

# TOMORROW'S WORLD: FUTURE OF THE LABOUR MARKET

## Youth Commission Report 3

Stephen Evans  
June 2019

**Learning and Work Institute**

Patron: HRH The Princess Royal | Chief Executive: Stephen Evans  
A company limited by guarantee, registered in England and Wales  
Registration No. 2603322 Registered Charity No. 1002775  
Registered office: 4th Floor Arnhem House, 31 Waterloo Way, Leicester LE1 6LP



INVESTORS  
IN PEOPLE

Silver  
Until 2020



[www.learningandwork.org.uk](http://www.learningandwork.org.uk)

@LearnWorkUK

@LearnWorkCymru (Wales)

All rights reserved. No reproduction, copy or transmission of this publication may be made without the written permission of the publishers, save in accordance with the provisions of the Copyright, Designs and Patents Act 1988, or under the terms of any licence permitting limited copying issued by the Copyright Licensing Agency.

## ABOUT LEARNING AND WORK INSTITUTE

Learning and Work Institute is an independent policy, research and development organisation dedicated to lifelong learning, full employment and inclusion.

We research what works, develop new ways of thinking and implement new approaches. Working with partners, we transform people's experiences of learning and employment. What we do benefits individuals, families, communities and the wider economy.

**Stay informed. Be involved. Keep engaged. Sign up to become a Learning and Work Institute supporter: [www.learningandwork.org.uk/supporters](http://www.learningandwork.org.uk/supporters)**

## ABOUT THE YOUTH COMMISSION

The Commission on Education and Employment Opportunities for Young People (Youth Commission) is considering the current education and employment prospects for young people, the likely impact of changes in policy and the labour market, and proposing new ideas for ensuring all young people have access to opportunity. It will run for one year and is kindly supported by Association of Colleges, Capital City Colleges Group, London South Bank University, NOCN and Prospects. Its commissioners are: Kate Green MP, Maggie Galliers CBE, Amy King and Jo Maher.

Further details of the Youth Commission and its work can be found on our [website](#).

### Supported by



## Table of contents

|   |    |
|---|----|
| Executive summary .....   | 5  |
| Introduction .....  | 7  |
| Back to the future.....   | 8  |
| What will be the impact of demographic changes? .....                     | 12 |
| Will labour market changes bring greater insecurity or opportunity? ..... | 17 |
| Conclusions .....   | 23 |

## Executive summary

The **Youth Commission aims to find ways to improve education and employment opportunities** for England's 16-24-year olds. Its first report identified five key challenges:

- Better supporting 700,000 young people not in education, employment or training;
- Increasing the number of young people qualified to at least Level 3;
- Improving attainment in literacy and numeracy and other basic skills;
- Creating a diversity of higher level learning routes through life; and
- Support job quality, career progression, and economic security.

This report looks at the likely future changes in demographics and the labour market, which will set the context for meeting these challenges. Learning, skills and employment services will need to help young people to adapt to these changes.

### Back to the future

Looking back at changes over the last forty years helps to illustrate the scale, nature and predictability of likely changes over the next forty years.

In 1978 24% of people worked in manufacturing, today it is 8%. The share of jobs accounted for by professional, scientific and technical activities has more than doubled to 9%, as has the employment share in accommodation and food service activities and human health and social work activities (to 7% and 13% respectively).

The type of work and demographics of the workforce have also changed significantly. Rising female participation in the labour market has helped cut the gender employment gap from 32 percentage points to nine, though a significant gender pay gap and occupational segregation remain. Self-employment has risen in all sectors and grown particularly strongly in sectors such as agriculture, forestry and fishery and construction.

These are all big shifts. Some changes were predicted but many were not – **flexibility and adaptability will be key for young people to adapt to both predictable and unpredictable changes.**

### Future demographic changes

Life expectancy is rising meaning that, while there are significant variations and inequalities, many **young people will have careers spanning 50 years**. An increasing number of young people will live to the age of 100.

The **workforce is also likely to continue to become more diverse**, with further increases in labour force participation by women and one in five working-age people, likely equating to some 1.5 million young people, having a disability.

These are significant changes with profound implications: longer careers mean young people will need to retrain and update their skills; increased caring responsibilities will mean more of them many want to work flexibly; a more diverse labour force means a greater need to tackle inequalities, including lower qualification attainment among young men; and a better qualified population overall will increase the disadvantages for young people with low or no qualifications.

## Future labour market changes

There are many projections about the future labour market. None will perfectly accurate, but they do tell us about direction of travel. Most projections suggest strongest growth in higher level occupations, such as managers and professionals. Demographic changes will mean continued growth in health and social care and job opportunities in skilled trades.

Changes in sectors and occupations, coupled with changes within existing jobs, imply an increased demand for interpersonal skills, cognitive skills, customer and personal service, English language, and management. This means young people will need a **rising bar of skills needs and wider pool of skills** to enter and progress at work and adapt to change.

The nature of work will also continue to change, though it can be affected by policy. A continuation of recent trends could mean **by 2030: 750,000 young people being self-employed; 500,000 worried their hours could change unexpectedly; and 2.2 million in work requiring work at high speed most or all the time.**

## Conclusions

- 1. A more diverse range of young people will participate in the labour market, with further increases in participation among women, people with disabilities, and other groups.** This makes it even more important to tackle education and employment inequalities among young people, or these will have long-lasting impacts.
- 2. Higher occupations and sectors such as health and social care are likely to continue to grow, and the nature of work will continue to change.** This needs to underpin careers advice and support for young people.
- 3. There will be more opportunities for young people to work flexibly, with policy helping determine if this benefits both people and employers.** Employment laws and the tax and benefit system need to support flexibility and security for young people.
- 4. Rising skills needs in jobs and a more qualified population will make a good foundation of skills ever more essential.** Young people need a wider and deeper core of skills, including literacy, numeracy, digital, communication and team working.
- 5. Longer working lives and economic change mean young people will need to be adaptable and flexible.** A wider and deeper core set of skills will help young people adapt. Learning and social security systems must reflect this 'new normal'.

## Introduction

What does the future hold?

This report looks at some of these likely future trends and how they might affect the type of work available, skills needed for work, and forms of work. They set the context for designing future employment and skills services for young people and the world they need to be prepared for.

The one thing certain about precise predictions for the future is that they are probably wrong. But they can show a direction of travel and trends likely to make a difference.

Some of these trends are knowable. For example, an aging population is likely to mean a growing demand for social care. Combined with longer working lives, an aging population will also mean more young people having caring responsibilities for more of their lives and an increased demand for flexible working.

Other changes and their impacts cannot be well predicted. For example, advances in technology such as Artificial Intelligence are likely to have a profound impact on the labour market and the way we live our lives. But the nature and timing of these impacts is unclear and uncertain. This points to the need for young people to be flexible and adaptable.

