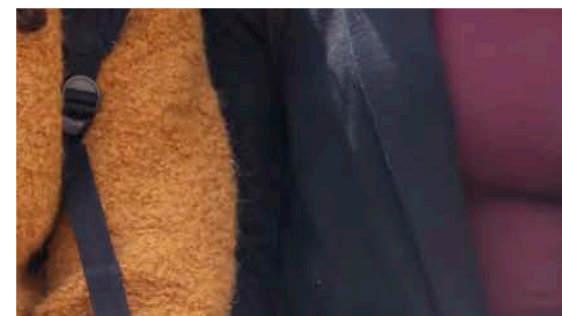




Youth Employment Index 2022

Building a resilient workforce for the future

April 2022



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About this report

The Youth Employment Index is a collaboration between PwC and the Youth Futures Foundation to measure, benchmark and monitor youth employment and the access of young populations to education and training.

By summarising the most relevant data and evidence across the OECD, it provides a tool for governments and businesses to better understand how they can support young people to engage with education, training and work. The report makes a deep dive into the challenges and opportunities in the UK.

As economies across the globe grapple with the impacts of sweeping job losses caused by the COVID-19 pandemic, the report seeks to shed light on how best to help those who have been disproportionately affected as the economy and employment recover.

Beyond the pandemic, it is clear that while largely beneficial for society, technological change and the journey to net zero may pose threats to jobs and livelihoods of many people, globally and in the UK. The challenges can be big: for instance, according to some estimates up to 30% of jobs could be at high risk of automation in the UK without intervention.

Based on different scenarios of how youth employment may evolve into the future in the context of mega trends, the policy implications of the report are focused on the long-term.

The ultimate goal of the report is to improve our understanding of how young people can be encouraged and enabled to realise their potential through productive careers that will also benefit our future economy and society.

Foreword

Kevin Ellis, Chairman of PwC UK

One of the profound learnings from the 2008 financial crisis is that recessions leave scars. This is particularly so when it comes to the labour market, and the impact of long term unemployment on young people.

It has been estimated that it took an average of seven years for those who graduated between 2008 and 2011 for their potential earnings to recover, while those with only GCSEs faced a 20% higher unemployment rate.¹

This is because unemployment at the start of a career can have a cumulative effect, with loss of confidence and skills affecting job opportunities. In short, the earlier you miss out, the more you miss out.

Each recession and recovery is different. This time round, many older workers have exited the market and there are record vacancies. Indeed, the most recent public data shows the number of unfilled jobs rose to more than 1.3million in the three months to January, a rise of 59% on pre-pandemic levels.

But the headline data risks masking other challenges in the labour market that threaten the prospects of young people. Skills gaps are increasing as new jobs emerge in sophisticated sectors, heavily dependent on technology. Green jobs to address climate change are a good example, already accounting for 1.2% of advertised jobs in the UK (equating to 124,600 new jobs) for the year to July 2021.

There's a risk of a widening gulf between those who can readily access these opportunities and those who can't. A gulf too often determined by a person's background and where they were born.

I'm a firm believer that we can change this course, and ensure new jobs in highly skilled and emerging sectors equate to higher quality jobs for more people.

It requires Government, businesses and civil society working together to identify effective policies and solutions that ensure job opportunities are not only fairly spread but meet market needs. And this work relies on data and evidence to shine a light on what's happening and where.

The Youth Employment Index is such a light – it can measure, benchmark and monitor progress across the OECD in employing and training young people. This is key to identifying challenges and opportunities in specific regions and sectors and I am delighted PwC is working with the Youth Futures Foundation on improving our understanding of this.

At PwC, we've seen first hand the benefits of apprenticeships and targeted skills programmes, but there's a long way to go yet. We are dedicated to playing our part in these efforts and ensuring that no matter where you are based or born in the UK, you and future generations stand a chance to benefit.



¹ <https://www.resolutionfoundation.org/comment/coming-of-age-during-a-downturn-can-cause-scarring-and-it-takes-up-to-a-decade-to-heal/>

Foreword

Chris Goulden – Director, Youth Futures Foundation

As a What Works Centre on youth employment, Youth Futures Foundation's main mission is to explore the drivers and current situation of marginalised young people in the UK labour market, while developing evidence-based solutions that help them to thrive in a decent job and career. The current economic context, with record vacancies alongside historically low participation rates of young people in the jobs market, means employers need to think innovatively about how to reach potential young workers who are also facing disadvantages and discrimination.

We've worked with PwC to develop this latest iteration of the Youth Employment Index for 2022 sets out some of those challenges faced by employers, governments, and especially young people (and those who are supporting them) in this current testing context. In working alongside PwC to update the Index, we aim to combine our focus on evidence and solutions with PwC's engaging approach to interrogating and setting out the data on young people who are not in employment, education, or training (NEET) in comparison to other countries in the OECD. As of the last quarter of 2021, nearly 700,000 young people are NEET in the UK – that's around one in ten.

While the UK has crept a little up the league of nations, there remains a wide gulf between our solid mid-table performance and those of the top teams of Switzerland, Germany and Iceland. The prize from bettering outcomes for young people in the UK is large. The report estimates that if we were to match the NEET rates seen in Germany, our national GDP could rise by just shy of £40bn. Even if readers are not moved by the plight and injustice of young people being locked out of opportunities in the jobs market, then the waste of potential and impact on national wealth should be ample reason enough to get behind the solutions set out in this report.

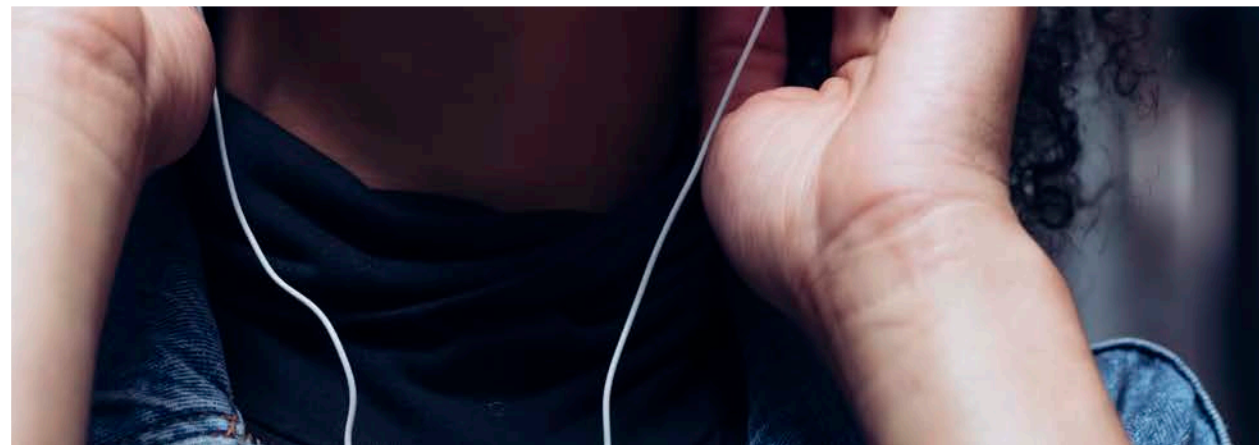
However, because that data is naturally backwards looking (with a lag from collection to publication), and the fast-changing nature of the labour market as it emerges from the pandemic and lockdowns, we also wanted to look forwards to what the future might hold for young people trying to make their way in the world of work. The report builds on workshops with experts in the field to identify four major trends – power shifts, tech breakthroughs, climate change and demographic change. These could lead to a spectrum of outcomes for the youth labour market, ranging from – at the more positive end – a 'flexible transformation' where technological opportunities are grasped, to a more negative scenario of decline with rising and entrenched youth unemployment.

The key to unlocking the constructive potential of these trends lies in addressing fragmentation within the youth employment and skills system. We know there are wide geographic disparities in access to jobs and training and in levels of need across the country; and that many of the answers lie in more integrated local responses. Improving those youth employment and skills systems is one of three strategic priorities that we have at Youth Futures; the others being to create opportunities by helping employers access evidence on effective practice and to build capacity to provide effective support to greater numbers of young people. Integration of policy across geography, departments and the life-course, while enabling greater engagement with young people themselves, backed by an evidence and data-informed approach are the building blocks laid out clearly in this report that can give our young people the better future that they deserve.



1

Executive summary



The UK government, alongside businesses, must prioritise the needs of young people – particularly the most disadvantaged – to build a resilient workforce for the future

A significant proportion of young people risk being stranded in low-wage work, or outside education or employment, in the coming decades – unless the UK creates a more inclusive and resilient labour market.

The UK labour market has performed middle-of-the-pack for many years in the OECD, in terms of its opportunities for young people, with many of the most vulnerable remaining inactive for long periods of time. This trend is likely to continue, or worsen, without significant action to improve support for young people.

Long-term global trends, including climate change, technological advancements and demographic shifts, pose significant challenges for young people. Those entering the workforce over the coming years face increasing risks of their jobs being automated, growing skills gaps and rising inequality.

Similarly to the rest of the OECD, in the UK these trends could exacerbate existing issues in the youth labour market and leave behind an increasingly disengaged subsection of disadvantaged youth. However, change also presents an opportunity to redirect the current trajectory of the labour market and unlock the full potential of young people across the country. Whether through opening paths into new sectors such as the green economy, empowering young people to benefit from increased flexibility in work or supporting them to visualise a new career path, each global trend has the potential to create opportunities for young people.

Investing in young people does not just benefit them but the economy in general. Today's youth are the UK's future workforce and equipping them with the right skills and experience will lead to sustainable growth that benefits all. Their future is the future of the economy.

Key messages from our analysis are outlined in the rest of this summary...



The UK continues to improve its Youth Employment Index score gradually, rising from 20th to 18th in the OECD. But policymakers and businesses can take further steps to support workers in the education and training system and the workplace

UK =
18th

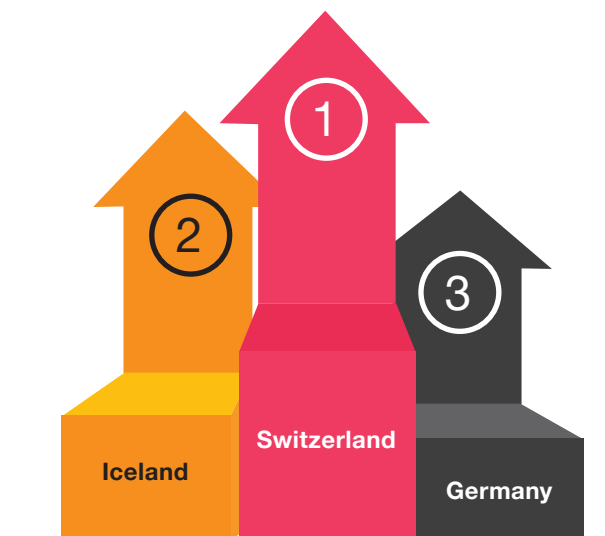
out of 38 countries in the Youth Employment Index

The UK had a middling performance on the Youth Employment Index this year.

UK has a very mixed performance across indicators

- Highest ranking = overall youth employment rate.
- Lowest ranking = relative youth/adult employment rate.

Top performers on the 2022 Youth Employment Index:



£38bn

potential gain

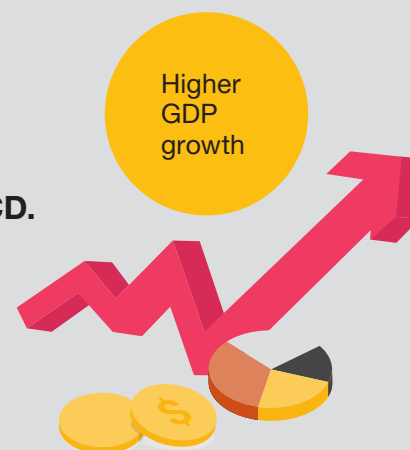
for the UK if it lowers NEET rates to German levels



The UK's NEET (young people not in employment, education or training) rate for 20 to 24 year olds is currently 14%, over 5 percentage points higher than Germany. We estimate that closing this gap would increase UK GDP by 1.8% in the long-term, or £38bn.

Youth unemployment is highly persistent and countercyclical across the OECD.

Results from our cross-country econometric analysis show that **lower youth unemployment is associated with:**



Lower previous levels of youth unemployment

Higher employment of workers aged 55-64



Existing trends in the UK labour market were exacerbated by the pandemic, widening existing inequalities affecting young people, especially from minority groups



Impact of the pandemic on youth unemployment

Young people are over-represented in shut-down sectors and more likely to be employed in temporary jobs and zero hours contracts.

At the start of the pandemic, youth unemployment increased by over **four percentage points** more than the rest of the workforce

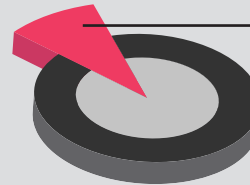
Young people are over-represented in shut-down sectors and more likely to be employed in temporary jobs and zero hours contracts.



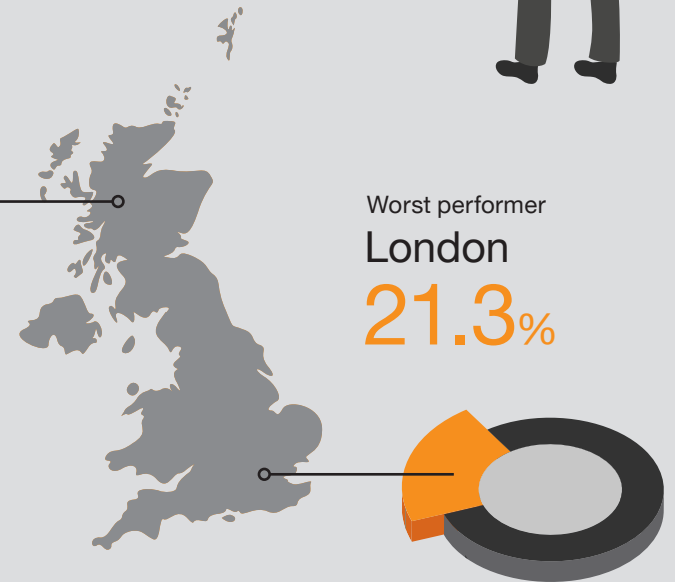
10%

As of 2021, London had the highest rate of youth unemployment, with rates varying by over 10 percentage points across the UK.

Best performer
Scotland
9.2%



Worst performer
London
21.3%



COVID-19 accentuated some long-term challenges of the UK's labour market performance for young people:

1

The pandemic has accentuated existing inequalities with rising long-term unemployment – the decline in working hours for young people with no qualifications was five times higher than for those with a degree-level qualification.

2

The pandemic has reduced the gap in NEET rates between young men and women. However, young women who are NEET in the UK are more likely to be economically inactive compared to young men (63% vs 51%).

3

The youth NEET rate varies across regions with the North East region seeing the highest youth NEET rate in the UK at 13.7%.

4

Over the pandemic, white people aged 18-25 saw the highest employment rate out of all ethnic groups at 68.5%. Young people of Chinese ethnicity have the highest full-time education participation rates.

5

Longer-term labour market challenges will remain after the pandemic, particularly for the youth – evidence suggests furloughed workers are returning to their jobs on fewer hours and lower pay than they would have chosen.

6

Non standard work is expanding, particularly for the young, through the gig economy and zero-hours contracts – providing workers with increased choice and flexibility but also leaving workers more vulnerable to economic shocks such as the pandemic.

