent".[87]
- Holland et al. (2013) found that a 1 per cent rise in the proportion of the workforce with a graduate degree was associated with a 0.2–0.5 per cent increase in productivity in the long run.[88]
- Bhutoria estimates that each additional year of education is associated with an 18–35 per cent higher GDP per capita. We calculate this to mean an increase in educational attainment by one level would equate to a boost in GDP per capita for the average UK worker of approximately £7,860. If half the UK workforce, 16 million people, increased their educational attainment by one level, we calculate the economy would

84 Note: We do not forecast the costs related to Government subsidised support for specific training.
85 CSJ calculations
86 London Economics, The returns to various types of investment in education and training (European Commission, December 2005)
87 Rincon-Aznar, A, Forth, J., Mason, G., O'Mahony, M. and Bernini, M. UK skills and productivity in an international context (NIESR: 2015)
88 Holland D., Liadze, I., Rienzo, C. and D.Wilkinson, The relationship between graduates and economic growth across countries (BIS Research Paper No. 110, 2013)

grow by £125.8 billion. Bhutoria goes on to say however that the "direct impacts of training and informal learning on economic growth remains ambiguous due to a lack of robust evidence".[89]

£190 million – the additional annual tax paid in to HM Treasury over a 30-year period as a result of the policies outlined above.

CSJ Calculations

£125.8 billion – the boost to GDP from increasing educational attainment by one level across half the UK workforce.

CSJ Calculations

Recommendation 1: The Department for Education, Department for Work and Pensions, HM Treasury and Cabinet Office should consult and bring forward legislation to set up the National Retraining Scheme Corporation (NRSC) as a non-departmental public body (NDPB) that answers to the Department for Education.

Recommendation 2: The same legislation should also lay the foundations for the introduction of a Personal Learner Account (PLA) that would be managed by the NRSC. The PLA would take the form of a digital savings account that individuals, employers and the Government (under certain conditions) could pay in to for the exclusive use of those individuals who want to seek adult learning opportunities at accredited providers. Savings accrued in the PLA could also be used against borrowing an Advanced Learner Loan.

Recommendation 3: Ofsted would be responsible for approving accredited providers of adult learning opportunities which the PLA could be used for.

Recommendation 4: HM Treasury and the Department for Work and Pensions should look to replicate the *Movement to Work* model, working across different industries to provide training grants for unemployed individuals who are guaranteed a job by an employer.

Recommendation 5: If the Government is considering additional investment in the area it should target low-skilled, out of work individuals in higher risk groups via the PLA system. One specific example of how this could work at a level of five distinct groups and a credit of £500 is outlined on page 48. Specifically, we recommend the Government provides a credit for qualifying individuals, to be debited in to a PLA, that could then be used by recipients for training and upskilling.

Helping to boost numbers of people seeking adult learning opportunities

One of the biggest challenges policy makers face is ensuring individuals take up the opportunity to open a PLA and consequently spend their savings on adult learning opportunities. Research conducted by the Learning and Work Institute (LWI) found just 58 per cent of workers are expecting to take part in adult education learning over the next three years.[90] Individuals with low skill levels and lower down the income spectrum

89 Bhutoria, A. Economic Returns to Education in the United Kingdom (Government Office for Science, September 2016)
90 Egglestone, C. Stevens, C. Jones, E. and Aldridge, F. Adult Participation in Learning Survey 2017 (Learning and Work Institute, Department for Education, August 2018)

were even less likely to pursue adult learning opportunities. However, the LWI found that for many people on lower incomes, finance was not the predominant barrier to preventing them from seeking adult learning opportunities. Instead it was a multitude of factors that interacted to reduce take-up of opportunities.

> 58% of workers do not expect to take part in learning over the next three years.
>
> **Adult Participation in Learning Survey 2017**

The Adult Participation in Learning Survey 2017 found that when asked what barrier was preventing them from pursuing adult learning opportunities, just 8 per cent cited cost, while 14 per cent cited time pressures, 10 per cent cited feeling too old, 10 per cent cited a lack of interest and 9 per cent cited childcare or other caring commitments.[91] In fact, researchers found that the most common cited barriers were generally dispositional, relating to the attitudes, perceptions and expectations (not situational – such as a lack of financial resource). Broken down by social grade, these dispositional factors were an even greater barrier to individuals.