Of course, education and life are about more than work. We need to support young people to be active citizens and live healthy lives with high levels of wellbeing. This report, however, focuses more on the labour market. The Youth Commission will consider these broader needs in its analysis and recommendations.

The Youth Commission launch report identified five key challenges: engaging 700,000 young people not in education, employment or training; increasing the proportion of young people qualified to at least Level 3; improving literacy, numeracy and other essential skills; building a diversity of higher-level learning routes throughout life; and supporting the quality of work, career progression and economic security.

This report considers the implications of changing demographics and labour markets – these alter the context for tackling these challenges - and draws out the implications for learning, skills and employment systems and support. This will inform development of recommendations to meet the five challenges and ensure every young person has the best opportunities in life.

## Back to the future

- Young people are likely to face significant change during 50 year careers. Looking back over recent decades helps illustrate the likely scale of these changes and the extent to which they can be accurately predicted
- One in four people worked in manufacturing in 1978, but this has fallen to fewer than one in ten today. The share of employment accounted for by professional, scientific and technical, accommodation and food services, and human health and social work activities has doubled over the same period.
- More women are in employment. The employment rate gap between men and women has fallen from 32 percentage points forty years ago to nine percentage points today. However, a significant gender pay gap and gender segregation remains. There are still major inequalities by socioeconomic group.
- There have also been changes in the type of work. Self-employment has grown across the board, though is more prevalent in some sectors. Policy, institutions and technology have helped to shape how work is structured.
- Some of these changes were predictable. Other were not, and the scale, timing and impact of changes were challenging to predict. The key for the future is to bear in mind trends, but focus on flexibility and adaptability.

Young people entering the labour market today are likely to have careers lasting 40-50 years. To illustrate the scale and unpredictability of the future, this chapter looks at how the labour market has changed over the last 40 years.

Over this time technology has advanced significantly, with many ideas making the move from science fiction to science fact. Our lives have changed immeasurably, from advances in technology (like mobile phones and the internet) to increased access to global travel. Our labour market and work opportunities have undergone a similar scale of change.

### Changing sectors

The sectoral make up of employment has changed significantly since the late 1970s. This is shown in Figure 1. The most visible shift is the decline in manufacturing, down from 25% of jobs in 1978 to 8% today.<sup>1</sup> Some of this decline (as well as other changes in the sectoral breakdown) will be the result of changes in the way work is structured, in particular the rise in outsourcing of some functions. Nonetheless, the decline in manufacturing employment is clearly real. That manufacturing employment was likely to decline may have been to an extent predictable at the time, but the scale and speed of changes may not.

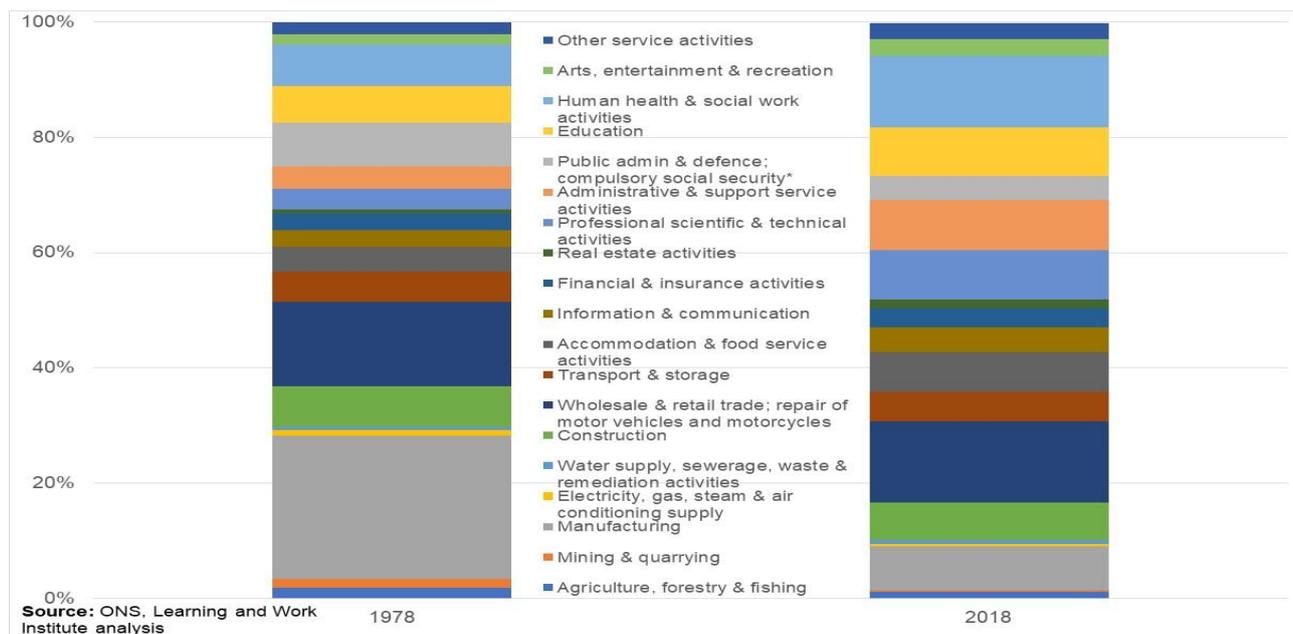
Other big changes include a doubling in the share of jobs accounted for by professional, scientific and technical activities, up from 4% of jobs to 9%. Accommodation and food

---

<sup>1</sup> Workforce jobs survey, ONS, 2018.

service activities have risen from 4% of jobs to 7%, reflecting the continued shift to a service economy. Human health and social work activities have risen from 7% of jobs to 13%, reflecting both an aging population and a general trend in advanced economies towards greater demand for healthcare.

**Figure 1: Employment in the UK by sector**



A lot of these general shifts (such as away from manufacturing and towards healthcare) were predictable at the time. However, the speed and extent of the changes, and what they mean in terms of types of jobs and skills required were perhaps less predictable.