We have developed a number of scenarios to understand challenges faced by youth labour markets in the face of mega trends and policy responses

The future UK labour market will be shaped by policy responses to global changes such as climate change, technological breakthroughs and demographic changes.

We assessed four key mega trends:



Mega trend 1

Shift in global economic power

The long term shift of global GDP away from established economies such as the US and the EU towards emerging economies.



Mega trend 2

Climate change and resource scarcity

Unsustainable models of production and consumption leading to rising temperatures and climate change.



Mega trend 3

Technological breakthroughs

The digital revolution changing behaviour and creating new tools to deliver services and experiences, for example Artificial Intelligence (AI) & Virtual Reality (VR).



Mega trend 4

Demographics and social change

Increasing populations, coupled with increasing life expectancy and falling birth rates leading to ageing populations.

We have developed three scenarios based on the likely interaction of mega trends and different policy, and business and societal responses to these trends over the next few decades:

1

Flexible transformation

In our optimum scenario, the UK develops a skills-centric approach where technology becomes an asset for policy makers. Policy prioritises resilience and invests in significant reskilling and retraining to address disruption from climate change and new technology.

2

Constrained green growth

In this scenario, green growth is constrained by siloed institutional delivery models. Mega trends, such as technological breakthroughs and climate change, cause disruption that is moderated by active, albeit disjointed, skills cultivations and redeployment.

3

Decline

In our most pessimistic scenario, the development of short-sighted policies that prioritise the working age population at the expense of the future workforce has knock-on negative impacts on the economy and reduces the UK's ability to adapt to rapid ongoing change.

Our recommendations focus on both institutional change and holistic policies that would create an integrated approach to supporting youth employment



The support I have received has been more than just a step to a career path. My Reboot coach has been substantial to me understanding that I am capable and deserve a good future as long as I am willing to help myself.

Young care leaver and beneficiary of Bristol-based charity 1625IP's Reboot programme, funded by a Youth Futures Foundation grant.

Institutional change

1

Supporting young people through future labour market change requires a more coherent and holistic youth employment strategy.

We have identified five key principles to improve the overall design and delivery of youth employment policy:



1. Promote better interdepartmental and regional cooperation;
2. Build a resilient policy-making approach;
3. Make policy-making more participatory;
4. Use an integrated approach to develop holistic policies; and
5. Utilise emerging technology and big data for policy making.

Holistic policies

2

We recommend a wide range of policy areas to support the development of adaptable, resilient skills, empowering young people to find productive, rewarding work and promote their wellbeing. Our report has developed 13 separate policy proposals – including the development of existing policy and novel policy suggestions.

We categorised policy under four key areas to build a comprehensive youth policy strategy:



1. **Developing skills** through investing in better vocational training, improving skills matching, encouraging a more flexible education system and increasing emphasis on place-based policies;
2. **Supporting people** by providing proper career guidance and mentorship, promoting well-being in young people, and addressing inequality;
3. **Supporting incomes** through improving social safety nets for young people, using targeted fiscal policy during economic downturns and supporting those negatively impacted by technological innovation; and
4. **Shaping labour demand** by investing in high productivity sectors, improving legal and regulatory protections for all workers and developing appropriate measures of job quality.

2

Youth
Employment
Index



Our Youth Employment Index seeks to address information gaps around youth labour market conditions in the OECD



Why we created the Youth Employment Index

Governments and stakeholders across the globe are eager to create the right market and policy conditions to offer the best opportunities for their young workers, but they often lack the right tools, data and frameworks to complement effective decision-making.

PwC's Youth Employment Index was first published in 2015 with the aim of addressing some of these information gaps and offering a consistent approach to compare the performance of youth labour markets among developed countries. The Index uses a widely recognised, consistent methodology as well as internationally comparable data from the OECD. The set of indicators chosen provides a high-level overview of how OECD countries are developing the economic potential of their young people.

The results presented in the following section show the wide variation experienced by OECD countries and how conditions have changed over time in the face of global economic shocks – including the COVID-19 pandemic and the 2008 financial crisis. With this analysis we can understand the core drivers behind these trends and, most importantly, how to promote the economic potential of young people in the years to come.

Our index combines a broad range of labour market indicators to gain a holistic picture of youth employment performance across the OECD

What the index measures

The PwC Youth Employment Index for 2022 explores the large variation in outcomes for young people across the OECD through analysing and compiling seven different key labour market indicators using OECD data.

The Index scores allow us to quickly understand how well OECD countries currently support young people, and to compare performance between countries and over time.

How we calculate the index

The PwC Youth Employment Index* combines a range of labour market indicators, as listed below. Both the youth employment rate and the NEET rate for young people have been weighted double in the Index compared to the other indicators, as in previous editions, based on expert judgement of their comparative importance.

Employment rate, 15-24 year olds (double weighting)

Rate of 20-24 year olds not in education, employment or training (NEET) (double weighting)

Unemployment rate, 15-24 year olds

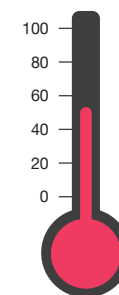
Relative unemployment of 15-24/25-54 year olds

Long-term unemployment rate, 15-24 year olds

Rate of part-time work, 15-24 year olds

Enrolment rate of 15-19 year olds

These indicators are normalised, weighted and aggregated to generate Index scores for each country. This allows us to benchmark the UK against other OECD countries.



The Index scores range from **0 to 100**, with the average OECD value in the base year of 2006 set to

50

We can therefore compare how each country's performance has evolved over time in absolute terms, as well as the relative performance of countries in a particular year.

For some indicators, we note that a higher or lower score does not necessarily entail 'better' or 'worse' labour market conditions. For example, part-time work, although weighted negatively in the Index, is often beneficial for young people, as they are able to benefit from the increased flexibility part-time work provides and can fit work around their studies. However, for the purpose of the Index, we have taken an expert judgement to determine whether an indicator implies better or worse conditions overall for young people. This is why the results of the Index must be taken in conjunction with broader analysis of labour market conditions to understand the drivers behind the indicators.

See Appendix A1 for more details of the methodology.

* The Youth Employment Index was previously known as the Young Workers Index. Data contained in the 2021 edition are broadly comparable to those published in previous years, although the School Drop-out rates variable has been removed due to lack of recent data.

The UK ranks in the middle of the OECD for labour market opportunities for young people, while Switzerland tops the Index



Top ranking countries

The top performing countries across the OECD in the 2022 Youth Employment index are:



Which tops the index with a score of 71, scoring in the top three for youth employment rates, relative youth/adult employment rates and NEET rates for 20-24 year olds.

Which scores 68 thanks to having the highest youth employment rate in the OECD, along with strong scores in relative youth employment and low long-term unemployment.

Which scores 66 due to its low unemployment rate (2nd lowest in the OECD) and the third lowest NEET rate for 20-24 year olds in the OECD.

UK's performance

The UK ranks 18th with a score of 52, just above the OECD average of 49. Each indicators rankings are as follows (best to worst):

Better than the OECD average:

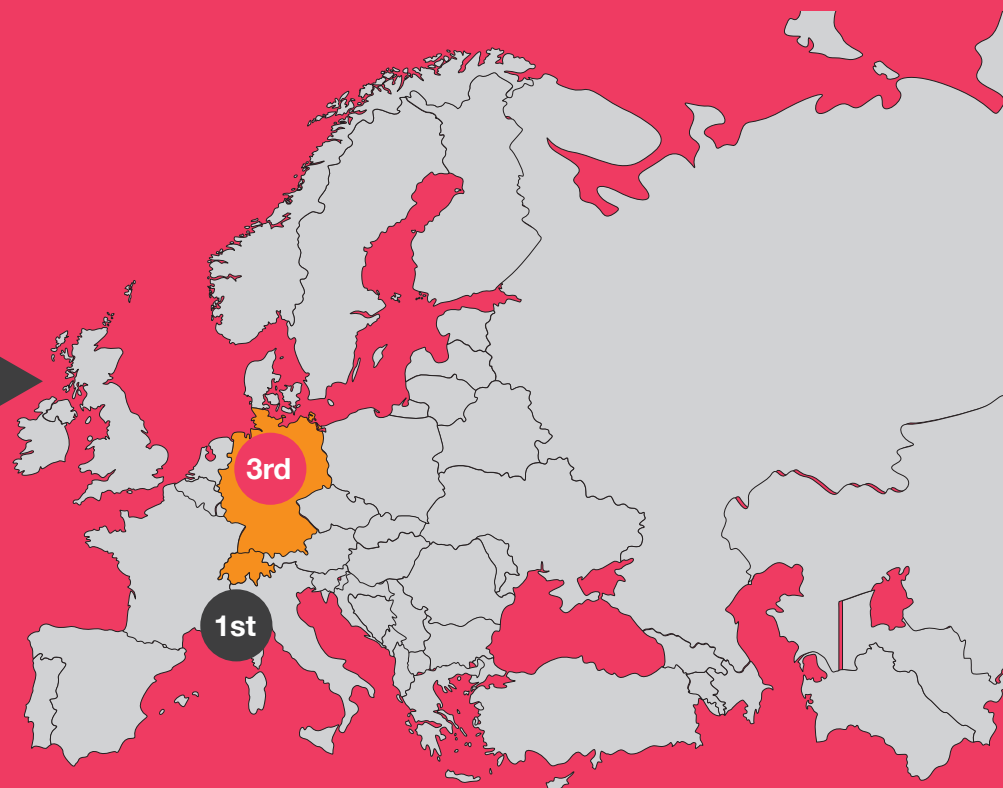
7 th	Employment rate 15-24
16 th	Unemployment rate 15-24
18 th	NEET rate 20-24

Worse than the OECD average:

22 nd	Long-term unemployment rate
24 th	Incidence of part-time work
26 th	Enrolment rate of 15-19 year olds
37 th	Relative unemployment of 15-24/25-54 year olds



The UK ranks 18th out of 38 OECD countries, scoring 51. The OECD average score was 49.

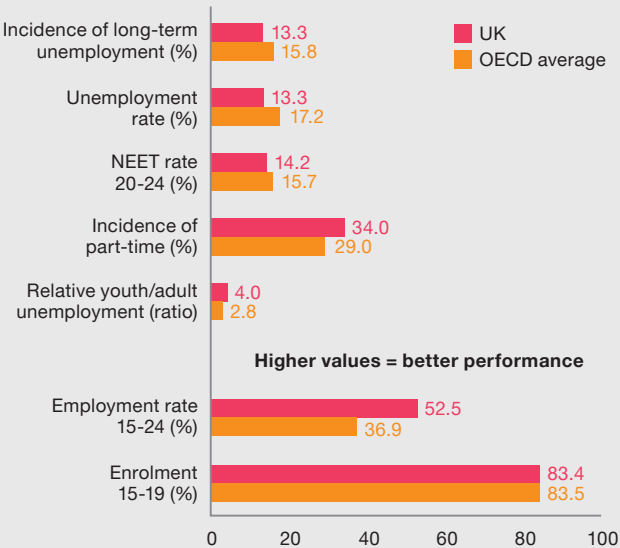


1st	Switzerland	71	14th	Lithuania	53	27th	Mexico	46
2nd	Iceland	68	15th	Estonia	53	28th	France	45
3rd	Germany	66	16th	Slovenia	52	29th	Slovak Republic	43
4th	Netherlands	63	17th	Poland	52	30th	Portugal	41
5th	Japan	63	18th	United Kingdom	52	31st	Luxembourg	39
6th	Austria	60	19th	Israel	51	32nd	Chile	38
7th	Denmark	58	20th	Sweden	50	33rd	Spain	31
8th	Norway	57	21st	Belgium	50	34th	Greece	30
9th	Latvia	57	22nd	Finland	49	35th	Turkey	29
10th	Czechia	56	23rd	Korea	49	36th	Costa Rica	28
11th	Australia	55	24th	Ireland	48	37th	Colombia	28
12th	New Zealand	55	25th	Hungary	48	38th	Italy	25
13th	United States	55	26th	Canada	47			

The UK's performance is very mixed: it performs strongly in the youth employment rate but very weakly regarding the relative youth versus adult employment rate

UK vs OECD average performance Youth Employment Index indicators (2020)

Lower values = better performance



The UK's rankings in detail:

Youth employment	7th	52.5%
Youth unemployment	16th	13.3%
NEET rate	18th	14.2%
Long-term youth unemp.	22nd	13.3%
Part-time youth employment	24th	34.0%
Enrolment 15-19	26th	83.4%
Relative youth/adult unemp.	37th	4.0%

Source: PwC analysis of OECD data

What impacted the UK's performance this year?

Youth employment rate: The UK performs its best in the 15-24 employment rate, ranking 7th in the OECD, with over half of young people in some form of employment in 2020, compared to the OECD average of 39%. This is in large part due to the high overall employment rates, which reached their highest level since 1974 in January 2020.¹

However, UK's youth employment rate is also high due to high rates of part-time employment, (34% vs 31% for the OECD average). This can be seen as both a positive and negative for young people, as part-time work allows for flexibility, but is also associated with lower pay and less job security. Part-time work is included separately in the Index and weighted negatively to counteract this impact on the overall Index scores.

Relative youth/adult unemployment: In contrast, the UK performs its worst in the relative youth/adult unemployment rate, ranking second from last in the OECD. This is because, while the UK ranks 16th for youth unemployment, it ranks 5th in the OECD for adult unemployment (25-54) (at 3.3%). This gives the UK a relative youth/adult employment rate of 4.0, compared to an OECD average of 2.3, meaning in the UK a young person is 4x more likely to be unemployed as a percent of their cohort compared to a worker aged over 25.

Enrolment 15-19: The UK scores in the bottom half of the OECD for enrolment. There are differences in school leaving ages across the UK (16 in Scotland, Wales and Northern Ireland, and 18 in England.) In England those

aged 16-18 must stay in full-time education, start an apprenticeship or spend more than 20 hours a week working or volunteering.

For tertiary education, students in England face the highest direct costs in the developed world, according to the OECD², with \$53 600 (around £39,000) per year for tuition fees and living costs, reducing enrolment rates for 18 and 19 year olds. Many students also turn to part-time employment to fund their education, although rates of employment among full-time students has declined over the past 30 years from 40% in 2001 to below 30% in 2021.³

¹ Data source: ONS

² OECD (2021) 'Education at a glance 2021'

³ Data source: ONS

The UK has seen a notable reduction in its Index score since 2019, owing to the negative impact of COVID-19 on young people. But as the OECD on average saw a larger decline, the UK's ranking has improved

How index scores have changed

Countries across the OECD have seen a wide variation in their Index scores over time. Some have seen marked improvements over the past 14 years, while other countries have seen significant declines. The impact of the pandemic on the 2021 Index scores has been notable, particularly in comparison to strong performances in 2018 and 2019. Some key takeaways:

- The OECD average score has fallen slightly since 2006 from 50 to 49. However, the OECD reached a peak during the period of 52 in 2018, and so this decline largely demonstrates the recent impact of the pandemic on young people.

- The UK has remained around the OECD average over this period. The largest difference was seen in 2011, where the UK was over 5.3 percentage points lower than the OECD average, due to the ongoing impact of the 2008 financial crisis.
- The UK's score was at its highest in 2019 (reaching 53.5). Since then it has seen a decline of around 2 percentage points in score (or 4%) due to the pandemic – although it has climbed the ranking in this time from 20th to 18th, demonstrating that young people in the UK have fared slightly better than the OECD average.