> Respondents in the DE social grade were more likely than the other three grades to cite dispositional barriers (45% compared with 33%, 33% and 32% for AB, C1 and C2 respectively).

They also stated that:

> Women were more likely than men to cite situational barriers, with respective figures of 33 per cent and 25 per cent. Men were more likely to state that nothing was preventing them from learning, with respective figures of 41 per cent and 36 per cent.[92]

The unemployed were equally likely to cite dispositional factors as barriers to learning and remarkably less likely to cite situational factors (such as cost) as a major barrier. Researchers said:

> Unemployed adults and individuals experiencing higher levels of disadvantage, are more likely to be motivated by benefits relating to learning and knowledge, social and community, or health and wellbeing. To engage disadvantaged groups in learning, the learning offer may be more attractive if it relates to these motivations, for example, if it supports personal development, enables people to meet, and/or leads to a qualification.[93]

While reducing the cost of training for disadvantaged workers is important, the introduction of the PLA is incomplete without a major effort to raise awareness of the benefits of training and learning mid-career. We believe the existence of a personal account alone is a significant step in nudging individuals towards taking up learning opportunities. However, more needs to be done:

1. Raising awareness and availability of information

The PLA app, downloadable on every smart phone, will be the main portal for accessing information about accredited providers of training. A list of providers and courses, with associated costs will be made available, with a simple click function to enrol. The app

91 Egglestone, C. Stevens, C. Jones, E. and Aldridge, F. Adult Participation in Learning Survey 2017 (Learning and Work Institute, Department for Education, August 2018)
92 Ibid, Egglestone, C. Stevens, C. Jones, E. and Aldridge, F. (2018)
93 Ibid, Egglestone, C. Stevens, C. Jones, E. and Aldridge, F. (2018)

should offer details regarding free training opportunities; local evening courses, distance learning opportunities, digital learning platforms and free resources/literature. These will be especially important with regards to soft skill development.

2. Increasing perceived value of training and skills

This is probably the hardest step the Government must take in the near term to help increase take-up of learning opportunities. Currently too many people around the UK do not see any value in upskilling. These are for a host of reasons; employed in a satisfactory job, disbelief that their job will change in the medium to long, a dislike of education based on previous experiences, and a disbelief that training is linked to better economic outcomes. Communicating to low-skilled individuals on low incomes that the long run benefit to training far exceeds the cost is also naturally harder. Many are struggling to make ends meet, trying to keep a job down, manage caring commitments or face complex issues outside of the labour market such as debt problems or an addiction. The Department for Education should publish wage outcomes, employment outcomes and progression outcomes for people by course and level of education. These should be made easily available online.

Recommendation 6: Longitudinal Education Outcomes (LEO) are available by subject at Level 6 (graduate level in Higher Education). The LEO should include returns on investment linked to adult training for nationally recognised qualifications (from level 2 upwards). With 3.3 million people currently learning towards a nationally recognised qualification, the data should be collectible and robust. These should be available via the PLA but also online at the National Citizens Service.

Recommendation 7: As suggested in September 2018 publication *Future of Work – Regional Revolution,* LEPs should set up automation taskforces (combining employers, training providers, local government representatives, and unions) to work on providing workers at risk of displacement with options for either local training or jobs. Each automation taskforce would answer to the LEP, however in a combined authority they would answer to the Metro Mayor. As well as building options for displaced workers, each taskforce should help employers communicate training options for workers and develop internal transitions for staff at risk of being displaced.