### Changing nature of work

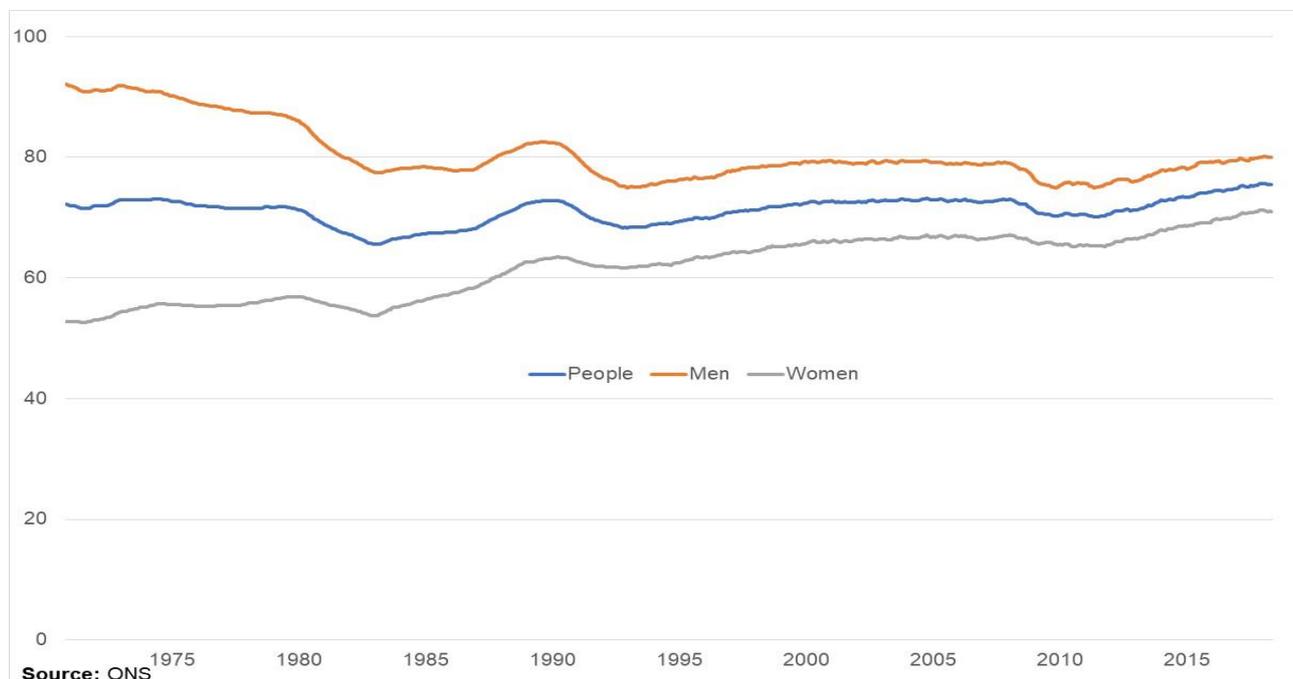
The nature of work has also changed significantly over the last forty years. This includes both who is working and how work is structured.

There has been a continuing rise in the proportion of women in work, up from 56% in 1978 to 71% today.<sup>2</sup> The employment rate for men has fallen from 88% to 80%. Figure 2 shows the employment rate gap between men and women has fallen from 32 percentage points to nine percentage points. The gender pay gap has also continued to narrow, though it remains significant as does occupational segregation. For example, four out of five people working in caring, leisure and other services are women, compared to just one in ten working in skilled trades.<sup>3</sup>

<sup>2</sup> Labour force survey, ONS, 2018.

<sup>3</sup> Labour force survey, ONS, 2018.

**Figure 2: Employment rate in the UK, 1971-2018**



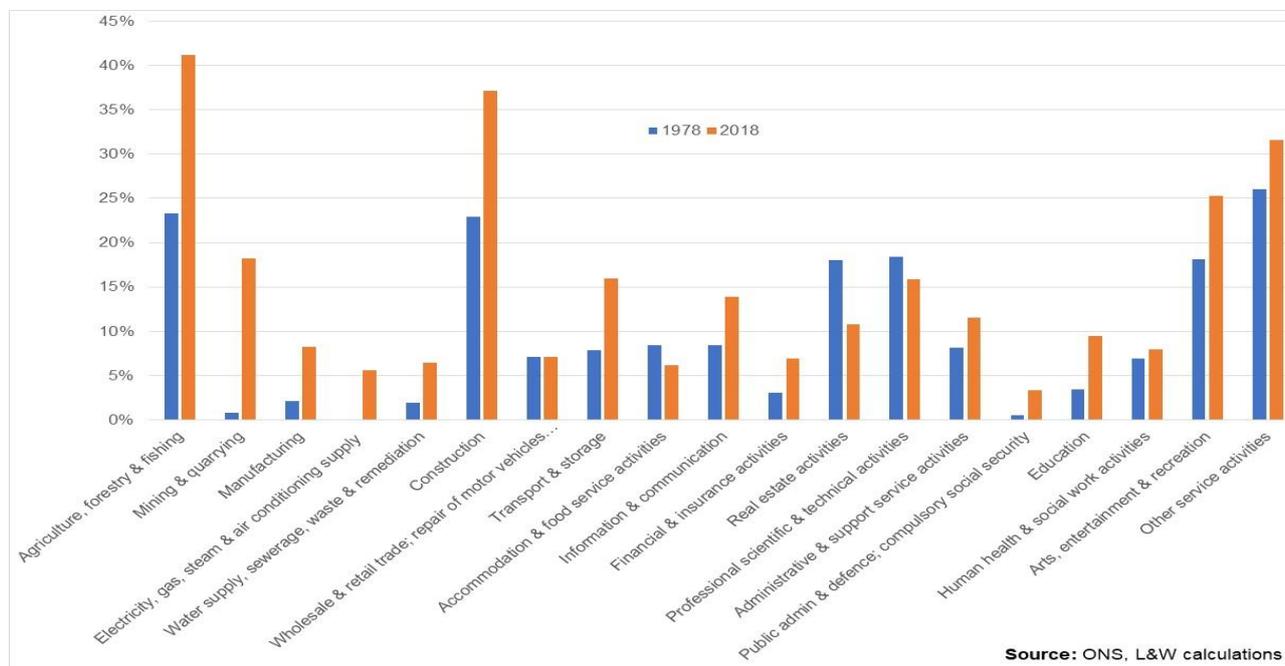
There has been far less progress in tackling inequalities by socio-economic group. The top professions remain dominated by higher socio-economic groups and those that have attended private schools.<sup>4</sup>

The way work has structured has also undergone significant changes. This can be seen, for example, in the growth of self-employment. Figure 3 shows that self-employment is more prevalent in some sectors than others. For example, 41% of people working in agriculture, forestry and fishery and 37% of jobs in construction are self-employed.<sup>5</sup> However, virtually every sector has seen a rise in the share of self-employment.

<sup>4</sup> The state of social mobility in the UK, BCG and Sutton Trust, 2017.

<sup>5</sup> Workforce jobs survey, ONS, 2018.

**Figure 3: Self-employment as percentage of total employment in the UK by sector**



In addition to self-employment, there have been rises in other forms of flexible employment. Some of these are driven by technology (e.g. the gig economy), others by changes in regulation or the way firms choose to structure work.