Over the period from 2006 to 2020 the UK saw its index score increase by 2, making it the 17th most improved score (in absolute terms) in the OECD. The top three most improved countries are:

Poland (31 up to 52, +21)

Driven by large improvements in enrolment rates after significant public investment in the education system² and declines in unemployment and long-term unemployment rates for young people.

Israel (39 to 51, +12)

Driven by large reductions in the NEET rate and unemployment rates.

Switzerland (60 to 71, +11)

Driven by large increase in enrolment rates, particularly for women accessing tertiary education, which increased from 35% to 51% between 2008 and 2018.³

The three countries that saw the largest absolute decline were:

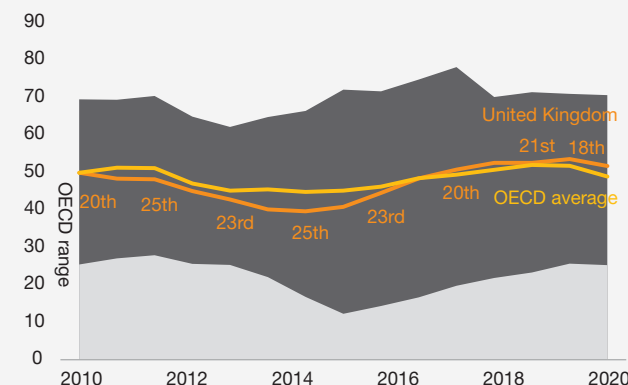
- **Italy (38 down to 25, -13), Mexico (59 to 46, -13), Spain (54 to 31, -23)**

¹ Scores for previous years may have shifted since their publication due to revised data and because our methodology now excludes School Drop-outs (% of age group) due to lack of recent data.

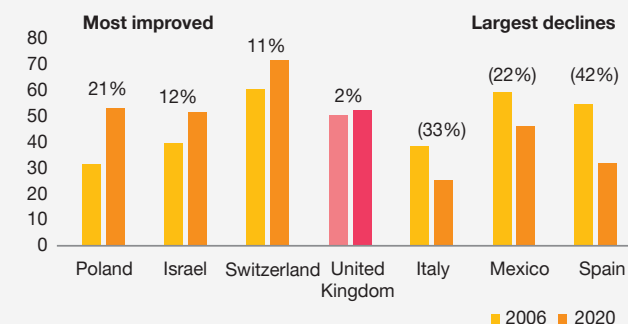
² EC, 'Education and training monitor 2019: Poland' (2019)

³ OECD, 'Education at a glance: Switzerland' (2019)

UK vs OECD average Youth Employment Index scores (2010-2020)¹



Youth Employment Index Scores (2006 vs 2020)¹



There is significant variation between the largest countries in Europe in the Youth Employment Index rankings, driven by varying economic performance, demographic and sectoral mixes, as well as government policies

Some countries are succeeding in promoting opportunities for young people...

Switzerland (1st, 71)



Top indicators:

- Youth employment (3rd, 59.4%)
- Youth NEET rate (2nd, 8.4%)

Switzerland's low NEET rate is partly due to the high numbers of young people completing apprenticeships in the Vocational and Professional Education and Training (VPET) system. Two-thirds of all young people leaving compulsory education in Switzerland enrol in vocational education and training (VET), where on the job training is combined with classroom instruction.¹ Employers invest heavily in apprenticeships to ensure training matches their needs. Alongside this, employment rates for students with a upper secondary or post-secondary vocational qualification are considerably higher compared to those with a general qualification (90% vs 75%).²

Germany (3rd, 66)



Top indicators:

- Youth unemployment (2nd, 7.0%)
- Youth NEET rate (3rd, 8.4% 2019 data)

Germany has had one of the lowest youth unemployment rates in the OECD since 2011 (ranking 3rd or higher), driven by both demand and supply side factors.³ On the demand side, strong economic performance has driven high employment overall. Alongside this, the German dual apprenticeship system, with around 500,000 new apprenticeship contracts each year.⁴ Apprenticeships have been linked to lower youth unemployment.⁵ On the supply side, the proportion of 15-24 year olds in Germany is also at an all-time low, at 10.2% in 2020 (vs 11.7% in the UK)⁶, leading to higher demand for young people looking for training.

France (28th, 45)



Bottom indicators:

- Youth NEET rate (32nd, 18.9%)
- Long-term youth unemployment (30th, 21.5%)

France's high long-term unemployment (i.e. those unemployed for over a year) is driven partly by the impact of the pandemic, but also due to historic factors. France has never ranked higher than 26th for youth unemployment in the OECD.⁴ This is in part due to high labour market rigidities such as strict employment protections, along with high taxation rates and high welfare payments.

Italy (38th, 25)



Bottom indicators:

- Youth employment (37th, 16.8%)
- Long-term youth unemployment (37th, 44.1%)

Italy has long been one of the worst-performing countries on the Youth Employment Index, in part due to low GDP growth leading to high overall unemployment. Along with this, the country has suffered from underinvestment in education and a lack of high-skilled jobs for young people. This had led to many of the most educated young people leaving the country to find work elsewhere.

¹ Swiss Confederation (2021), 'Vocational and Professional Education and Training In Switzerland: Facts and Figures 2021'

² OECD, 'Education at a Glance' (2019)

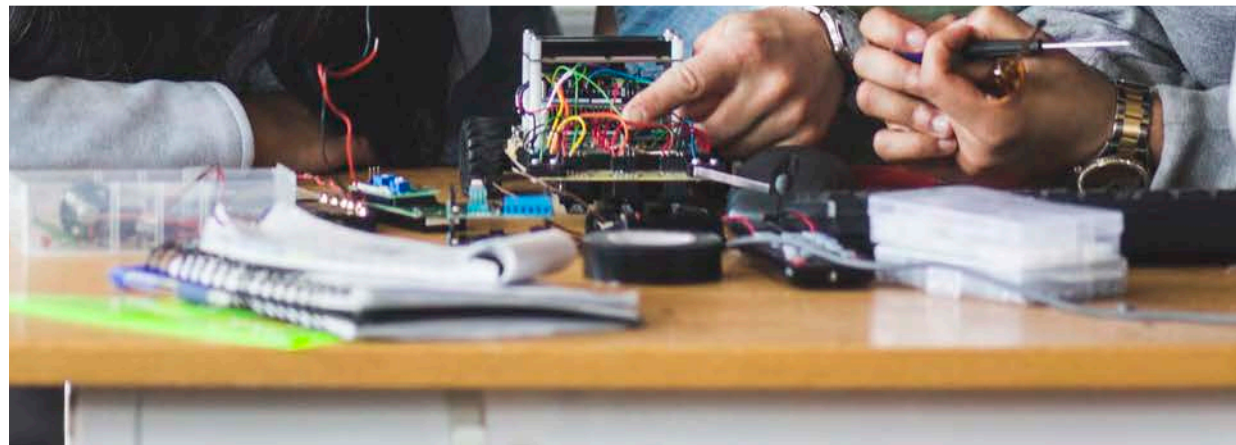
³ PwC analysis of OECD data

⁴ Federal Statistical Office of Germany data

⁵ Forster et al. 'Vocational Education and Employment over the Life Cycle' (2016)

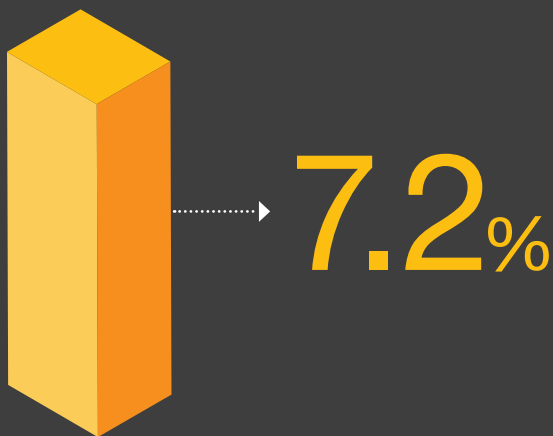
2.1

Economic
boost of youth
employment



Tackling youth unemployment presents a major opportunity for countries to boost their GDP in the long-run

The overall unemployment rate across the OECD countries in 2020 was 7.2%



Youth unemployment has historically been higher than the unemployment rate of the rest of the workforce. This trend continued in 2020 with the overall unemployment rate across the OECD countries standing at 7.2% and the youth unemployment rate of 15-24 year olds coming in at 15.2%. Meanwhile, 16.1% of 18-24 year olds in the OECD were not in employment, education or training in 2020 – 1.7percentage points (pps) higher than in 2019.¹

High youth unemployment can hinder the GDP growth of an economy in the long-term for three main reasons:²



There is an underemployment of resources which could be used to produce goods and services in the economy.



It reveals structural problems in the matching process between workers and firms.



Unemployment at the beginning of a young person's career can have long-term consequences on their skills and confidence, leading to a depreciation of human capital over time.

Moreover, higher youth unemployment increases fiscal costs for governments in the form of lower tax revenues and higher benefit payments. In countries with ageing populations, high youth unemployment can also increase the burden on the average taxpayer and reduce incentives to work. Therefore, both the human capital and the scarring effects on young individuals from unemployment can have negative macroeconomic impacts on the productivity of countries, which ultimately affects future growth rates. Hence, the high youth unemployment and NEET rates across countries represent a concern for governments and policymakers. However, if tackled and reduced, could also represent an opportunity for countries to boost their GDP.



¹. Source: PwC analysis of OECD data². OECD, 'Education at a Glance' (2019)

². blog.bham.ac.uk. (2020). Why Is It Necessary to Tackle Youth Unemployment?

Lowering the NEET rate for young people remains a key challenge for many OECD countries

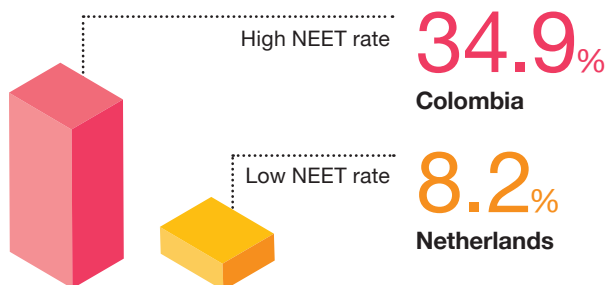
Why the NEET rate matters

The NEET rate presents the share of young people (aged 20-24) who are not in employment, education or training, as a share of the total number of people in this age group.

There is a large variation in the NEET rate of young people across the OECD countries – ranging from a high of 34.9% in Colombia to a low of 8.2% in the Netherlands. Therefore, there is scope for many OECD countries to considerably reduce NEET rates and better include young people into the labour market.

Being NEET for an extended period is associated with later forms of disadvantage and poor welfare outcomes such as regular unemployment later in life, lower job security and lower rates of pay. Studies have also shown that time spent NEET can have a detrimental effect on physical and mental health.

Costs to the economy come from the lost lifetime earnings, either due to unemployment or underemployment and lost economic activity from lower productivity work.

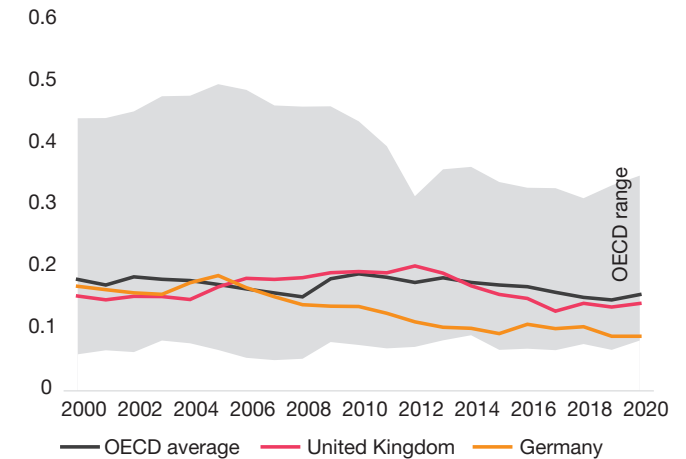


What risk factors drive the NEET rate?

Studies have identified the key risk factors associated with NEET rates. These include:

- Coming from a low income family;
- Living in a deprived neighbourhood near schools with low average attainment; and
- Living in particular circumstances such as being in care, becoming a parent in mid-teens, having a disability, being involved in offending.¹

UK vs OECD average Youth Employment Index scores (2006-2020)¹



Source: PwC analysis of OECD data

How does the NEET rate vary across the OECD?

The range in the NEET rate has narrowed in the past 20 years:

- In 2000, the range was 38 percentage points – with Turkey the worst performer at 44% and Switzerland the best at 6%.
- By 2020, the range narrowed to 27 percentage points – with Colombia at 35% and the Netherlands the lowest in the OECD at 8%.

However, the OECD average has remained relatively flat over this time, decreasing from 18% to 16% over the period (and seeing a 1% rise from 2019 to 2020, partly due to the impact of the pandemic.)

Whilst the UK began in 2000 with a slightly lower NEET rate than Germany (15% vs 17%), Germany has been able to steadily reduce its NEET rate over the past 20 years to just under 9%. The UK has also seen improvements, although at a slower rate, achieving a low in the period of 13% in 2017, which then rose to just over 14% in 2020. The impact of the pandemic has been to reduce NEET rates to a new record low of 9.3% in April-June 2021 partly due to more young people staying in or returning to education. However, there are signs of this starting to widen again in the most recent data.

The UK has also seen improvements, although at a slower rate, achieving a low in the period of 13% in 2017.

¹ Sources include: UK Gov, 'NEET: Young people Not in Education, Employment or Training (2021); Coles et al (2010)

² ONS data

This year we've chosen Germany as our benchmark country, as it has the third lowest NEET rate in the OECD and the best performing large country¹

Germany ranked third in the OECD in 2020 with a NEET rate of

8.8%



Why Germany has outperformed the UK in the youth labour market

Germany has consistently had lower youth unemployment rates compared to the UK since 2004. In 2020, Germany had a youth unemployment rate of 7.1%, while the UK had a youth unemployment rate of 13.7%. Moreover, Germany ranked third in the OECD in 2020 with a NEET rate of 8.8%, lower than the UK NEET rate of 14.2% by 5.4pp.² One of the main reasons for Germany's performance in the youth labour market is their Dual Vocational Education and Training (VET) system.

What is the Dual Vocational Education and Training System (VET)?