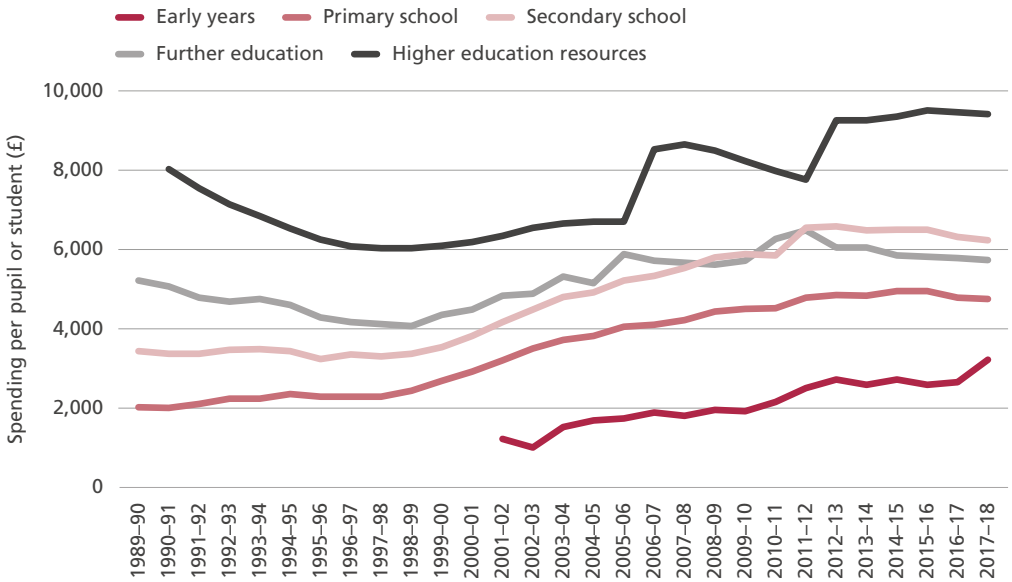
Improving the quality of further education provision across the UK

There are more than 330 recognised colleges across the UK that provide education services to some 3 million students from the age of 16 upwards. Colleges provide support to students going through A-levels, getting Higher Education Certificates and Diplomas, technical qualifications (part and full time), apprenticeships, graduate degrees and professional training on behalf of employers.

> In aggregate terms, funding fell from £3.9 billion in 2011–2012 to £3.7 billion in 2015–2016, a real term cut of 9.9 per cent
>
> **House of Commons Library**

Despite their integral part in Britain's education matrix, funding cuts have put pressure on delivery of college services. In aggregate terms, funding fell from £3.9 billion in 2011–2012 to £3.7 billion in 2015–2016, a real term cut of 9.9 per cent[94]. If Advanced Learner Loans (which replaced grant funding in 2013) were excluded from this calculation, the real term cut would be closer to 24 per cent. In per pupil terms, FE funding has seen since 2011–2012 a 12 per cent cut to £5,698 in 2017–2018, and has gone from being the second-best funded area of education to third, while the spending per head for Higher Education students is 64 per cent greater today than for FE students. Overall, it is fair to say that FE has been treated as a poor cousin to HE, and if our economy, society and Government want to reform, rebuild and reinvest in non-academic technical routes in to employment, then colleges have got to get a fairer deal.

Figure 9: Spending per pupil or student per year at different stages of education (2018–2019 prices)



Source: IFS

The 2019 Government Spending Review would be an appropriate time to radically rethink how FE is funded in the UK.

The benefits to investment in FE could be significant. Colleges (Sixth Form and General FE) are now the largest type of institution providing Level 3 instruction in the UK. A quarter of all students achieving a Level 3 qualification are doing so at either a Sixth Form College or General FE College. Colleges are better placed than many Universities to provide part-time graduate qualifications for prospective students who are not able to travel long distances for prolonged periods. Colleges will also be at the forefront of delivering the Government's 3 million apprenticeships target.

94 House of Commons Library Briefing Paper, Adult further education funding in England since 2010 (December 2018)

Recommendation 8: HM Treasury should use the 2019 spending review to review the funding allocation for FE in Britain. We recommend the review should also consider best examples of closer working between HE and FE as well as new commitments to help support colleges attract good quality teaching staff, invest in physical infrastructure and ensure delivery of high-quality courses across the entire country.

In our previous report, *Regional Revolution*, we recommended that Combined Authorities should create the roll of an Education and Adult Skills Commissioner (EASC) to work with colleges, employers, councils and private providers of skills training to co-ordinate the local offering of education options. We recognise that communities have local labour markets that demand local skills strategies. Our experience has been that leadership and strategic thinking has sometimes got in the way of good FE provision at a local level. An EASC will be responsible for developing a local skills strategy for the local labour market, better reflecting employer demands and with a better understanding of gaps in local education and skills provision.