Back in 1978 it would have been possible to predict a rise in self-employment. But it would have been difficult to accurately predict its rise across the board, how it has varied across sectors, and the precise nature and scale of increases in other forms of flexible work.

It is policy and institutions that help to determine the extent to which these changes benefit people (by allowing them to work in ways that suit them) as well as employers, preventing flexibility being a one-way street.

### Lessons for the future

Looking back, some of these changes could have been and were predicted at the time. These include the growth in health and social care jobs and increase in high skilled jobs. These could help to inform services for young people at the time. Others, such as the scale of change in the structure of work (including the growth in self-employment and the gig economy) were, perhaps, less predictable.

The key lesson for education and employment services for young people is to pay attention to likely future trends, use them to shape support and action, but maximise flexibility and adaptability.

## What will be the impact of demographic changes?

- On average we are living longer, meaning most young people will have careers lasting 50 years. This is a great opportunity if they have effective support to navigate the changes they will face and to make informed choices
- However, there are significant inequalities. Healthy life expectancy is 7-10 years lower in more deprived Local Authorities than in less deprived areas. One in five of the working age population has a health problem or disability, meaning they are less likely to be in work or have qualifications
- The employment rate gap between men and women has narrowed significantly, and it is likely that women's labour market participation will continue to rise. Further progress is, however, needed on the gender pay gap and occupational segregation.
- Qualification levels are rising but some groups are missing out. This includes a gender gap, with younger women more likely to have higher qualifications than men
- These demographic changes have big implications for education and employment support. The diversity of young people in the workforce is likely to increase: more women and disabled people, for example. Young people will stay in the workforce for longer. But there will be big inequalities between groups and areas to tackle.

Younger people in general have longer life expectancy than previous generations, longer working lives, and changing patterns of participation in the labour market. This chapter sets out these key demographic trends and their likely implications for the education and employment support young people will need.

### Living and working longer

Life expectancy is increasing. Average life expectancy has risen from around 40 years during much of the 19<sup>th</sup> century to around 80 for those born today (with women, on average, living 3.6 years longer than men).<sup>6</sup> Life expectancy is expected to rise further, though progress has slowed in the UK in recent years. This means an increasing number of young people can expect to live to the age of 100. By 2030 there will be 720,000 people aged over 90, compared to 498,000 today.<sup>7</sup>

Consequently, young people will face perhaps a wider range of options than any other generation in history. They will have longer careers. Many will leave education in their late teens or early twenties and work through to their late 60s or early 70s. This will mean a 50 year career during which they will have the chance to take a range of different directions and change jobs and careers multiple times. That has implications for supporting these

---

<sup>6</sup> What is happening to life expectancy in the UK, King's Fund, 2018.

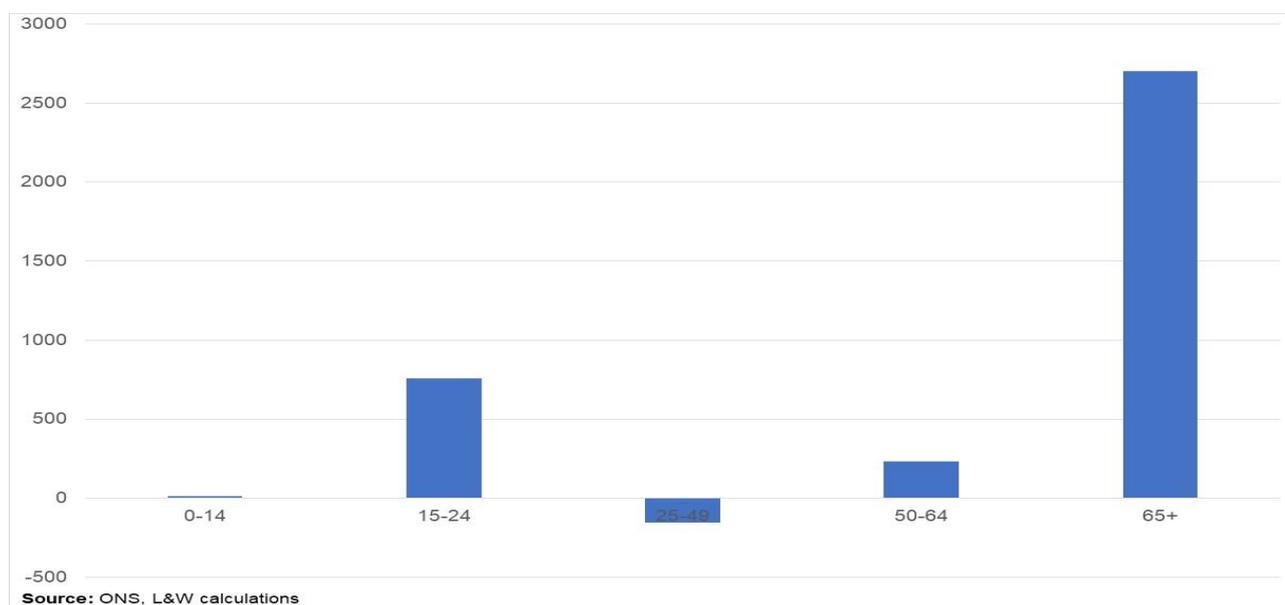
<sup>7</sup> 2016-based sub-national population projections, ONS, 2018.

career changes, updating skills, and saving for these life changes (including retirement). These are explored further below.

However, life expectancy varies widely. In 2014-16, men living in more deprived areas could expect to live 9.3 years fewer than men living in less deprived areas.<sup>8</sup> For women the gap was 7.4 years. Healthy life expectancy (the number of years people can expect to live and be healthy) varies by 18 years across Local Authority areas.<sup>9</sup> There are a range of reasons for these variations, including a correlation with living in more deprived areas. What is clear is that young people's chances of living a long life filled with opportunity vary significantly according to where they are born and live. This is a fundamental injustice.

Increases in life expectancy are one of the drivers of growth in the size of the population. The vast bulk of this growth is projected to come from those aged 60 and over, with little or no growth in the number of people below this age. Office for National Statistics projections suggest there will be 2.7 million more over 60s by 2030 compared to today.<sup>10</sup> By contrast, there will be little change in the numbers in other age groups, aside from a rise of 760,000 in those aged 15-24.