Young people in Germany are able to secure a smooth transition from education to employment through a VET system. This system gives them the opportunity to complete apprenticeships at firms while obtaining education from vocational courses at colleges, where the

curriculum is tailored towards the student's apprenticeship. One reason for its success is the fact the training is tailored to a specific occupation, which increases initial productivity and reduces the immediate need for on-the-job training for firms.³

However, while the VET system has been successful in reducing youth unemployment rates, there is growing concern around its future. In 2020, the VET system attracted nearly 200,000 more students than higher education universities in Germany.⁴ This number is expected to decline in the future due to the challenges the system has been facing, such as the inclusion of women, and barriers to access to fully-qualifying vocational programmes for low-skilled young people, including migrants and refugees.⁵

¹ Defined as having a population over 20 million

² Source: PwC analysis of OECD data

³ Forster & Bol, 'Vocational education and employment over the life course using a new measure of occupational specificity' (2018)

⁴ Source: Deutsches Zentrum für Hochschul- und Wissenschaftsforschung, Berechnungen; Statistisches Bundesamt (Integrierte Ausbildungsberichterstattung, GENESIS-Online Datenbank: Fortschreibung des Bevölkerungsstandes, Fachserie 11 Reihe 4.1)

⁵ (Haasler, 'The German system of vocational education and training: challenges of gender, academisation and the integration of low-achieving youth' (2020)

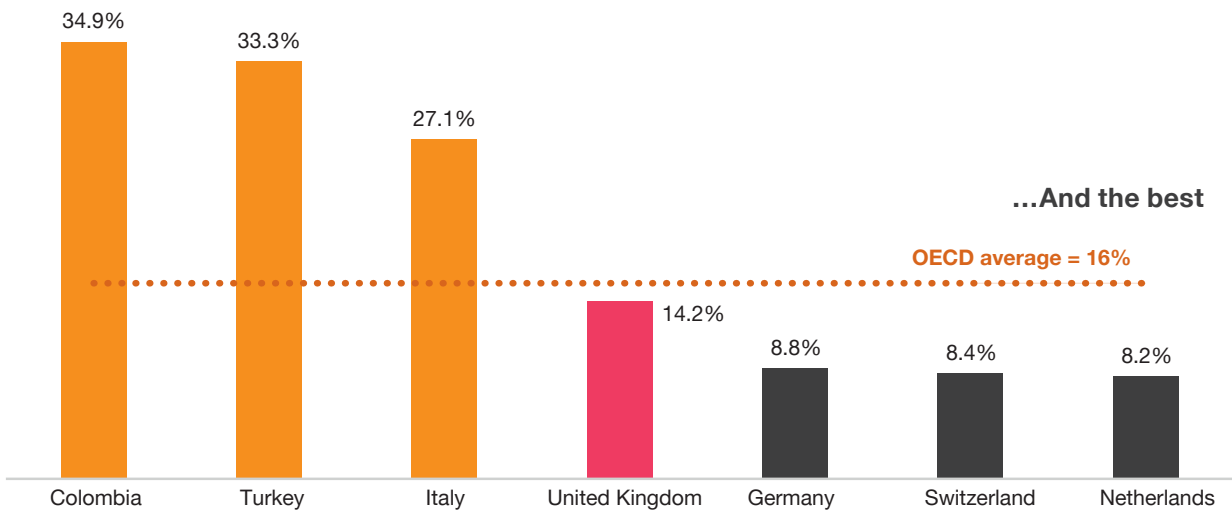
Reducing the UK NEET rate to match that of Germany's could produce long-term gains of £38bn



Our analysis provides an estimate of the broad order of magnitude of potential gains from lowering the NEET rate of 20 to 24 year olds to match that of Germany – a top ranking EU economy in our index. The positive economic impact would take time to build up so it should be interpreted as a long term potential boost to the economy over these people's working lives.

NEET rates as a % of total population – 20-24 year olds¹

The worst performers...



...And the best

¹ Graph sources: PwC analysis of OECD data



What is the potential boost to GDP?

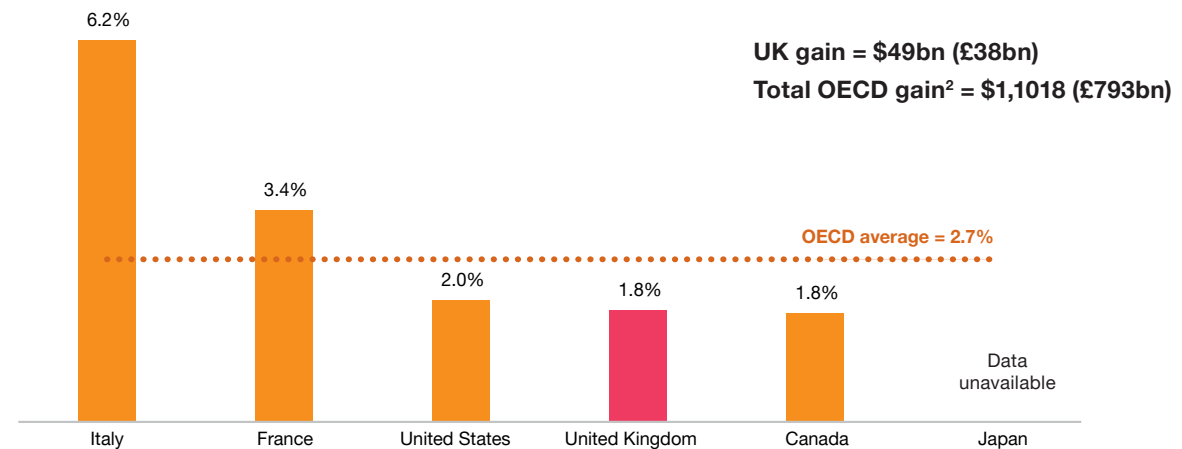
Our analysis finds that the potential GDP boost from lowering the NEET rate to match German levels varies significantly between countries – from around 8.9% in Colombia to 0.3% in the Czechia.

- Within the G7, the overall potential gain could be around \$700bn, or around 69% of the total GDP benefit of the OECD.
- Colombia could experience the largest increase in GDP of around 9%, which equates to \$24bn (see slide 24 for full results).

- Whilst the US could experience the largest absolute increase of around \$414bn, or 2% of GDP (see slide 24 for full results).
- The UK ranks 18th out of 30 countries in terms of percentage GDP gains, due to the 5.3 percentage point gap between its NEET rate for 20 to 24 year olds and Germany's – it ranks 4th out of the 5 other G7 countries analysed.

See Appendix A1 for more details of the methodology.

Estimated GDP boost from lowering NEET rates for 20-24 year olds to Germany levels – G7 countries¹

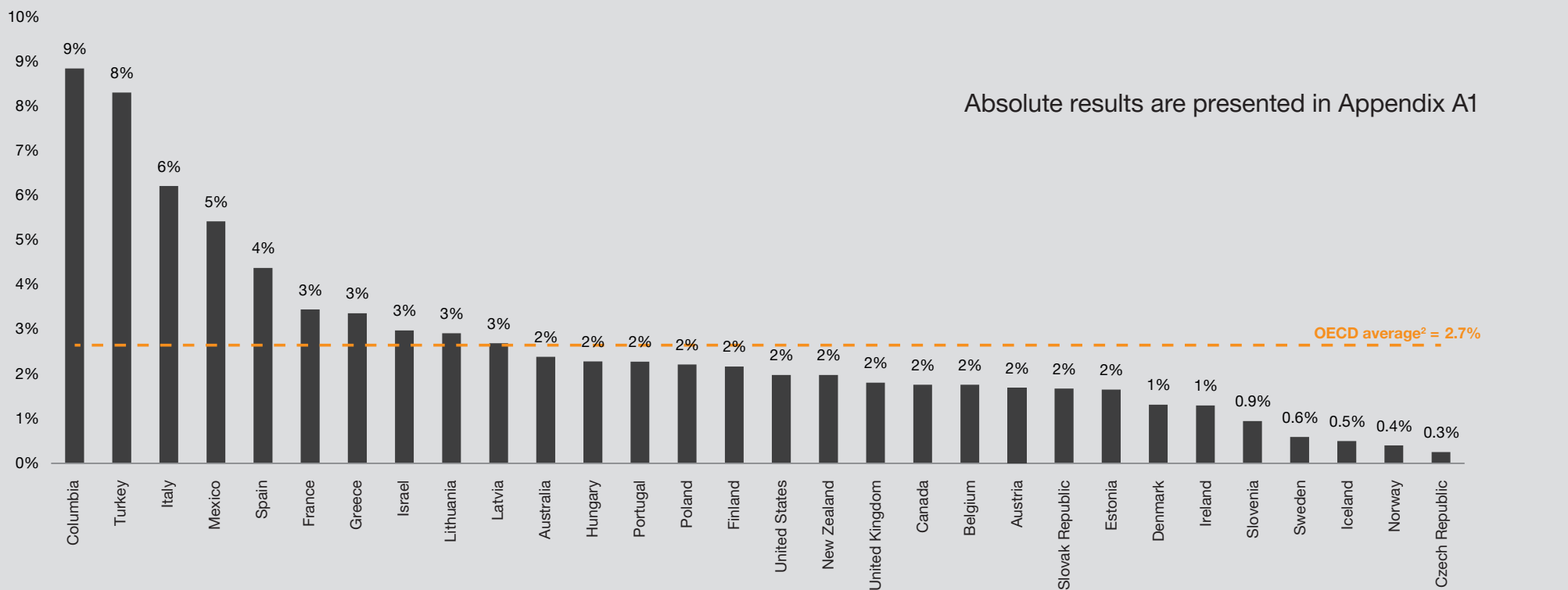


¹. Graph sources: PwC analysis of OECD data

². Chile, Costa Rica, Japan, Korea and Luxembourg have been excluded from the analysis as they do not have available NEET rate data for either 2019 or 2020.

The potential gains from lowering NEET rates for OECD countries varies considerably: for example, Colombia and Turkey could see a GDP increase of 8-9% through higher output and long-term productivity for young workers

Potential boost to GDP as a result of matching German NEET rates for 20-24 year olds¹ (% of total GDP)



¹ Source: PwC analysis of OECD data

² Netherlands and Switzerland have been excluded from this average as they already have a lower NEET rate than Germany. Chile, Costa Rica, Japan, Korea and Luxembourg have been excluded from the analysis as they do not have available NEET rate data for either 2019 or 2020.

2.2

Drivers of youth unemployment



We seek to understand what drives youth unemployment across the OECD to help support evidence-based policymaking

The importance of analysing the drivers of youth unemployment

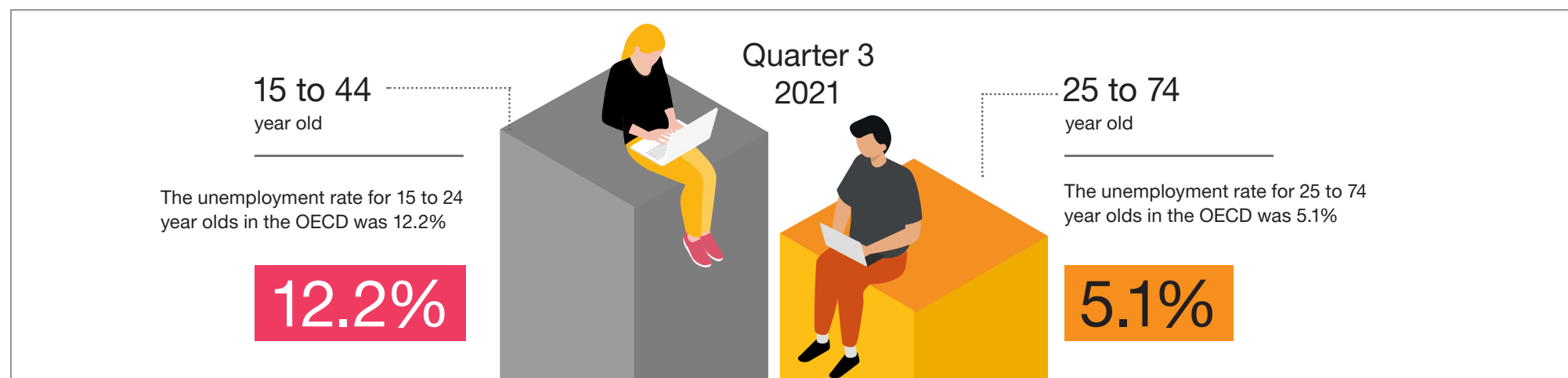
Youth unemployment is often a major concern for society and policymakers, as it is on average much higher than the adult unemployment rate. For example, in the third quarter of 2021, the unemployment rate for 15 to 24 year olds in the OECD was 12.2%, whereas for 25-74 year olds it was just 5.1%.¹ This is of concern to policymakers as unemployment in the early stages of a young person's career are shown to negatively impact the individual's future earnings, career prospects, and mental wellbeing.²

This section of the report explores the key drivers of youth unemployment, analysing how macroeconomic conditions and structural factors, including labour market incentives and policies, impact the youth unemployment rate on average across countries. This analysis can help support our understanding of how policymakers and businesses can decrease the unemployment rate among younger workers to ensure sustainable long-run growth and, from an individual perspective, promote well-being and engagement in society.

Our model estimates the key drivers of youth unemployment using data from 38 OECD countries across 21 years (2000-2020). Appendix A3 contains more details of our econometric specification, modelling approach and results.

¹ Source: PwC analysis of OECD data

² Strandh et al (2014)



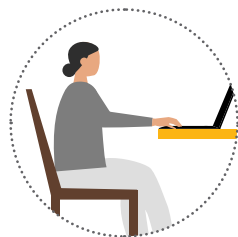
The variables used in our model are determined by existing academic literature on macroeconomic, demographic, and structural factors that impact youth unemployment



GDP Growth Rate (annual %)

What is it? It measures the annual growth in GDP at market prices in the local currency.

Why is it included? The observed relationship between GDP growth and unemployment is known as Okun's law (Okun, 1962). This states that, as GDP growth increases, unemployment decreases. GDP growth is also used because it varies with a lot of other factors that affect the youth unemployment rate, such as inflation, as shown in studies by Bruno et al. (2014b, 2017), Choudhry et al. (2012, 2013) and Dunsch (2016). It also captures economic recessions, which adversely impacts the youth unemployment rate.



Lagged youth unemployment rate

What is it? The youth unemployment rate is lagged by one period to test whether the unemployment rate of young workers is persistent over time.

Why is it included? Studies focusing on the causes of youth unemployment or the NEET rate, such as Caporale and Gil-Alana (2014) and Bruno et al. (2014b), have found high levels of persistency in the youth unemployment rate. Persistency in the labour market could be due to a variety of factors. For example, it takes time for employers to hire new workers or change prices and wages to meet labour demand and supply,



Real Minimum Wage

What is it? It measures the annual real minimum wage of workers.