Distance and online learning

A core part of the National Retraining Scheme should be promoting the availability of distance learning opportunities for mid-career workers. Distance learning offers huge opportunities for people who face restricted mobility, have caring responsibilities, or work unconventional hours. As researchers from the Learning and Work Institute (LWI) stated in their Government report:

> Adults learn in a range of different locations and engage with different types of provision, some of which leads to a qualification and some of which is non-formal or informal. A broad learning offer therefore needs to be available to adults and should be delivered flexibly.[95]

Susan Synarksi at Brookings Institute stated:

> Adaptive online courses can allow students to learn at their own pace, with material adjusting to fit the needs of both advanced and remedial learners. Online courses can also open up more curricular offerings in schools that lack specialists, such as those in rural areas.[96]

There is international evidence that online learning is beginning to proliferate. In the US state of Florida, an estimated 1.5 million middle school students will engage in some form on online learning. Some universities in the US also offer two-thirds of their BA degree instruction via online portals. Stanford University has built an online hub that offers free short courses in a range of subjects including 'Entrepreneurship Through the Lens of Venture Capital' and 'Economics of the Clean Energy Transition'. Oxford University now offer online courses via their Department for Continuing Education in subject areas including Philosophy, History of Art, Language and Cultural Studies, and Computing and Mathematics.

95 Egglestone, C. Stevens, C. Jones, E. and Aldridge, F. Adult Participation in Learning Survey 2017 (Learning and Work Institute, Department for Education, August 2018)
96 Dynarski, S. Online Schooling: Who is harmed and who is helped (Brookings Institute, 2017)

The market in private providers of online education has also grown substantially. Udemy and Khan Academy are examples of MOOCs (Massive Open Online Course). Udemy offers over 100,000 courses to users. Khan Academy has 60 million registered users, with 12 million learners using their service a month in 30 different languages, generated revenues of USD53 million.[97]

There is little doubt that online learning is a positive force for distance learners. However, a degree of face-to-face contact should be maintained. Evidence from America shows that students who blended face-to-face tutorials with online learning performed better than those who just received online instruction, and equally with those who just received face-to-face instruction. There was also some evidence that online tutorials freed up staff to dedicate more time to struggling students.[98] Researchers from Harvard University also found that institutions offering online courses were more likely to offer lower prices to students.[99]

Going forward the Department for Education should focus on embracing advanced technology that can facilitate online learning. This could include machine learning algorithms that help identify where students struggle with the curriculum, better assessments, immersive experiences and high-quality AI tutors that reduce the risk of poor instruction. The UK should lead the world in education technology.

Recommendation 9: The Department for Education should broaden the National Retraining Scheme funding pot to include a focus on education technology, and provides grants for both research organisations and education providers who want to develop and disseminate advanced technology in online formats.

97 khanacademyannualreport.org
98 Dynarski, S. Online Schooling: Who is harmed and who is helped (Brookings Institute, 2017)
99 Deming DJ, Goldin C, Katz LF, Yuchtman N. Can Online Learning Bend the Higher Education Cost Curve? (American Economic Review, 2015)

Conclusion

The National Retraining Scheme (NRS) is a great opportunity for this Government to prepare Britain's workforce for the future. Far from catastrophizing about the future, there is an abundance of evidence to suggest technology and globalization will create far more jobs than it will destroy in our lifetimes. However, workers will need to develop new hard and soft skills if they want to compete in a more global workplace. Upskilling and retraining will be essential for all of us.

The two significant barriers to preventing this seems firstly to be a cultural lack of urgency. British firms train their workers less than our international neighbours. Despite a significant increase in skills shortage vacancies (SSVs) firms have hardly increased either the number of staff that are given training support or the amount of money they spend on training. A lot of anecdotal evidence suggests that what little training is delivered tends to be in the form of economically irrelevant health and safety briefings or new recruit onboarding. Even workers themselves seem unwilling to pursue adult education opportunities, with nearly 60 per cent saying "they are unlikely to take part in learning in the next three years".[100] Just 10 per cent of the UK workforce are currently working for a nationally recognised qualification. The PLA is designed to help promote, incentivise and nudge people in to investing in their own economic self-worth. Money is not always the problem, it's knowledge and commitment. The PLA hopes to correct that.

Secondly, retraining displaced and unemployed workers has a very patchy record. Evidence collected in the aftermath of the US recession found that retraining for a recognised qualification at a technical college did not result in either good employment or wage outcomes for many displaced workers. The hard reality is that someone who finds themselves out of work is better off getting back in to work as quickly as is reasonably possible. The CSJ was founded on this underlying principle that work is the best route out of poverty, and the evidence presented here confirms that. As a result, the Government has to recognise that the NRS will be most effective if it works in conjuncture with Universal Credit to support people back in to work and targets individuals currently in low-skilled and low-paid work. We estimate there are 4.6 million people who are low-paid, low-skilled and in work. They should be the priority target market for the NRS.