**Figure 4: Projected population change in thousands by age, 2018-30**



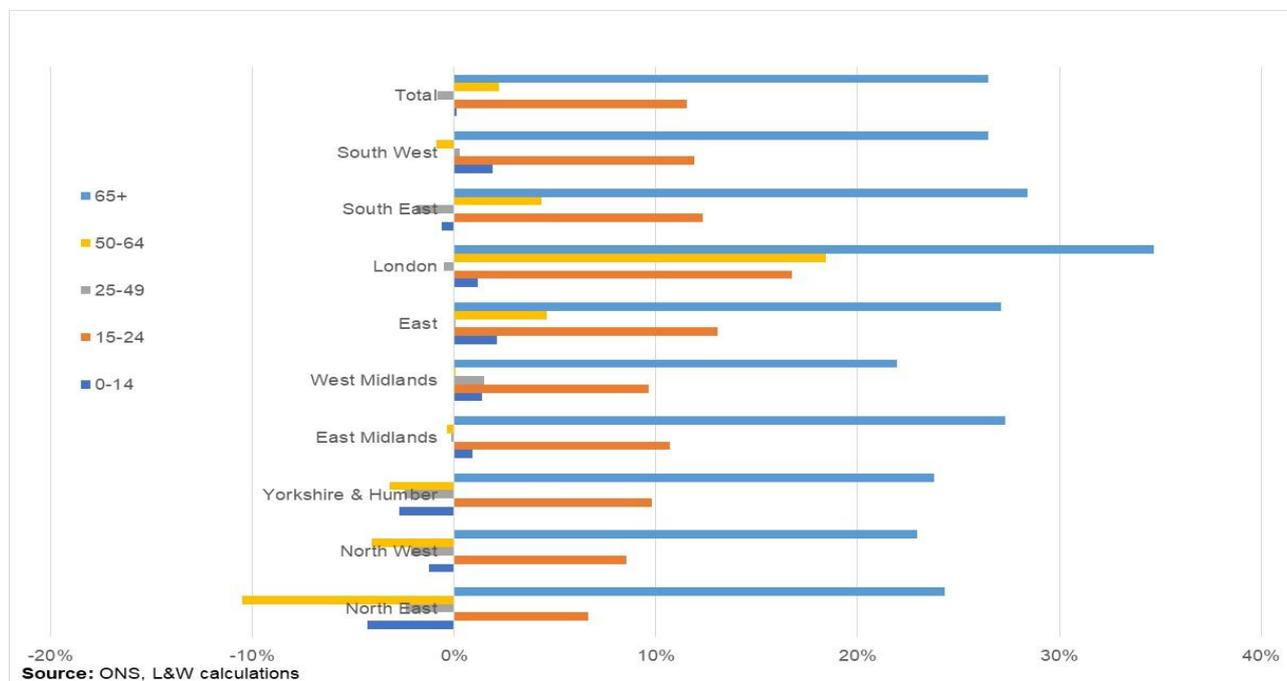
All regions of England face a similar pattern of change, but there are important differences. As Figure 5 shows, the North East, North West, and Yorkshire and the Humber are projected to have the largest proportionate fall in their 25-49 and 50-64 populations. This encompasses so-called 'prime working age'.

<sup>8</sup> What is happening to life expectancy in the UK, King's Fund, 2018.

<sup>9</sup> Healthy state life expectancies: UK 2014-16, ONS, 2017.

<sup>10</sup> 2016-based sub-national population projections, ONS, 2018.

**Figure 5: Projected population change by region, 2018-30**



London and other regions in the south of England are projected to have the largest growth in the number of people aged 15-24. The Youth Commission’s Youth Opportunity Index report highlighted the good record London has on education and employment opportunities for young people, increasingly important given these population projections.<sup>11</sup>

The previous chapter showed the long-term rise in female participation in the labour market. That is likely to continue – it is part of long-term, international societal changes. The extent to which progress continues (or accelerates) in tackling the gender pay gap and occupational segregation depends on a range of factors, including policy decisions and practice within employers and society.

Average healthy life expectancy at birth is 63 for males and 64 for women.<sup>12</sup> This means the average person will spend one fifth of their life in ill health. The likelihood of ill health increases over time: 45% of people aged over the State Pension Age have a disability, compared to 16% of the working-age population.<sup>13</sup>

However, there is a significant prevalence of disability and ill health among younger age groups too. Around one in five of the working age population are estimated to have a health problem or disability that affects their ability to participate in everyday life. This would equate to almost 1.5 million 16-24 year olds across England. Among younger age

<sup>11</sup> Youth Opportunity Index: Youth Commission Report Two, Learning and Work Institute, 2018.

<sup>12</sup> Health profile for England 2017, Public Health England, 2017.

<sup>13</sup> Disability facts and figures, DWP, 2014.

groups, muscular-skeletal conditions and mental health conditions are the main reasons for claiming out-of-work disability benefits.

Overall, disabled people are less likely to be in work (a 30 percentage point gap), more likely to be living in relative poverty (19% v 15%), and three times more likely to have no qualifications (19% v 6%).<sup>14</sup> This is stark example of the inequalities in outcomes and opportunities between demographic groups and geographic areas. Tackling these inequalities is central to the Youth Commission's aim to develop ideas to make sure all young people have a fair chance in life.

### More highly qualified

Previous Youth Commission reports have shown the long-term rises in the proportions of young people gaining qualifications at Level 2 (GCSE equivalent), Level 3 (A Level equivalent), and Level 4+ (degree equivalent).<sup>15</sup> These are welcome rises, benefiting people, society and the economy. They mean that employers will have a better qualified workforce to choose from (though qualifications are not always perfectly equated to skills).

However, this rise in qualification levels risks leaving behind those who don't get what is a rising bar of minimum qualifications. The Youth Opportunity Index showed how attainment varied across the country and by demographic group.<sup>16</sup> For example, care leavers and young adult carers on average gain fewer grades at GCSE-equivalent level. More broadly, young women now do better at most levels of education than young men. For example, there is a 5.3 point gap in Attainment 8 (GCSE or equivalent) scores between boys and girls, 54% of 16-18 year olds undertaking a Level 3 were women, and 18 year old women are one third more likely to attend university than 18 year old men.<sup>17</sup> However, a gender pay gap remains, the result of inequalities and structures in the labour market and society.

### Implications for education and employment

Taken together, these are significant demographic changes that have profound implications.

- 1. Young people will have 50 year careers.** Rising life expectancy means young people will have an extended number of years in the workforce, even after accounting for them leaving full-time education later than previous generations. This brings a range of opportunities to try new things and change careers. But taking advantage of this requires support, engagement, information and advice.

---

<sup>14</sup> Disability facts and figures, DWP, 2014.

<sup>15</sup> Opportunity knocks: first report of the Youth Commission, L&W, 2018.

<sup>16</sup> Youth Opportunity Index: Youth Commission report Two, L&W, 2018.