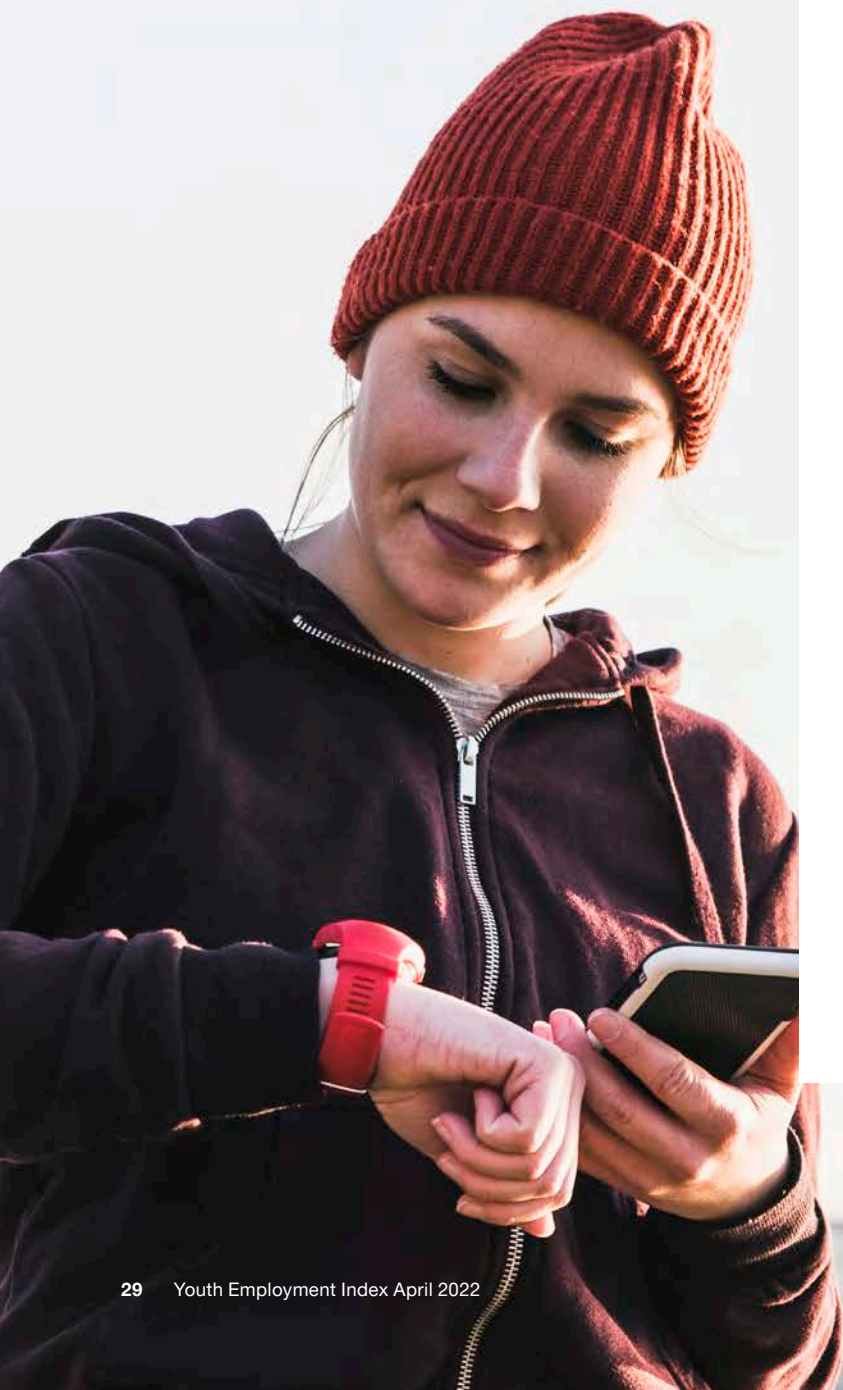
Why is it included? The minimum wage has been shown to have a greater impact on young workers compared to older workers, as young workers usually begin their careers at entry-level, hourly-paid jobs. Increasing wages may increase the incentive to work, however, it also increases labour costs, which could lead to firms hiring fewer workers. Manning (2016) concluded that owing to frictions in the labour market and different effects across age groups, the impact is hard to estimate.



Older Employment Rate

What is it? It measures the employment rate of workers aged 55 to 64, as a % of their age group.

Why is it included? Some studies hypothesise that there could be a 'substitution effect' between older and younger workers: older workers staying in the labour market and taking up jobs that could have gone to young workers. However, studies such as Boldrin et al. (2010) find no evidence of a substitution effect and in fact, it could be the case that higher employment rates from older workers stimulate economic growth and creates more jobs for younger workers.



Public expenditure on employment services (% of GDP)

What is it? Public employment services includes placement and related services, benefit administration and other expenditures required to implement labour market programmes, measured as a percentage of GDP.

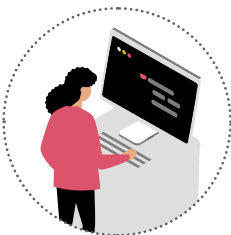
Why is it included? This variable can be an indicator for the quality of institutions that provide support and assistance to the unemployed. One can expect the more investment there is for infrastructure to provide support for the unemployed, the greater the impact on reducing youth unemployment.



Gender employment gap

What is it? It measures the difference in the youth employment rates of men and women within the 15-24 age group i.e. % youth employment rate male – % youth employment rate female.

Why is it included? Lowering the barriers that prevent women from participating in the labour force is likely to improve the overall employment rate. The gender employment gap is an indicator of both the structural and policy factors which have impacted women's decision to work. The gap can also be an indicator of the change in cultural and societal roles of females.



Protection of temporary contracts

What is it? An OECD indicator that measures the employment protection legislation for workers on temporary contracts.

Why is it included? Employment protection of temporary workers against, for example, unfair dismissals, is important to consider as young workers are more likely to be employed in temporary work compared to other age groups. Arestis et al (2020) finds that employment protection reforms do not increase employment but lead to a greater weight of temporary workers in the country's labour force.

Results from our cross-country data analysis show that youth unemployment is highly persistent and countercyclical across the OECD

Reduces youth unemployment rate

GDP growth



Result: A 1pp increase in GDP growth rate is associated with a **0.58pp** decrease in the unemployment rate for 15-24 age group workers, which is statistically significant.

Interpretation: Countries with faster GDP growth tend to have lower unemployment rates for young workers. Higher economic growth is associated with a higher demand for goods and services and higher labour productivity, and so firms are more willing to hire labour to produce the increased output.

Older worker employment



Result: A 1pp increase in older worker employment rate is associated with a **0.07pp** decline in the youth unemployment rate, which is statistically significant but has a small economic impact.

Interpretation: Countries with higher employment rate for 55-64 year olds are associated with lower youth unemployment rates. Although it is a smaller impact than the other two significant indicators, the result implies that older workers do not 'crowd out' younger workers (or vice versa). It may be that higher employment of older workers generates greater demand in the economy, therefore creating growth and more opportunities for youth employment.

Increases youth unemployment rate

High levels of previous unemployment



Result: A 1pp increase in youth unemployment in the previous year is associated with a **0.84pp** increase in youth unemployment in the current year, which is statistically significant.

Interpretation: If in the previous years there were high levels of unemployment, then the following years are more likely to follow the same trend. Persistency could indicate particular issues that young workers face, such as lack of work experience which may lead to longer periods of unemployment, or the impact of structural factors such as training and education policies which may take years before they come into effect.

Countries with faster GDP growth tend to have lower unemployment rates for young workers.



Key: ○ <0.5pp ○ 0.5-1pp ● 1-2pp ● >2pp

Statistically insignificant effect

Real minimum wage

A higher real minimum wage on average across OECD countries has an association with lower levels of youth unemployment but is not statistically significant. Since the result is not statistically significant, there may be other policy measures that better incentivises youth employment for policymakers to focus on.

Public expenditure on employment services

Greater spending on employment services such as placement and benefit administration, as a percentage of GDP, does have an association with lower levels of youth unemployment but is not statistically significant. This may be because the effects of programmes are yet to be observed in the data or that the levels of expenditure are not great enough to make a significant impact.

Gender employment gap

The youth gender employment gap does not have a statistically significant relationship with the youth unemployment rate. Our model uses data from 2000, the first available comparable year of data for OECD countries and it may be that the gender gap for young workers is not a significant factor for explaining the youth unemployment rate.

Employment protection for temporary workers

The employment protection of temporary workers is associated with lower youth unemployment but the results are not statistically significant. This is consistent with other academic literature which suggests that there is no evidence that higher employment protection leads to higher unemployment.



3

Impact of COVID-19 on employment



The pandemic has had both positive and negative impacts on youth labour markets across the OECD

The COVID-19 pandemic has significantly affected young workers, with youth unemployment above pre-pandemic levels in almost all OECD countries. However at the same time, NEET rates have fallen in the UK as more young people chose to stay in education (see slide 23). One of the key areas impacted by the pandemic is working practices, with a greater proportion of individuals now working from home or participating in the gig economy. Employees with different ages and levels of experience within an organisation may have very different needs when it comes to hybrid working. Those who have been with the business, or in a similar work environment, for some time may be perfectly comfortable to work from home the majority of the week, with little help or supervision. However, there is growing concern that young workers who are new to their firms are being left behind due to being unable to socialise in-person and receive on-the-job training at the workplace.

The impact of COVID-19 on working practices and employment across the OECD

Remote & hybrid working

All countries for which comparable data is available experienced increased rates of remote working during the COVID-19 pandemic, though the extent of the increase varies widely. In Australia, France and the UK, 47% of employees worked remotely during lockdowns in 2020. In the UK, 63% of employers surveyed planned to introduce or expand hybrid working to some degree after the pandemic, with 45% planning to introduce or expand the use of total homeworking (i.e. with some employees spending 100% of work time at home) to some degree.² In Japan, which did not institute a nationwide lockdown, the remote working rate increased from 10% to 28% between December 2019 and May 2020. Highly digitised industries, including information and communication services, achieved the highest rates of remote working during the pandemic – over 50% of employees, on average.



Flexible working

Young people are more likely to be working in the informal economy than older adults, and are particularly vulnerable to job and income losses as a result of the pandemic. In Q4 2020, one in ten people aged between 16 to 24 were employed in zero-hour contracts in the UK (ONS). In G20 economies, it has been estimated that almost 67 per cent (or 149 million) of young workers were in informal jobs, compared with around 54 percent of adult workers (aged 25 and above) (ILO).



Job rotation

56% of employees aged 18 to 24 employees globally considered leaving their employer during the pandemic in 2020³.



Mathias Cormann, Secretary-General of the OECD, emphasised the problems faced by the younger generation as a result of the pandemic:

Young people are once again among the big losers from the crisis. The OECD youth unemployment rate surged to 18.9% in April 2020, and has only partially receded to 13.7% in February 2021. This is still significantly above the youth unemployment rate from before the crisis.

Mathias Cormann, June 2021¹

¹ TUAC Plenary Meeting Remarks (June 2021)

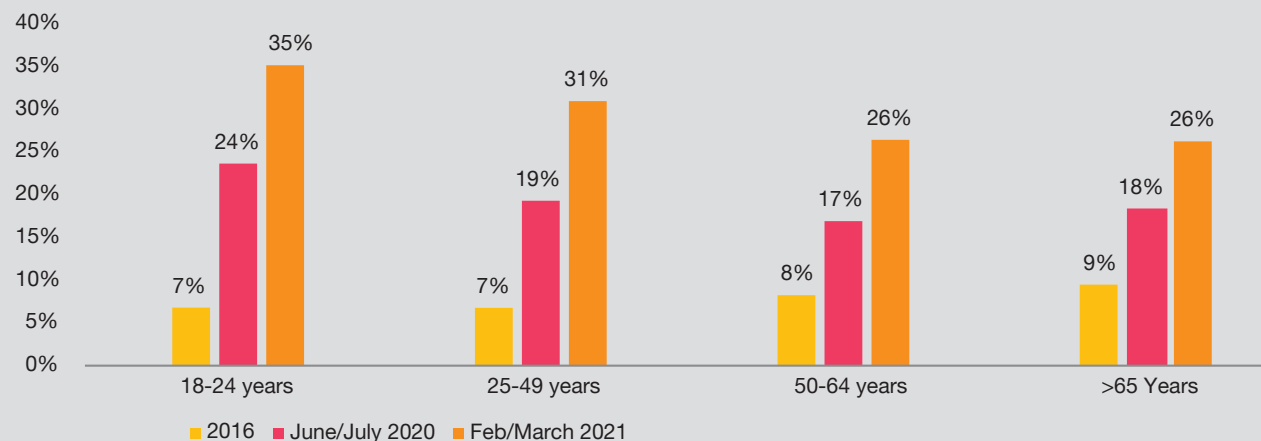
² Gascoigne (2020)

³ Adobe 2021 Future of Time Survey

Young people were hit hardest by the pandemic economically and socially

Across the OECD in 2019, 15-24 year-olds were more than twice as likely to be on temporary contracts (25.7%) than the total working population (11.8%).

Proportion of people in each age group across all OECD countries who said they felt 'left out of society' during the pandemic¹



¹ Source: PwC analysis of OECD data

What are the mechanisms through which the pandemic impacted young people?

Young workers are more sensitive to business cycle oscillations than older employees.¹ In April 2020, youth unemployment across the OECD countries jumped by almost 7 percentage points, more than twice the increase in older worker unemployment of 3 percentage points.² The following are few factors which explain the disproportionate impact on young people:

1. Young workers are over-represented in industries most affected by the lockdown restrictions, such as retail, food and accommodation. Young graduates looking for work are doing so at a time with limited vacancies and fierce competition, making it more difficult to enter employment.
2. Young individuals are more likely to be working on temporary contracts which makes them more vulnerable to external shocks³. Across the OECD in 2019, 15-24 year-olds were more than twice as likely to be on temporary contracts (25.7%) than the total working population (11.8%).⁴
3. Young people who have recently started work have less specialised knowledge and skills compared to their more experienced colleagues, and therefore are less costly for firms to dismiss.⁵

¹ Ghoshray et al. (2016), ^{2,4} PwC analysis of OECD data, ³ Blanchard and Wolfers (2001); and O'Higgins (2014) ⁵ Pastore et al, (2015)

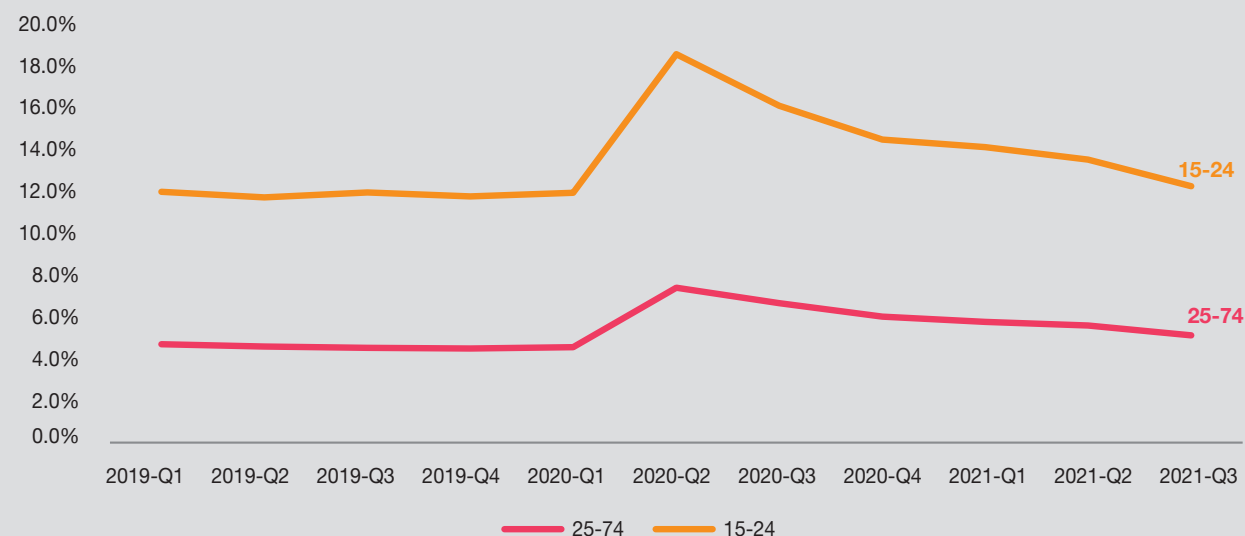
How are young people affected?

Across the OECD countries, the hours worked by young people fell by more than 26% during the pandemic, while 1.5 billion students were locked out of their schools.⁶ Economic crises have direct impacts on work and life outcomes of generations. Future earnings can be permanently damaged.⁷ After the financial crisis of 2008, young people about to enter the labour market lost experiences that permanently damaged their skills and prospects – often ending up in less skilled occupations.

As this disruption can have a long-lasting impact, particularly when experienced during early adulthood, youngsters growing up during such periods of hardship tend to believe that success in life depends more on luck than on effort and are more pessimistic about their lives.⁸ Young adults between the age of 18-24 were more likely to feel 'left out of society' during the pandemic compared to older age groups. Moreover, the proportion of young people feeling left out increased in the first quarter of 2021.

The implications are important. Young people were 30% to 80% more likely to report symptoms of depression or anxiety than adults in Belgium, France and the US in March 2021 (OECD). In the UK, while 11% of 16-39 year-olds reported having some form of depression from July 2019 to March 2020, this number had surged to 31% in June 2020 (ONS).