The PLA is a significant part of the NRS. The previous Individual Learners Accounts would have been successful if it wasn't for the flaws inherent in their design. The CSJ feel the PLA addresses those flaws. £1 billion in public support for vulnerable individuals will go some way to closing the gap in funding provided by our international competitors. It is also essential that the Government addresses the hugely inequitable support for FE colleges in the UK. The 2019 spending review is an ideal opportunity to do this. We also believe the

100 Egglestone, C. Stevens, C. Jones, E. and Aldridge, F. Adult Participation in Learning Survey 2017 (Learning and Work Institute, Department for Education, August 2018)

Government must work to improve the level of attainment for secondary school students, improve the number of good teachers working in poor performing schools, and help promote online learning by investing in cutting-edge technology. Without these last steps, the NRS is fighting a losing battle.

To reiterate, we expect the future to be disruptive but not uncertain. Jobs will change but there will be more good quality jobs which will demand higher skills competencies. NESTA expect just 10 per cent of the current occupations to increase in number by 2030.[101] If each and every one of the 32 million workers in the UK worked towards nationally recognised qualification, the economic and social opportunities would be boundless.

101 NESTA, Future of Skills – Employment in 2030 (2017)

appendix

Evidence on Individual Learner Accounts

Individual Learning Accounts were introduced by the Labour government in 1999. The policy allowed training providers to reimburse up to £150, or between 20 to 80 per cent of the cost of training an eligible adult student. It was part of an effort to encourage a culture of life-long learning, something that still evades many workers today. The Government provided targeted support for some groups (young people with low qualifications, self-employed people, women returning to work, non-professional school staff and ethnic minorities) and encouraged employers to contribute.

In October 2001, the Secretary of State for Education and Skills announced the scheme would be shut down due to higher than expected demand driven by abuses within the system. We give a summary of the main government evaluations below.

Department for Education and Employment – Evaluation of Individual Learning Accounts (2000)[102]

- York Consulting, contracted by the then Department for Education and Employment, found the policy attracted a wide variety of individuals (most of whom already possessed a qualification) who reacted positively to the support provided to them via the Individual Learner Account Centre (ILAC).
- While the majority of redeemers had a previous qualification, a small minority had no qualification, and nearly a quarter had undertaken no form of learning over the past 12 months.
- 91 per cent of learning was considered to have met or exceeded expectations, 85 per cent of redeemers said the Individual Leaner Account has "increased the training/learning options open to them" with roughly a quarter of redeemers claiming they had no good prior working knowledge of the subject they were studying for.
- There was evidence that some redeemers were using support for ineligible courses.
- Lastly, the level of deadweight (government support that was unnecessary in shifting consumer patterns) was between and 50 per cent in England, Scotland and Wales. This suggests that half of redeemers would have paid for their course regardless of support available.

102 York Consulting, Evaluation Of Individual Learning Accounts – Early Views Of Customers & Providers (Department for Education and Skills, September 2001) [accessed via: www.researchgate.net/publication/275830369_Evaluation_Of_Individual_Learning_Accounts_-_Early_Views_Of_Customers_Providers]

National Audit Office – Individual Learning Accounts (2002)[103]

- The NAO reported that the Individual Leaner Accounts were "represented innovative policy-making, which succeeded in attracting considerable new interest in learning" and were particularly successful in promoting IT literacy.
- During its time the policy led to some 2.6 million accounts being opened. However, only 58 per cent had been used by the time the scheme closed. The NAO concluded that the scheme encouraged people to undertake learning.
- Overall though the policy was implemented hastily, with poor management of risks related to fraudulent use, which was likely caused by a poor relationship with the contracting partner that led to a lack of information sharing.

House of Commons Select Committee Reports

- The Public Accounts Committee recorded that "the scheme was successful in attracting over one million people back into learning".[104]
- The Education Select Committee found that the demand led element of the policy was "an important incentive for encouraging growth in the FE college sector".[105]
- Barry Sheerman, then Chair of the Education and Select Committee said Individual Learning Accounts "were an innovative and exciting new project to deliver lifelong learning and training opportunities for those who had never had them and to change the culture of training and education in this country. Ironically, however, because the programme bent too far towards a lighter touch and towards not taking too bureaucratic an approach, it ran into severe difficulties".[106]