<sup>17</sup> Revised GCSE and equivalent results in England 2016-17, DfE, 2017; Level 2 and Level 3 attainment by people aged 19 in 2017, DfE, 2018; <https://www.theguardian.com/education/2017/aug/28/university-gender-gap-at-record-high-as-30000-more-women-accepted>

- 2. Increased caring responsibilities will demand greater flexible working.** Young people are likely to face multi-generational caring responsibilities. More than 300,000 14-25 year olds care for parents or siblings. Many will then have parenting responsibilities. Following this, they may need to care for their parents as they get older. Taken together, this is likely to mean an increased demand for flexible working among a wider range of people. Employers will need to offer flexible working on a wider basis in order to access the widest range of talent.
- 3. The working age population will be more diverse.** For example, women's participation in the labour market is likely to continue to grow. The fact young women gain better qualifications than young men is one of the factors likely to increase pressure to make further progress ensuring more equal representation at senior levels, helping to further narrow the gender pay gap. It also means there may be an increased focus on narrowing the education attainment gap for boys.
- 4. The rise in average qualification levels will make a lack of qualifications an even bigger barrier to finding work and building a career.** The increasing attainment of qualifications by young people compared to previous generations was set out in previous Youth Commission reports. Today around one in two people aged 18-30 participate in Higher Education, and attainment of qualifications at other levels has risen. This is a positive for people, society and the economy. However, it increases the relative disadvantage of those who do not have many or any qualifications. They risk being locked out of good quality careers, or even out of work altogether. This emphasises the need to ensure all young people gain the skills and qualifications they need, and to target support on those that need it most.
- 5. Without better education and employment services, existing inequalities will reinforce and drive down social mobility.** The Youth Commission has shown significant inequalities in employment and education opportunities between demographic group and geographic area. These inequalities risk reinforcing themselves through people's lives and then cascading down generations – for example, children's educational attainment is closely linked to that of their parents and then affects long-term job, career and pay prospects. Tackling these inequalities at source, while people are young, can help build a fairer society. As does giving people multiple opportunities to improve their education and employment throughout their life.

## Will labour market changes bring greater insecurity or opportunity?

- A range of factors will affect young people's future labour market opportunities. These include government policy, economic prospects, demographic and technological changes, and consumer preferences
- Further falls in manufacturing employment are projected to be offset with an extra 875,000 jobs in professional occupations and 400,000 in caring, leisure and other services by 2024. But there will be job opportunities in all sectors as the current workforces retires. Beyond this, there are debates about the proportion of jobs that may be automated and the new opportunities this will also create
- These sector and occupation changes will affect the skills young people need, and economic factors will change existing jobs too. Overall, young people are likely to need a rising and widening skillset, with teamworking, English, digital, maths and customer and personal service skills at their foundation
- Further changes in the nature of work will be driven by changing technology and demographics. By 2030: over two million young people could be in work requiring high speed working most of the time; 750,000 could be self-employed could rise to 750,000; and 500,000 could be worried that their hours could change unexpectedly

The types of jobs, forms of work and skills needed are likely to change significantly. Some of these changes can be projected, albeit at a high level, today. Others cannot. The ongoing debate about Brexit, which will affect our trading relationships and hence the speed of growth and shape of the economy, add additional uncertainty. This chapter scopes out what we do (and don't) know about these changes.

### Changing sectors and occupations

Projections of the future labour market depend on a combination of:

- **Government policy.** For example, the cuts of recent years reduced the number of civil service and local government roles;
- **Economic growth prospects.** Overall growth will affect the number of jobs created and how well paid they are. The nature of growth, depending on a range of factors including domestic policy and our international trading relationships, will affect sectors and occupations differently;
- **Demographic trends.** For example, an aging population increases demand for health and social care. This also affects how many people will retire;
- **Technological change.** For example, there have been declines in the number of administrative and secretarial roles, and use of technology has increased across many occupations and sectors; and
- **Consumer preferences.** For example, as disposable income has risen over time, so has demand for leisure services.

In the longer term there are many debates about the impact of these changes. These have sometimes become stereotyped in an assessment of the proportion of jobs that could be replaced by automation – the ‘rise of the robots’. Assessments have suggested anything from 10-35% of jobs could be automatable, or in some cases up to 50%.<sup>18</sup> However, technological change has already destroyed some jobs and created others (though some argue this time might be different), as well as changing the nature of many existing roles in different sectors and occupations.

Perhaps the most significant lesson for education and employment services is about the profound ongoing changes in skills and capabilities needed as the labour market changes (explored further below) take effect, as well as the need for young people to prepare for an uncertain future and adapt to change as it unfolds.

### **Shorter-term labour market projections**

Projections for the nearer future tend to assume, to some extent, a continuation of previous trends. For example, Working Futures models potential paths for the UK economy and then projects the impact of these on sectors and occupations.<sup>19</sup> Its latest projections suggest that manufacturing will fall to 6.7% of employment in 2024 from 8% today, levelling off the rate of decline seen over recent decades. Business and other services, meanwhile, are expected to add one million jobs in the ten years to 2024.

The same forecasts suggest likely strong growth in occupations such as managers (500,000 in the decade to 2024), professional occupations (875,000) and caring, leisure and other services (400,000). But declines in skilled trades (230,000), process, plant and machinery operatives (150,000), and administrative and secretarial (390,000). To an extent these mirror trends over the previous decade – the product of changes in government policy, consumer preferences, and the impact of technology and other global economic changes.

However, perhaps the key point from Working Futures is the extent to which replacement demand (the need for new workers in a sector or occupation to replace those retiring or moving on to other things) outweighs expansion demand (the growth or contraction overall of a sector or occupation).

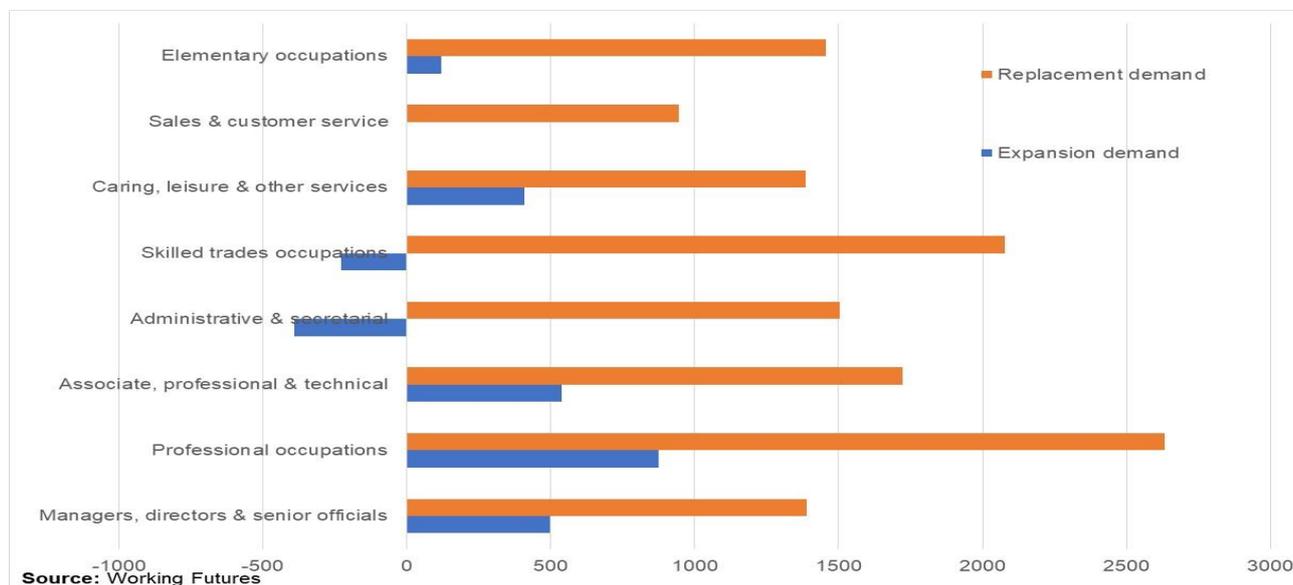
Skilled trades provide a stark illustration. Employment in skilled trades is projected to fall overall. However, an aging workforce is projected to mean replacement demand of two million job openings.