Unemployment rate across age groups, OECD countries, Q1 2019 – Q3 2021



¹ Source: PwC analysis of OECD data

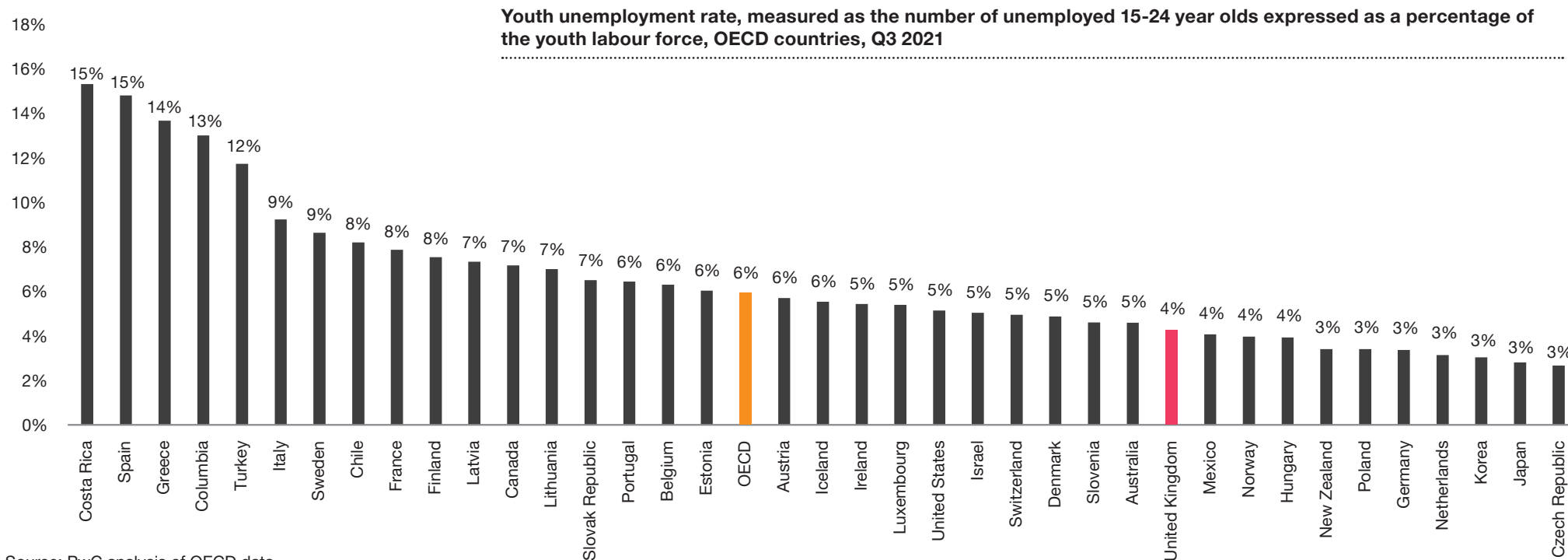
30% to 80%

Young people were 30% to 80% more likely to report symptoms of depression or anxiety than adults in Belgium, France and the United States in March 2021 (OECD).



⁶ Oecd.org (2019). Youth Employment – OECD, ⁷ Kahn (2010), ⁸ Bell and Blanchflower (2011), ⁸ Giuliano and Spilimbergo (2009)

By the autumn of 2021, the UK's youth unemployment rate had fallen to 4.3%, which is 1.7 percentage points lower than the OECD average of 6%



Source: PwC analysis of OECD data

OECD countries have supported young people in the pandemic with policies such as employer subsidies and improving mental health services



OECD countries took early action at the onset of the pandemic to support young people after learning from the scarring impact that the 2007-09 financial crisis had on their lifetime earnings and well-being. The key policy initiatives from the top performers in the Youth Employment Index were:

^{1,2,3,4} Source: OECD report (2021). What have countries done to support young people in the COVID-19 crisis?

Iceland



The government dedicated ISK 2.2 billion to create 3,000 temporary summer jobs for students aged over 18 in the summer of 2020.

In October 2020, the 'Learning is an opportunity' campaign was launched to reach out to jobseekers who had been on the unemployment register for six consecutive months or longer, providing them with the opportunity to participate in studies for a semester while receiving unemployment benefits.

New funding worth ISK 150 million was provided in April 2021 to strengthen mental health services in upper secondary schools, colleges and universities.

Germany



The federal government invested in the expansion of digital and telephone counselling services available for the youth, including specific counselling and crisis services for young people at risk of suicide.

In July 2020, the federal government set up a secure apprenticeships scheme to financially support small and medium-sized employers that were hard hit by the COVID-19 crisis, and incentivised them to maintain training for apprentices.

Domestic and international students in post-secondary education were eligible to receive between EUR 100 and 500 in aid due to pandemic-related financial hardships.

A wide range of policy measures have been used by OECD governments to support young people's income, career development, and mental well-being. Different countries have adopted different specific tools, with most of them falling under the following three types of measures:

1. Development and wellbeing services

More than three-quarters of OECD countries have strengthened work-based learning opportunities, including apprenticeship schemes and summer jobs for young people.¹ **Around half of all OECD countries have also strengthened youth mental health services** or increased financing for youth mental health, including in education settings, but these measures have often only represented moderate changes, according to a report by the OECD.

2. Subsidies and job retention schemes

Around a third of all OECD countries have introduced new hiring subsidies to employers recruiting young people, or extended existing schemes at some point during the pandemic.² In addition, job retention schemes were expanded to protect young temporary workers in the hard-hit sectors such as retail. In Italy, Switzerland and the UK, more than 25% of young workers were on job retention schemes in Q2 2020.³

3. Emergency income support

Almost two-thirds of all OECD countries have introduced emergency income support for young people, but their scope and scale vary.⁴ Young people experiencing financial difficulties due to job losses were given greater access to existing income support measures. One-off payments were also made to students to compensate for loss of part-time work and to support continuation of studies.

Recent policy action has not stemmed inequalities in the employment market

The impacts of the pandemic are often considered to be temporary – and an outlier in long-term trends (further discussed in Section 5). Labour markets in many developed countries have recovered strongly since late 2021. Darren Morgan, director of economic statistics at the ONS, noted that the number of employees on payrolls is ‘now well above pre-pandemic levels.’ in the UK. In the three months to November, the unemployment rate fell to near pre-pandemic levels while the number of people who had recently been made redundant declined to a record low.¹

Within countries, different groups of people are facing different realities, which can leave permanent scars (and also some opportunities as explained in the next page).

Among the young, low-skilled people suffer the most. According to the OECD, despite widespread availability of job retention support to preserve jobs, those in low-paid occupations and young people are facing more joblessness after the end of government support. This can rapidly turn into long-term unemployment (see UK deep dive).

By contrast, for the highly educated, almost all the decline in hours was driven by reductions in working time, with no impact on joblessness. The same for people aged 25 to 54 (for which 80% of cases there was work reduction but not joblessness – as compared to just 40% of young people that had such luck).

Implications of the pandemic for the Youth Employment Index performance measurement

The impacts and transformations experienced during the pandemic emphasise the relevance of certain (new) indicators in the performance measurement of the Youth Employment Index.

In future editions, more emphasis will be given to measurements of:



Inequality in access to employment and training opportunities for different segments of the population



The quality of jobs held by younger workers, including in terms of their productivity and stability (in the context of the rise of contingent work and the gig economy)

As explained in the Policy Section (Section 6), there is a lack of robust data on the quality of work and so while increases in youth employment rates may seem positive on the surface, this could be hiding the fact that much of this work is precarious or impacting the overall wellbeing of workers.

In future editions and research, we will work on frameworks to get a holistic definition of job quality, which can be measured and monitored. Relevant measures of job quality post Covid include:

- Terms of employment (including the level of job security)
- Health, safety and wellbeing
- Job design and the nature of work
- Social support and cohesions

Given data constraints, we will explore the collection of primary data via

¹ Source: Pay rises fail to keep up with the cost of living. (2022). BBC News.

Many labour market effects of the pandemic will be temporary, but some will remain for the longer term. Coordinated policies can ensure that they turn positive

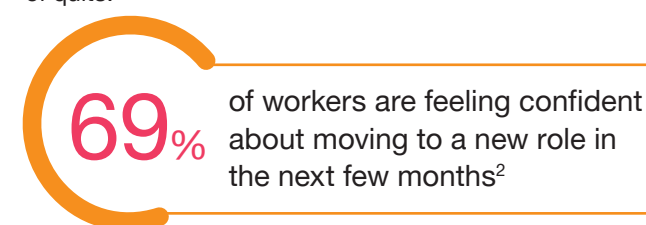


Why this time is different: the Great Resignation

In the US, as reported by the Brookings Institute, the so-called Great Resignation process is playing out in reverse amid COVID-19. A large portion of the job churn since March 2020 has been concentrated in frontline services such as accommodation, food services, and retail, which rely on in-person customers and can't be done remotely. These jobs are not only among the most dangerous during a viral outbreak (and have been made more difficult by misinformation-driven abuse), they are also among the lowest-paying – and employ many young people.

Workers are opting to move into new jobs, ones that either have higher wages, safer working conditions, or other factors that make them more appealing. This gives reinvigorated bargaining power to workers – particularly the young starting their careers.

In the UK, A survey of 6,000 workers of all ages by the recruitment firm Randstad UK found that 69% of them were feeling confident about moving to a new role in the next few months.⁴ According to LinkedIn UK figures, from August to October 2021, the net flow of workers moving to software and IT services more than doubled year-over-year. Conversely, retail has been the hardest hit in terms of quits.⁵



¹ Source: Oecd.org (2019). Youth Employment – OECD.

² Khan (2010),

³ Bell and Blanchflower (2011)

⁴ Source: Brignall, M. (2021). 'The Great Resignation': almost one in four UK workers planning job change. [online] The Guardian

⁵ Source: Christian, A. (2021). How the Great Resignation is turning into the Great Reshuffle. [online] BBC News

Employment impacts of crises

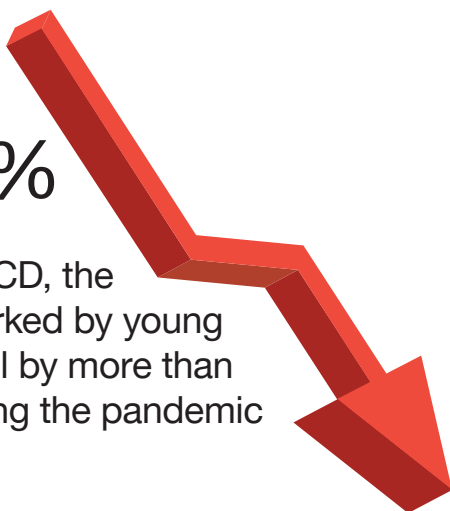
Historically, shocks like recessions, tend to impact people permanently: losing jobs and having to relocate to new jobs (often in new industries) where they are frequently paid lower and their career prospects are injured. In the US, according to some estimates, more than 40% of layoffs that occurred during the pandemic could result in permanent job losses.

Young workers were particularly affected. In the OECD, the hours worked by young people fell by more than 26% during the pandemic, while 1.5 billion students were locked out of their schools.¹

Generations who enter adulthood during adverse economic times tend to end up, on average, in lower-level occupations and see large, negative, and persistent effects on future earnings.² Even young people who choose to go to university are hurt if they enter the labor market during a recession.³

26%

In the OECD, the hours worked by young people fell by more than 26% during the pandemic crisis





What does this mean for policy?

What some are now calling the Great Resignation seems good for the economy in the long run: with people moving to more productive jobs and gaining bargaining power in the process. This process can reshape the economy permanently, and for the better. The gains can extend to wider segments of the young population.

Policies need to facilitate this job transitions, particularly for young workers, who are not necessarily the ones moving the most. While turnover is typically highest among younger employees, Over the last year, resignations actually decreased for workers in the 20 to 25 age range. (likely due to a combination of their greater financial uncertainty and reduced demand for entry-level workers. US evidence shows that it was employees between 30 and 45 years old have had the greatest increase in resignation rates, with an average increase of more than 20% between 2020 and 2021.⁶

Over the last year, resignations actually decreased for workers in the **20 to 25** age range.



US evidence shows that it was employees between **30 and 45** years old have had the greatest increase in resignation rates

Yet, some short-term policies to fight the pandemic could actually hurt long-term prospects. Unemployment benefit levels that exceed worker earnings, policies that subsidize employee retention, occupational licensing restrictions, and regulatory barriers to business formation will impede reallocation responses to the COVID-19 shock.⁷

Policies need to find the right balance between flexibility and protection – since another trend that can also accelerate post-pandemic is a rather negative one: with the expansion of contingent (precarious) employment (as seen in the UK deep dive of next section).

⁶. Source: Cook, I. (2021). Who Is Driving the Great Resignation? [online] Harvard Business Review.

⁷ Barrero, J.M., Bloom, N. and Davis, S.J. (2020). COVID-19 Is Also a Reallocation Shock. [online] National Bureau of Economic Research.



4

UK deep dive



COVID-19 accentuated some long-term challenges of the UK's labour market performance for young people

In this section, we analyse the current youth labour market in the UK using data from sources such as the OECD and Office for National Statistics (ONS). We explore the youth labour market at a sectoral and regional level, as well as by type of work, gender, and ethnicity.