103 National Audit Office, Individual Learning Accounts (25 October 2002) [accessed via: www.nao.org.uk/wp-content/uploads/2002/10/01021235es.pdf]
104 House of Commons Public Accounts Committee, Tenth Report (17 March 2003) [accessed via: publications.parliament.uk/pa/cm200203/cmselect/cmpubacc/544/54403.htm]
105 House of Commons Education and Skills Committee, Education and Skills – Third Report (24 April 2002) [accessed via: publications.parliament.uk/pa/cm200102/cmselect/cmeduski/561/56102.htm]
106 www.theyworkforyou.com/debates/?id=2002-06-27.1032.0

Bibliography

Arntz, M., Gregory T. and Zierahn, U. The risk of automation for jobs in OECD countries: a comparative analysis (OECD Social, Employment and Migration Working Papers No 189, 2016)

BCC Quarterly Economic Survey: Uncertainty bites as survey shows UK economy is stuck in a rut (8th October 2018)

Bhutoria, A. Economic Returns to Education in the United Kingdom (Government Office for Science, September 2016)

Cambridge Assessment, Uptake of GCSE subjects 2016 (August 2017)

CBI/Pearson Education and Skills Survey 2017, Helping the UK Thrive (July 2017)

Centre for Cities, Cities Outlook 2018 (January 2018)

Centre for Social Justice, The forgotten role of families: why it's time to find our voice on strengthening families (2017)

Centre for Social Justice, The Future of Work – Part I: State of the Nation (Centre for Social Justice, 2018)

Centre for Social Justice, The Great British Breakthrough, (September 2017)

Centre for Social Justice, The Great British Breakthrough: YouGov Polling Results (January 2018) [accessed via: www.centreforsocialjustice.org.uk/library/great-british-breakthrough-yougov-polling-results]

Chevalier, A., Harmon, C., O'Sullivan, V. and Walker, I. The impact of parental income and education on the schooling of their children (IFS, 2005)

Corlett, A. Examining an elephant Globalisation and the lower middle class of the rich world (Resolution Foundation, September 2016)

D'Arcy, C. Low Pay Britain 2018 (Resolution Foundation, 2018)

Davis, S. and Von Wachter, T. Recessions and the Costs of Job Loss (Brookings Institute, 2011)

Deming DJ, Goldin C, Katz LF, Yuchtman N. Can Online Learning Bend the Higher Education Cost Curve? (American Economic Review, 2015)

Department for Business, Innovation and Skills, Manufacturing in the UK: An economic analysis of the sector (December 2010)

Department for Business, Innovation and Skills, The International Survey of Adult Skills 2012: Adult literacy, numeracy and problem-solving skills in England (October 2013)

Department for Business, Innovation and Skills, UK skills and productivity in an international context (December 2015)

Department for Education, Employer Perspectives Survey 2016 (June 2017)

Department for Education, Employer Skills Survey 2013 (January 2014)

Department for Education, Employer skills survey 2017 (August 2018)

Department for Education, Revised GCSE and equivalent results in England, 2016 to 2017 (January 2018)

Department for Education, The economic value of key intermediate qualifications: estimating the returns and lifetime productivity gains to GCSEs, A levels and apprenticeships (December 2014)

Department for Work and Pensions, Households below average income: 1994/95 to 2016/17 [accessed via: www.gov.uk/government/statistics/households-below-average-income-199495-to-201617]

Department for Work and Pensions, Universal Credit Employment Impact Analysis (September 2017)

Dynarski, S. Online Schooling: Who is harmed and who is helped (Brookings Institute, 2017)

Egglestone, C. Stevens, C. Jones, E. and Aldridge, F. Adult Participation in Learning Survey 2017 (Learning and Work Institute, Department for Education, August 2018)

Felsetad, A. et al. Skills Trends at Work in Britain (2017)

Frey, C. and Osborne, M. The Future of Employment: How Susceptible Are Jobs To Computerisation (Oxford University, 2013)

Gagliardi, L, Iammarino, S. and Rodriguez-Pose, A. Offshoring and the Geography of Jobs in Great Britain (LSE and SERC, October 2015)

Goldsetin, A. Janesville (New York, 2017)

Goos, M. and Manning, A. Lousy and Lovely Jobs: the Rising Polarization of Work in Britain (LSE, 2003)

Gov.uk, Government support to boost skills and prosperity (October 2018) [accessed via: www.gov.uk/government/news/government-support-to-boost-skills-and-prosperity]