---

<sup>18</sup> The future of employment: how susceptible are jobs to computerisation, Frey and Osborne, 2013; Automation, skills use and training, Nedelkoska and Quintini, OECD, 2018.

<sup>19</sup> Working futures 2014-24, UK Commission for Employment and Skills, 2016.

**Figure 6: Occupational projections, 2014-24**



Overall, sector and occupation projections follow an ameliorated version of previous trends, though with a range of uncertainty around this. This suggests growth in the number of people employed in health and social care, as well as higher level occupations. To place this into context, a separate study by Nesta suggests that one in ten of the workforce are in occupations likely to grow in relative size by 2030, two in ten are in occupations likely to shrink, and seven in ten there is uncertainty about what will happen.<sup>20</sup> The picture about which occupations are most likely to grow and shrink paints a similar picture to the Working Futures projections.

### Changing skills

There have been a range of studies looking at the likely skills needed for future employment and work opportunities. These aim to take a view of likely changes in sector and occupation and the nature of work (see below) and estimate what this means for the skills and capabilities people will need.

One of the latest and most comprehensive is by Nesta.<sup>21</sup> Table 1 shows some of the skills groups likely to have particularly strong or weak growth.

<sup>20</sup> The future of skills: employment in 2030, Nesta, 2018.

<sup>21</sup> Making sense of skills: a UK skills taxonomy, Nesta, 2018.

**Table 1: Selected skills group changes**

| Higher salaries, high growth projected | Lower salaries, low growth projected |
|--|--------------------------------------|
| Data engineering                       | Shipping and warehouse operations    |
| IT security operations                 | Medical administration and coding    |
| Marketing research                     | General sales                        |
| App development                        | Archiving and libraries              |
| Web development                        | Journalism and writing               |

Beyond these specific skills, the same study suggests a growing importance across many sectors and occupations of interpersonal skills, cognitive skills (such as active learning), customer and personal service, English language, and management. Many of these skills will be increasingly important across a wider variety of sectors and occupations.

### Changing nature of work

Previous chapters showed how the nature of work has changed, including increases in the prevalence of self employment. This can also be seen in the rising numbers of people working flexibly (in terms of both hours worked and, in some cases, place of work and remote working) and more recent attention on the so-called gig economy.

The changing demographics of the workforce (set out in the last chapter) coupled with changes in technology and sectors are likely to lead to further changes.

This is likely to be driven by both people and employers. For people, the previous chapter set out projected changes in demographics. Lengthening working lives and rising life expectancy are likely to lead to an increase in the number of people with caring responsibilities (for children, people with disabilities, parents and other relatives) throughout people's working lives. In turn this is likely to increase the demand for flexible working – making this a much more mainstream form of working than in previous decades.

In addition, the need to change career more often is likely to require more routes for adults in mid-career to retrain or update their skills. We need to prepare young people for this likelihood. This includes ensuring their education gives them the foundation of skills they need and builds their adaptability and flexibility, building young people's expectation of the need to retrain, commitment to lifelong learning, and giving enough support and security for young people to respond to the changes they will encounter. For example, in some cases young people may need step down the career ladder further down the line to move to a new sector or occupation. This is likely to be challenging to manage, particularly for those with family or other commitments.

For employers, there are also drivers for changing the way work is structured. Some of these are negative (from a societal point of view) – effectively putting the risk of illness or reduced demand onto individuals shoulders through increasing self-employment, rather than shared with the employer as in a ‘traditional’ employment contract. Others are more positive, about getting access to the best talent (who may not be willing or able to work a full-time working week).

Both are enabled by changes in technology. For example, the internet and rollout of broadband have made working remotely more viable for many. They have also enabled growth in the gig economy as well as the outsourcing of functions to outside organisations and around the world.

Policy and institutions also affect how work is structured and the impact of changes in demographics and technology. For example, the government-commissioned Taylor Review set out a number of proposed changes to try to ensure flexibility is not a one-way street for employers.<sup>22</sup>

This includes the tax and benefit system. For example, the previous tax and benefit system provided financial incentives for many people to work at least 16 hours per week, leading to a clustering of jobs around this level. Universal Credit changes these incentives and may lead to growth in the number of smaller hours jobs (either as additional jobs, reductions in hours for existing jobs, or a combination of the two).

These changes in the nature of work are also affecting the nature of more ‘traditional’ employment. The Skills and Employment Survey shows that the intensity of work is rising: the proportion of jobs requiring work at high speed most or all the time rose to 31% from 27% in 2012 with even starker rises in some professions such as teaching and nursing.<sup>23</sup> The proportion of employees having discretion over how they do their work has fallen from 60% in 1992 to 40% today.

The same survey estimates that, while worries about job loss or change have fallen in the last five years, 1.7 million people were very anxious that their working hours could change unexpectedly. This group were also more likely to be concerned about job loss, downgrading of job status and higher work effort.

All of these are enabled by the same changes in technology and society. Technology brings the opportunity to work in new ways that better suit people’s lives, but the risk is that for many roles it takes away autonomy (such as using technology to track workers) and for others it adds to work intensification (such as encouraging people to check their emails in the evening and at weekends).

---

<sup>22</sup> Good work: the Taylor Review of modern employment practices, BEIS, 2018.

<sup>23</sup> Insecurity at work in Britain: first findings from the Skills and Employment Survey, Cardiff University, 2017.

It is neither possible nor desirable to roll back these broad, long-term international trends, or to uninvent the internet. Instead, we need to ensure young people gain a sufficient breadth of skills during their education and in their careers, as well as supporting a mindset of flexibility and adaptability. These will be key to making the most of the opportunities a 50 year career can bring.