How youth employment and unemployment rates have changed in the UK

The UK youth employment rate is compared with the OECD average and Netherlands, which has the second highest average youth employment rate of 63.4% since 2000 amongst the OECD countries.¹

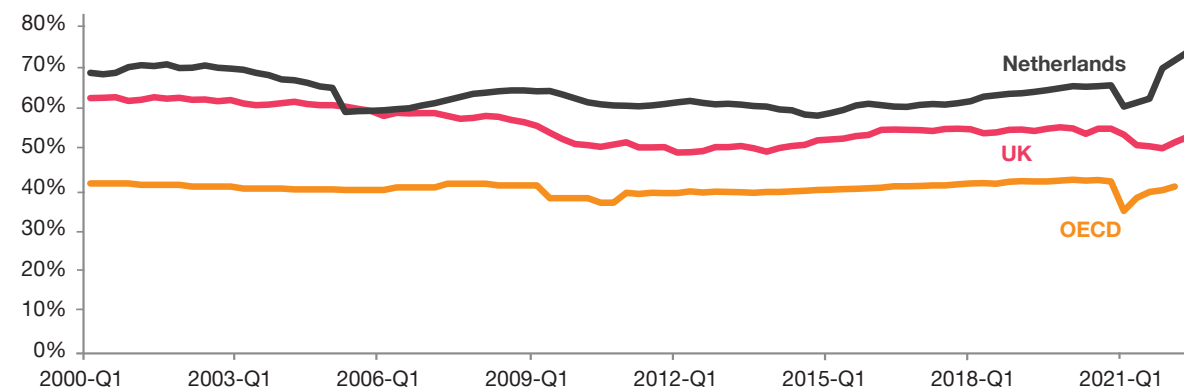
The UK youth employment rate declined by 6.7pp in the 2007-09 financial crisis. Since 2011, the UK has had a steady recovery in youth employment rate to 54.8% in 2019, which is still lower than pre 2007-09 crisis levels. In contrast, Netherlands maintained a steady youth employment rate during the same period. The youth employment rate in the UK declined by 2.3pp in 2020 due to the pandemic, which was lower than the average decline of 3.7pp in other OECD countries.²

^{1,2,3,4} Source: PwC analysis of OECD data

It is important to also consider the youth unemployment rates, as it captures those working-age individuals who are willing and able to work but without work. The UK youth unemployment rate is compared with the OECD average like before, and Japan, which has the lowest average youth unemployment rate of 7.4% since 2000 amongst the OECD countries.³

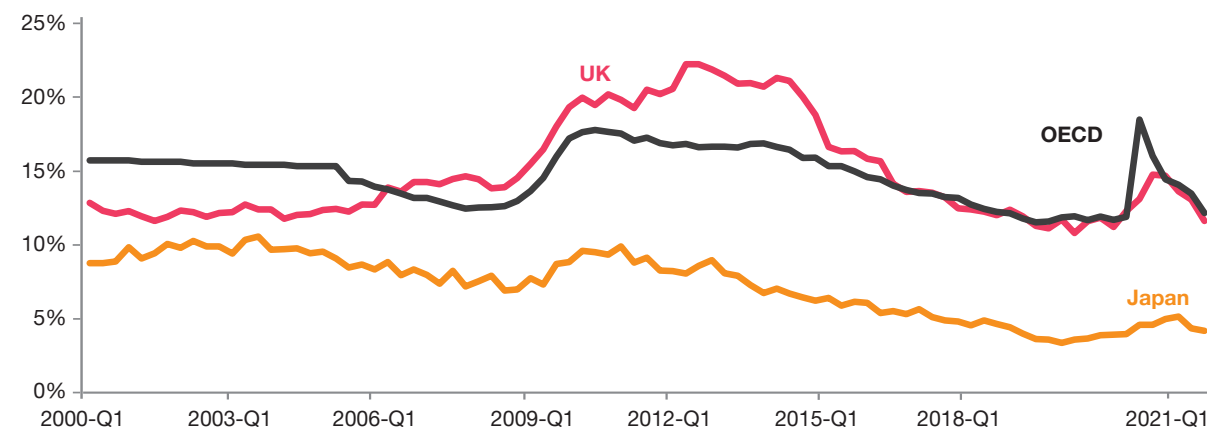
The UK youth unemployment rate was declining until the eve of the financial crisis, and then rose steeply by 5.1pp between 2007 and 2009. Since then, it has declined and remained below the OECD average youth unemployment rate. In 2020, it increased by 2.3pp, which was lower than the increase in OECD average youth unemployment of 3.3pp.⁴

% of 15-24 year olds in employment, Q1 2000 – Q3 2021



Source: PwC analysis using OECD data

% of 15-24 year olds unemployed, Q1 2000 – Q3 2021



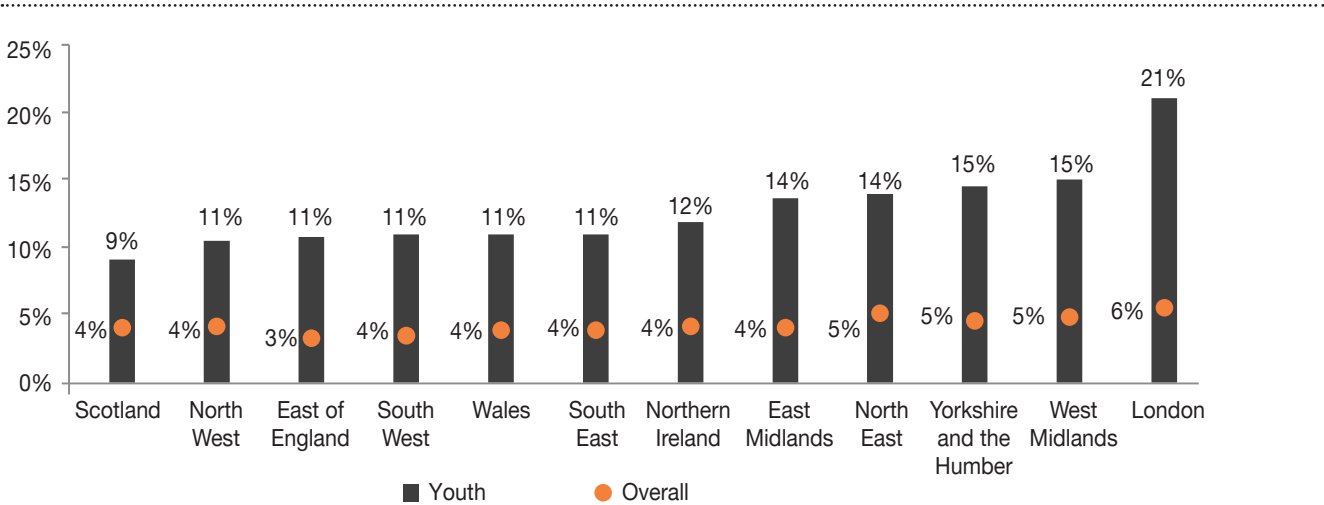
Source: PwC analysis using OECD data

The youth NEET rate varies across regions with the North East region having the highest youth NEET rate of 13.7% in the UK



The youth unemployment rate varies across regions in the UK, and is significantly higher than the overall unemployment rate for all working-age people in each region. In Q3 2021, London had the highest youth unemployment rate in the UK. However, our discussion with interview respondents has shown that the NEET rate is a more important indicator to focus on, given that non-participation is a more serious problem and that unemployment for young people is more likely to be temporary. Four of the five top performers on unemployment are also in the bottom five worst performers on NEET, demonstrating that unemployment data just draws attention away from those places faring worst.

Unemployment rate, youth and all-age, by region, Q3 2021



Source: PwC analysis using ONS Labour Force Survey data

1,2,3,4,5,6. Source: PwC analysis using ONS data



How have the youth NEET rates changed across regions during the pandemic?

In Q4 2020, 45.65% of young people in the UK were in full-time education, compared to 43.54% of young people in the same quarter of 2019.³ The increase in the number of young people in full-time education during the pandemic is associated with higher economic inactivity, but lower NEET rates.

The youth NEET rate varies across regions in the UK, with Scotland having the lowest youth NEET rate of 5.7%. The South East, Northern Ireland and East Midlands are some of the other regions with low NEET rates. Despite the high youth unemployment rates in London, their NEET rates were still some of the lowest in the UK in Q4 2020. This is because young people in London are more likely to be in full-time education due to a greater presence of universities and colleges in the capital. The North East

region had the highest youth NEET rate in the UK in Q4 2020 of 13.7%, followed by Wales, East of England, the North West, and South West regions.

Q4 2020

45.65%

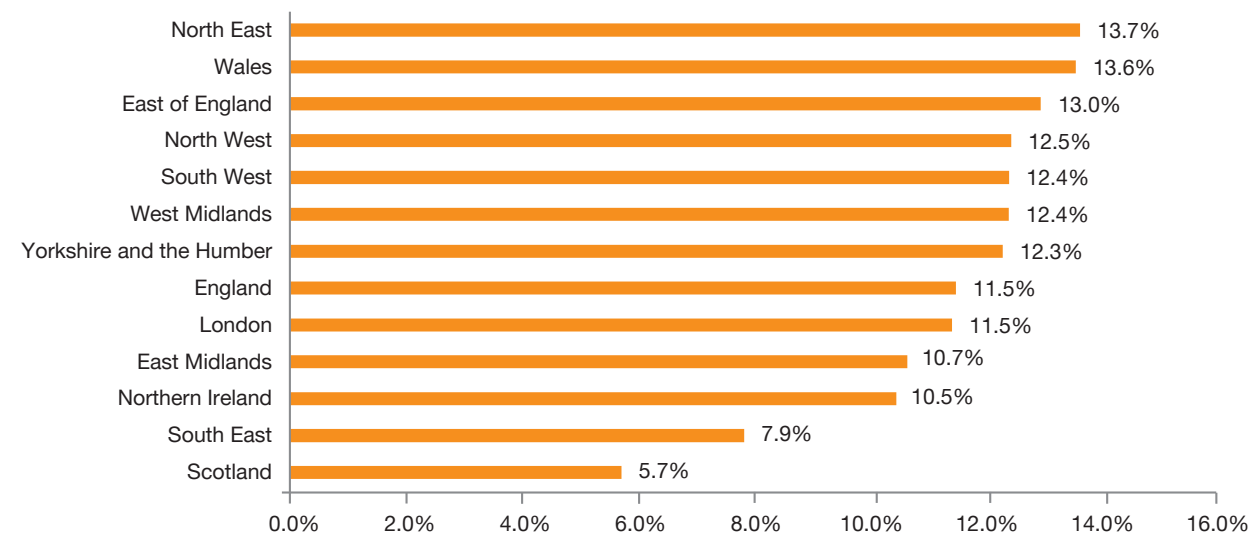
of young people in the UK were in full-time education

Q4 2019

43.54%

compared to young people in the same quarter of 2019³

NEET rate for 16-24 year olds, by region Q4 2020



Source: PwC analysis using ONS Labour Force Survey and Annual Population Survey data

The UK long-term unemployment rate has seen a steady decline from its peak in 2013, but is still 1.9 percentage points above the OECD average

Significant consequences are felt for long-term youth unemployment

Long-term youth unemployment is defined as the proportion of unemployed 15-24 year olds without a job for longer than 12 months. Long-term unemployment can be attributed to a theory called 'negative duration dependence', which suggests that the longer a worker has been unemployed already, the less likely it is that he or she will find a job.

A paper on the causes of long-term unemployment by Hornstein et al (2015) suggests that there are two possible explanations of negative duration dependence: true duration dependence and unobserved heterogeneity. Over time, unemployed workers tend to lose skills associated with actual work experience and lose attachment to networks that may aid in finding new jobs. In addition, potential employers might interpret a prolonged unemployment spell as a signal of ability, irrespective of the true, underlying characteristics of the unemployed worker (**true duration dependence**). Long-term unemployment can also be driven by structural reasons such as a decline of industries where the

How is the UK performing in long-term youth unemployment?

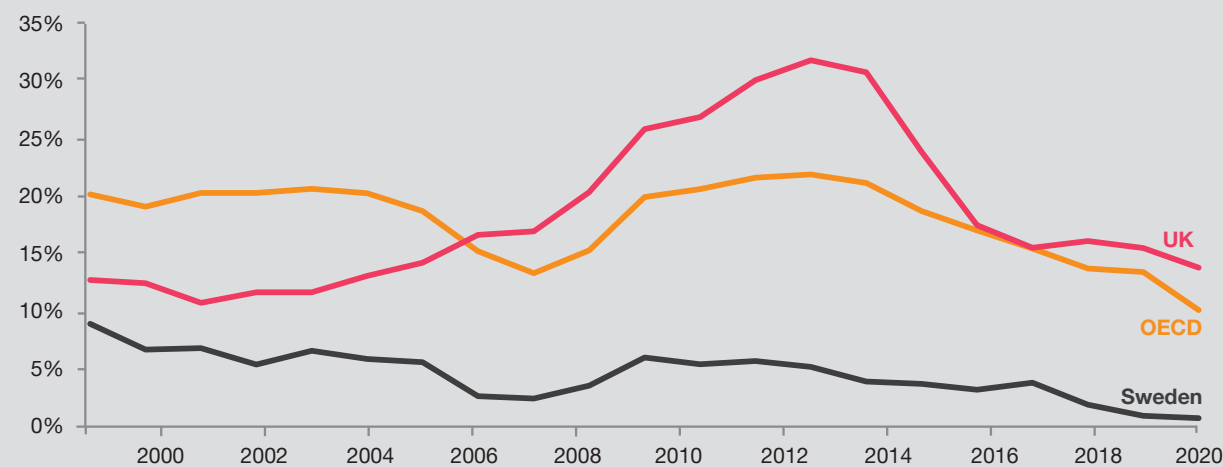
The UK's long-term unemployment rate has varied considerably between 2000 and 2020, particularly compared to the OECD average. In the year 2000, 12.3% of unemployed young people in the UK were unemployed for longer than 12 months, which was 7.7 percentage points lower than the OECD average. By 2013, long-term unemployment rate reached a high of 28.8%, putting the UK 7.3 percentage points above the OECD average. Currently, the long-term unemployment rate in the UK is 13.3%.²

We also compare the UK long-term youth unemployment rate with Sweden, which has the lowest average long-term unemployment rate of 5.1% since 2000 amongst the OECD countries. In contrast, the UK has had an average long-term unemployment rate of 17.3% over the same time period.³

¹ (Bell & Blanchflower (2011), and Strandh et al (2014)

^{2, 3} Source: PwC analysis using OECD data

% of 15-24 year old unemployed people without a job for longer than 12 months



Source: OECD Stat

workers that lose their jobs have skills that aren't transferable to employers in other industries (**unobserved heterogeneity**).

Long-term youth unemployment is a serious problem for policymakers to consider as it can have negative consequences on both individuals as well as the wider community. Longer periods of unemployment can negatively impact the lifetime career prospects, skill development and earnings of young people. It can also negatively impact their mental health and well-being as

being without a job for long can lead to anxiety, fear of missing out, and lower confidence levels. Evidence from academic literature shows that youth unemployment is significantly connected with poorer mental health.¹

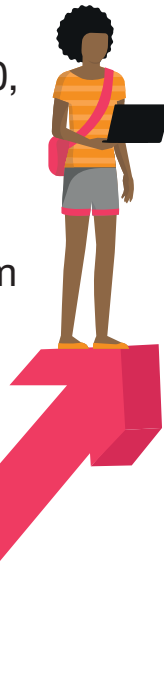
The impacts on the economy can be large. As seen in Section 2.1, having more unemployment (particularly when that translates into higher NEET rates) can cost the economy £38bn.

Economic activity rates and pay differ across ethnicities, with evidence suggesting that race is still a determining factor in professional success



Between 2006 and 2020, Black pupils had the greatest increase in full-time education rate out of all ethnic groups, from

21.6% to 47.5%



White people aged between 18-25 had an employment rate of 68.5% in the UK up to June 2020, the highest of all ethnic groups, as well as the lowest unemployment and inactivity rates (6.2% and 25.3% respectively), while young people of Pakistani and Bangladeshi ethnicity had the highest unemployment rates during this time (13.4% and 11.3% respectively). Research by the IES and Youth Futures Foundation found that the pandemic had unequal impacts across ethnicities – with young Black and Asian people accounting for two thirds of the total fall in youth employment, despite only being one in eight of all young people in work.¹

Inactivity data includes both non-working students and young people who are NEET – therefore it is important to also analyse differences in full-time education participation rates. Between 2006 and 2020, Black pupils had the greatest increase in full-time education rate out of all ethnic groups, from 21.6% to 47.5%, while White pupils

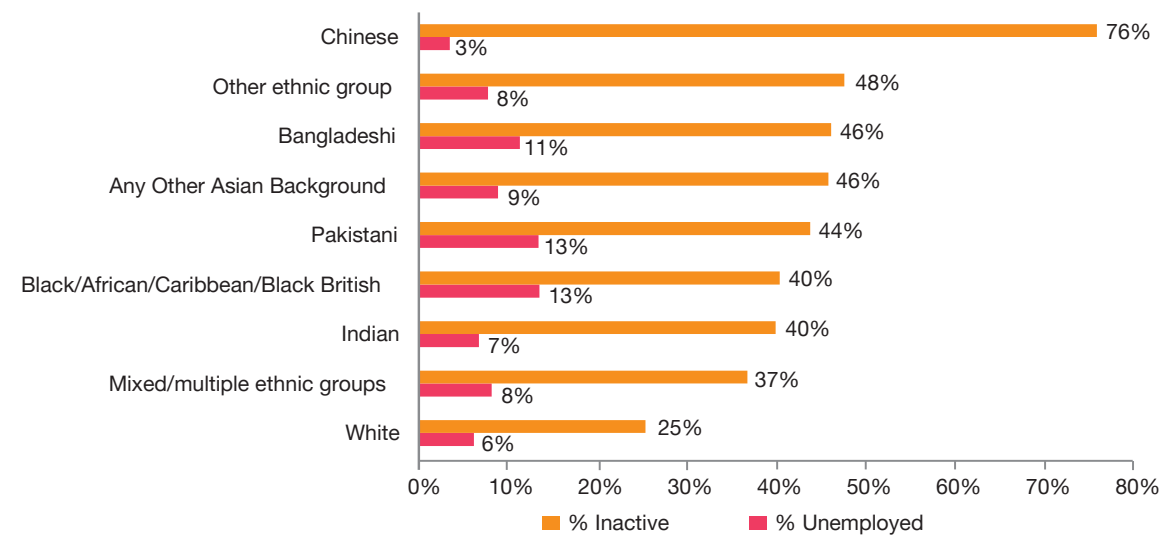
had the lowest increase, from 21.8% to 32.6%. In 2020, 32.6% of White pupils achieved a higher education place, lowest amongst all ethnic groups. In 2020, students from the Chinese ethnic group had the highest full-time education participation rate of all ethnic groups of 71.7%.