Gov.uk, SFR57/2017: GCSE and equivalent results in England 2016/17 (provisional)

Government Office for Science, Future of an Ageing Population | Working Lives (Gov.uk, 2016)

HM Government, Industrial Strategy; Building a Britain fit for the future (November 2017)

Holland D., Liadze, I., Rienzo, C. and D.Wilkinson, The relationship between graduates and economic growth across countries (BIS Research Paper No. 110, 2013)

Holzer, H. Job Market Polarization and U.S. Worker Skills: A Tale of Two Middles (Brookings, 2015)

House of Commons Education and Skills Committee, Education and Skills – Third Report (24 April 2002)

House of Commons Library Briefing Paper, Adult further education funding in England since 2010 (December 2018)

House of Commons Library, People with disabilities in employment (August 2018)

House of Commons Library, People with disabilities in employment (August 2018)

House of Commons Public Accounts Committee, Tenth Report (17 March 2003)

JRF, Impact of poverty on relationships (2014) [accessed via: www.jrf.org.uk/data/impact-poverty-relationships]

Learning and Work Institute, Healthy, Wealthy and Wise (2018)

Learning and Work Institute, Skills and Poverty (2016)

Learning and Work Institute, Power to the People, The Case for Personal Learner Accounts (2016)

London Economics, The returns to various types of investment in education and training (European Commission, December 2005)

Manpower, 2018 Talent Shortage Survey (2018)

National Audit Office, Individual Learning Accounts (25 October 2002)

NESTA, Future of Skills – Employment in 2030 (2017)

OECD Skills Studies, Building Skills For All: A Review Of England (OECD, 2016)

ONS, Earnings by Qualification, 2011 (24 August 2011) [accessed via: webarchive.nationalarchives.gov.uk/20160106203540/http://www.ons.gov.uk/ons/rel/lmac/earnings-by-qualification-in-the-uk/2011/earnings-by-qualification-in-the-uk.html]

ONS, Families and the labour market, England: 2017

ONS, Labour market economic commentary: February 2018

Pennacchia, J., Jones, E., Aldridge, F. Barriers to learning for disadvantaged groups (Department for Education, Learning and Work Institute, August 2018)

PISA, United Kingdom Country Profile (2016) [accessed via: www.oecd.org/pisa/pisa-2015-United-Kingdom.pdf]

Probublica.com, Rare Agreement: Obama, Romney, Ryan All Endorse Retraining for Jobless – But Are They Right? (October 2012) [accessed via: www.propublica.org/article/rare-agreement-obama-romney-ryan-endorse-retraining-for-jobless-but-are-the]

Putnam R. Our Kids: The American Dream In Crisis (New York, 2015)

PWC, How will automation impact jobs? (2018) [accessed via: www.pwc.co.uk/services/economics-policy/insights/the-impact-of-automation-on-jobs.html]

PWC, Will robots steal our jobs? The potential impact of automation on the UK and other major economies (2018)

Rincon-Aznar, A, Forth, J., Mason, G., O'Mahony, M. and Bernini, M. UK skills and productivity in an international context (NIESR: 2015)

Royal College of Psychiatrists, Is Work Good For Your Mental Health [accessed via: www.rcpsych.ac.uk/usefulresources/workandmentalhealth/worker/isworkgoodforyou.aspx]

Shorthouse, R. and Dobson, J. Going Part-time (Bright Blue, 2017)

Speech given by Mark Carney, [De]Globalisation and inflation (2017 IMF Michel Camdessus Central Banking Lecture, 18 September 2017)

Social Mobility Commission, The adult skills hap: is falling investment in UK adults staling social mobility? (2019)

Sutton Trust, What prospects for mobility in the UK? A cross-national study of educational inequalities and their implications for future education and earnings mobility (November 2011)

UK Commission for Employment and Skills, The Future of Work: Jobs and Skills in 2030 (Evidence Report 84, February 2014)

WEA, Improving Lives and Communities through Learning WEA Adult Education Impact Report 2016 (2016)

Williams, T., Seeking New Start, Finding Steep Cost (New York Times, August 2014) [accessed via: www.nytimes.com/2014/08/18/us/workforce-investment-act-leaves-many-jobless-and-in-debt.html]

World Economic Forum, The Future of Jobs – Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution (2016)

York Consulting, Evaluation Of Individual Learning Accounts – Early Views Of Customers & Providers (Department for Education and Skills, September 2001)

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