Taken together, these trends point toward likely further growth across the board in the diversity and flexibility of work. This could include further growth in part-time working, remote working and different forms of self-employment.

**Indicatively, by 2030 this could mean:**

- **One in seven young people (750,000) in work being self employed, even if the rate of growth in self-employment seen in the last forty years slows;**
- **500,000 young people in work and worried that their hours could change unexpectedly, up from around 380,000 today; and**
- **Around 2.2 million young people in work that requires work at high speed most or all the time.**

Most young people might be in work, but a significant minority of these are going to be in insecure or new forms of work. These changing forms of work coupled with longer and changing careers will also require new approaches to ensuring young people are able to build and maintain economic security. Otherwise the risk is that the costs of learning through life coupled with saving for a pension, buying or renting a house etc, make it too challenging for young people to adapt to and make the most of change.

To avoid an age of insecurity, and instead make these changes exciting opportunities for young people, will require a different education and employment offer.

## Conclusions

- 1. A more diverse range of young people will participate in the labour market, with further increases in participation among women, people with disabilities, and other groups.** This makes it even more important to tackle education and employment inequalities.
- 2. Higher occupations and sectors such as health and social care are likely to continue to grow, and the nature of work will continue to change.** This intelligence, and its uncertainty, needs to underpin the careers advice and support that young people get.
- 3. There will be more opportunities for young people to work flexibly, with policy helping determine if this benefits both people and employers.** Employment laws and the tax and benefit system need to support flexibility and security for young people throughout their working lives
- 4. Rising skills needs in jobs and a more qualified population will make a good foundation of skills and qualifications ever more essential.** Young people need a wider and deeper core of skills, including literacy, numeracy, digital, communication and team working
- 5. Longer working lives and economic change mean young people will need to be adaptable and flexible.** A wider and deeper core set of skills will help young people adapt. Learning and social security systems must reflect this 'new normal' so that a risk of an age of insecurity becomes instead an age of opportunity

Our education and employment systems need to prepare young people for the future labour market, not just the jobs of today, and help them adapt to and make the most of change as it arrives. No-one can be certain about the future and so part of the focus must be about helping young people for a range of possible future scenarios and for the change that is inevitable. This chapter highlights five trends and lessons that will be central to ensuring all young people get the education and employment support they need.

### **1. Participation in the labour market will continue to widen among many groups of young people**

The general trend away from a male breadwinner model and toward wider participation in the labour force is likely to continue. A wider group of young people are likely to participate in the labour market than in previous generations, including a further narrowing of the gaps between men and women. There is also likely to be greater participation among older age groups and those with caring responsibilities and health problems and disabilities.

**Implications.** Inequalities in access to learning and employment support risk having a long-lasting impact on people's lives if not effectively tackled. These inequalities could reinforce wider inequalities in society. It also means employers will need to continue to broaden their recruitment and workforce strategies to gain access to the best talent.

## **2. There will be further growth in higher occupations and sectors such as health and social care, and the nature of work will change across sectors and occupations**

An aging population and global economic trends mean significant growth in high occupations and in some sectors, such as health and social care. However, there will always be opportunities across a range of sectors and occupations, not least due to 'replacement demand' as existing workers retire. The nature of work is likely to change further, with further rises in the number of young people working in flexible forms of employment and self-employment at some point during their working lives.

**Implications.** Young people need to know the sectors and occupations that are likely to see the highest levels of jobs growth, as well as where job opportunities are most likely to be. This needs to be embedded in careers advice and education and employment support, along with a clear explanation of the limits of predictive analysis given how unpredictable the future is. An increased likelihood of being in new forms of work at some point in a 50 year career means a higher need for flexibility, adaptability and transferable skills.

## **3. There will be greater opportunities to work flexibly, but policy will help shape whether this benefits both employers and people**

Flexible working in its many forms is likely to further increase. There will be more people demanding flexible working: the result of a more diverse workforce and increased caring responsibilities resulting from an aging population and lengthening working lives. There will also be more employers offering flexible working: the result of wanting to gain the best talent and the impact of global economic changes such as advances in technology in allowing firms to structure work differently.

**Implications.** Young people are more likely to be self-employed or in new forms of work at some point in their careers. Education and employment systems need to think about the skills young people need for this (such as enterprise skills), how young people can learn flexibly, and how the tax and benefit system supports security when young people's income may vary significantly over time. Policy and institutions, including employment regulations and the tax and benefit system, will help to shape the impact of changes to the form of work and whether this benefits both individuals and employers, or instead increases insecurity. Young people will have an important role to play in arguing for the 'rules of the game' to reflect changing demographics and preferences.

## **4. Rising skills needs in jobs and a more qualified population will make a good foundation of skills and qualifications ever more essential**

Changes in the economy, including advances in technology, are both increasing the skills needed in existing jobs and meaning growth in employment is concentrated in occupations with higher skills needs. The result is a rising bar for getting into and progressing in work.

Literacy, numeracy and digital skills are required for an increasing proportion of jobs, as are team working and communication skills. The core set of skills needed for work is both widening and deepening. At the same time, the rising qualification profile of the population is increasing the disadvantages associated with not having many or any qualifications.

**Implications.** Young people's work and career prospects will increasingly depend on a core of skills wider than for previous generations. These include literacy, numeracy and digital skills, but also team working, communication, flexibility and adaptability. The education and employment systems need to ensure young people gain these skills and capabilities, and that they are embedded as far as possible in provision. There risks being a growing opportunity divide between young people who do and do not have these skills.

## **5. Longer working lives and economic change mean young people will need to be adaptable and flexible**

Longer life expectancy means 50 year careers for young people, during which there will be immense economic and social change. This will mean more young people needing to change careers and sectors more often than previous generations, as well as significant change within existing jobs and occupations. There is no form of initial education that could mean no need for further learning and training throughout life. Similarly, while the direction of travel can in some cases be projected, it is not possible to accurately predict the nature of all changes and how they will affect each individual.

**Implications.** Young people's employment and career prospects will depend on ensuring the core set of skills and capabilities needed for flexibility and adaptability. As identified above, these include literacy, numeracy, digital, team working and communication. In the 21<sup>st</sup> century the concept of a job for life is increasingly rare: employment security is more dependent on having the right skills and being adaptable. The education and employment systems need to support young people to adapt to these changes, and to provide security for them while they adapt. This has implications for: education (increasing the need to build a lifelong learning culture as well as flexibility and adaptability); learning provision (as more people will need to retrain and update their skills throughout their working lives); and social security (to provide security and support for change, given the potential drop in income young people could face later on while they are retraining or changing careers).