Differences in economic outcomes between ethnicities also persist for those in employment. PwC's Ethnicity Pay Gap report² assesses differences in pay rates between ethnic groups of all ages and finds that in 11 of 16 minority ethnic groups, both UK-born and non-UK born people earn less on average than the White British population, even when controlling for individual characteristics, providing evidence that race remains a significant determining factor for professional success. This pay penalty is also greatest for Bangladeshi and Pakistani groups, with non-UK born people earning over 20% less than White British people when controlling for individual characteristics.

¹ IES, 'An Unequal Crisis: The impact of the pandemic on the youth labour market' (2021) 2. PwC, 'Ethnicity Pay Gap Report 2021', (2021)

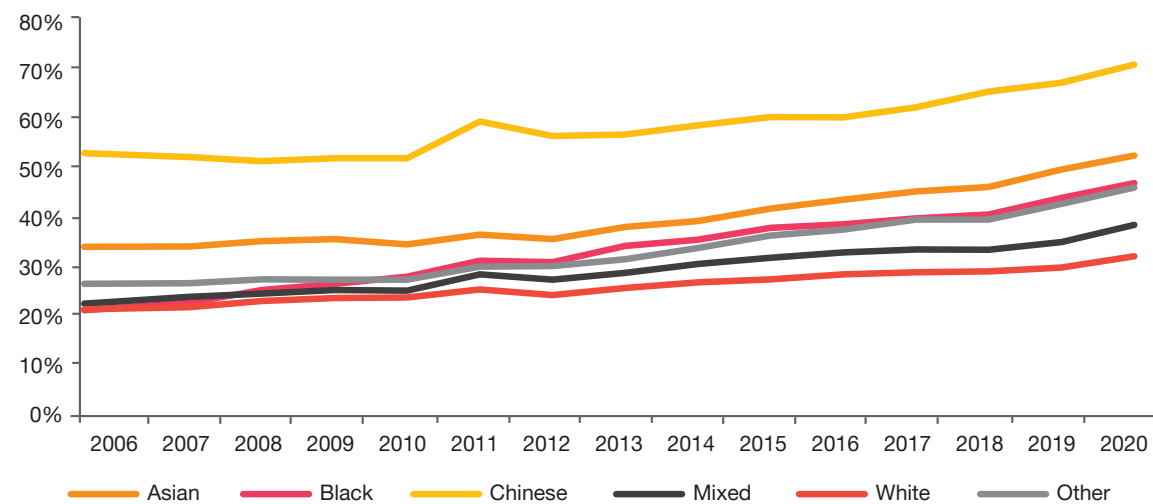


% of 18-25 year olds unemployed and economically inactive, by ethnicity, Q3 2019 – Q2 2020



Source: PwC analysis using ONS Annual Population Survey data

% of state school pupils aged 18 getting a higher education place, by ethnicity, 2006-2020



Source: PwC analysis using ONS and UCAS end-of-cycle report 2020 data

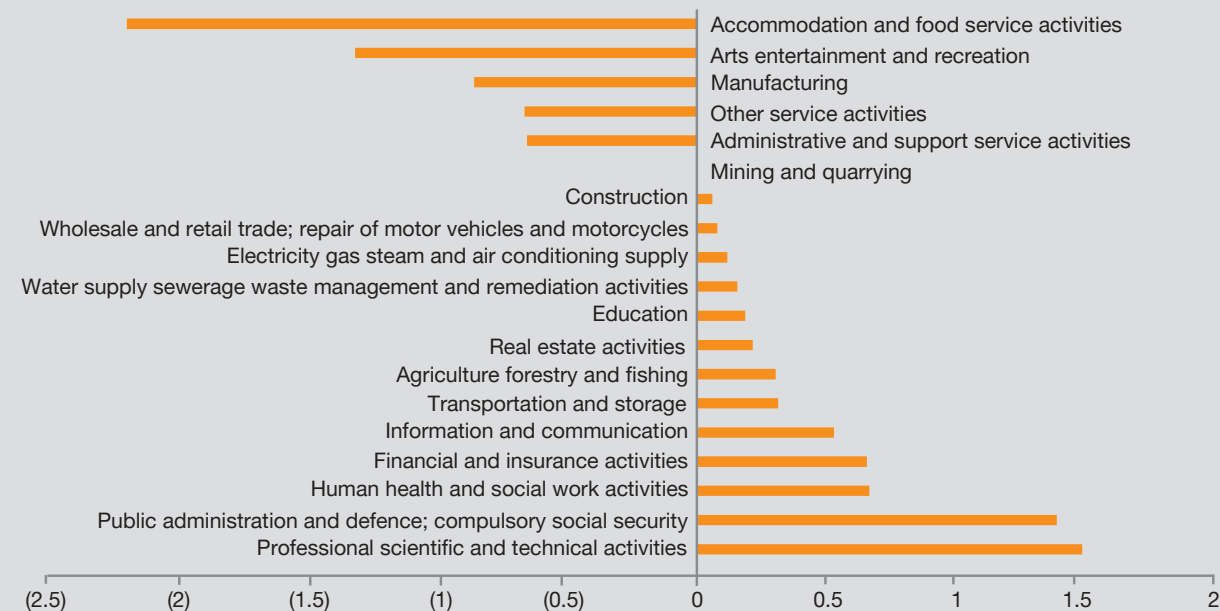
COVID-19 restrictions had a considerable impact on industries with higher employment concentrations of young people

How the distribution of young workers across industries changed during the pandemic

Imposition of lockdown restrictions had a considerable impact on industries with higher employment concentrations of young people, such as the consumer-facing service jobs in retail, trade, accommodation and food services where homeworking was less likely to be available.

The vacancies across all sectors in the UK fell in 2020 because of the pandemic. According to the Office for National Statistics (ONS), in Q4 2020, vacancies across all sectors were 25.0% lower than in Q1 2020. Over the same period, vacancies in accommodation and food services fell by 65.5% to 29,000; those in arts, entertainment and recreation fell by 52.2% to 11,000; and those in the retail sub-sector fell by 47.1% to 45,000.¹ However, vacancies started to rise in Q3 2020, and in August to October 2021 all industry sectors were above their January to March 2020 pre-coronavirus pandemic levels, with accommodation and food service activities increasing the most by 66,500 (79%).²

Change in the proportion of all employed young people by industry, UK, not seasonally adjusted, Q4 2019 to Q4 2020



Source: PwC analysis using ONS data

Over a third of accommodation and food workers in 2019 were young people aged between 16-24.² A study, 'Risky Business', conducted by think tank Resolution Foundation, shows that between 25 and 55 percent of 16-24 year olds worked in these sectors, compared with less than 20 percent of the rest of the workforce.³ Young people under the age of 25 were two and a half times more likely to be employed in shutdown sectors compared to the rest of the workforce.⁴

Customer-facing service jobs and elementary occupations hit hardest by the pandemic were also less likely to be adaptable to homeworking and hence made young employees redundant. In April 2020, due to the healthcare crisis, nearly 15,000 student nurses, midwives, and medical students joined frontline NHS teams to look after patients and support the healthcare sector.⁵ This led to a redistribution of youth employment from sectors such as retail, food and accommodation to healthcare and social work during the pandemic.

^{1,2} PwC analysis using ONS data

³ TUC (2020). Jobs and Recovery Monitor – Young Workers

⁴ C McCurdy & M Gustafsson, Risky business: Economic impacts of the coronavirus crisis on different groups of workers, Resolution Foundation

⁵ Joyce, R. and Xu, X. (2020). Sector shutdowns during the coronavirus crisis: which workers are most exposed?

⁶ NHS England (2020). NHS England' Student doctors and nurses praised for joining 'NHS Army' to tackle historic coronavirus threat.

The pandemic has reduced the gap in NEET rates between young men and women, but has significantly increased economic inactivity for both

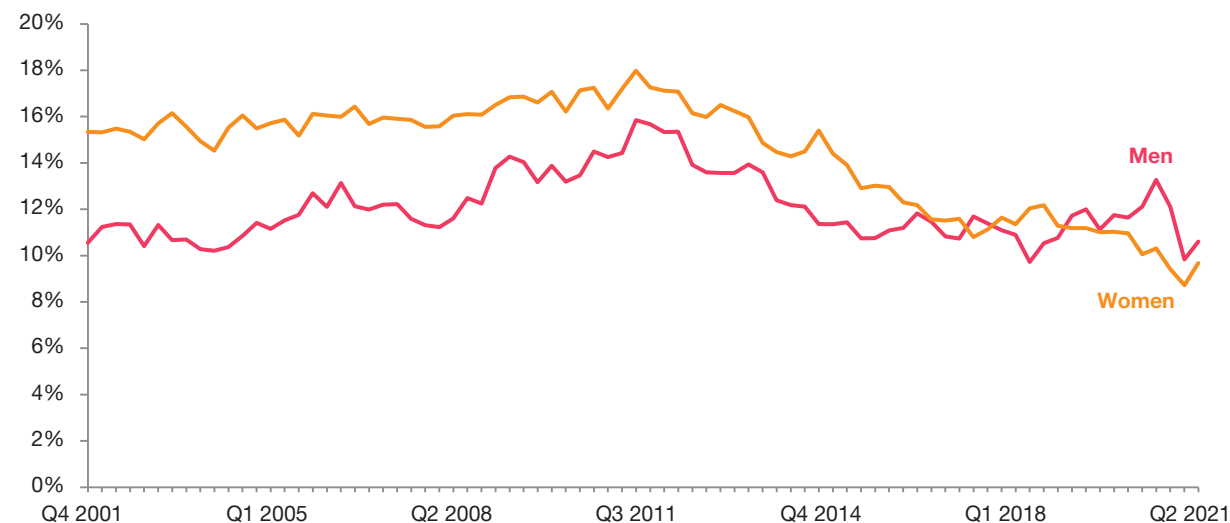
Impact of Covid-19 on employment for young women

36% of young women were employed in shutdown sectors, compared to just a quarter of young male employees.⁷

An estimated **1.5m** young women reported lost income because of the pandemic in October 2020.⁸

An estimated **750k** young women had been made to come into work despite concerns about their safety, with many having to quit due to COVID-19 safety measures not being met.⁹

NEET rates for 16-24 year olds by gender, Q4 2001 – Q3 2021



Source: PwC analysis using ONS data

The pandemic has led to NEET rates narrowing between men and women

The NEET rate for young women was rising and higher than men of the same age bracket between 2001 and 2012. Since Q1 2012, the NEET rate for women started to decline and fell below the NEET rate of men for the first time in 2017. The main reason for the decline in the female NEET rate is the substantial decrease of young women who are economically inactive due to childcare and/or homecare responsibilities (est. 200,000 women between 2012 and 2020).¹ In 2012, almost 75% of NEET women were inactive for this reason, while only around 30% were in 2021.² In addition, the proportion of young women choosing to pursue full-time education increased during the pandemic, from 59.1% in Q1 2020 to 62.9% in Q3 2021.³

While the NEET rate for young women has been falling and reached a record low of 8.7% in Q2 2021, the NEET rate for young men in the UK has sharply increased during the pandemic due to a rise in the number of men who are long-term sick or disabled. This has closed the gap in NEET rates between young men and women.⁴ The proportion of economically inactive young men not in full-time education reached a record high of 16.1% in Q2 2020, and is still higher than pre-pandemic levels.⁵ However, young women who are NEET in the UK are more likely to be economically inactive compared to young men. In January-March 2021, 63% of the young women who were NEET were economically inactive, compared to 51% of young men who were NEET.⁶ This particularly includes women with childcare responsibilities, low self-confidence and lack of awareness about training and employment opportunities.

^{1,2,6} Source: Powell, A. (2021). NEET: Young People Not in Education, Employment or Training

^{3,4,5} Source: PwC analysis using ONS data

^{7,8,9} Source: Women's Budget Group (2020). Covid-19 and economic challenges for young women Policy briefings on coronavirus and inequalities

Longer-term labour market challenges will remain after the pandemic, particularly for the youth

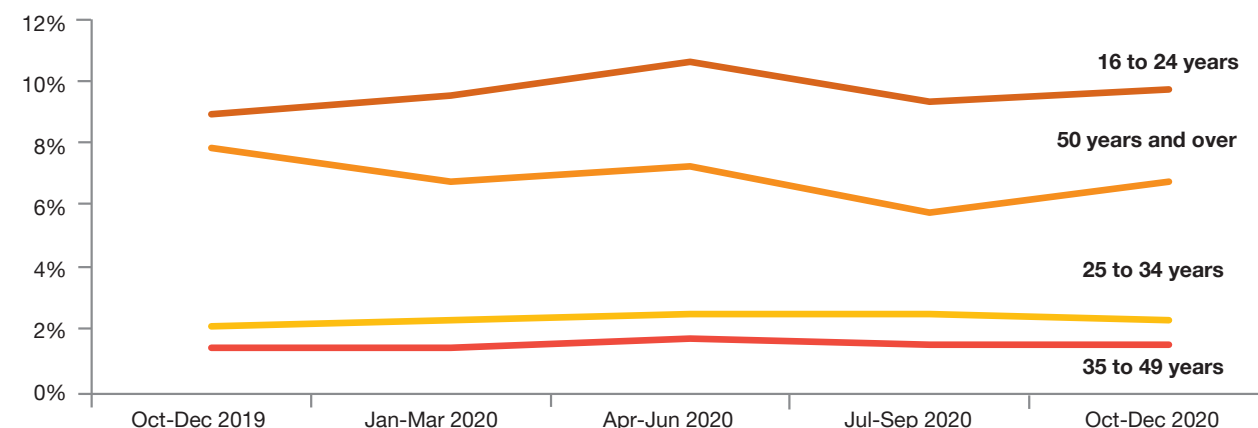
Employment is recovering and vacancies are at historic highs. Against expectations, the number of people employed in the UK rose in the month after the closure of the government's furlough scheme, with the number of payrolled employees rising by 160,000 to 29.3m between September and October (FT). Yet, evidence suggests that furloughed workers might have returned to their jobs on fewer hours and lower pay than they would have liked, while much of the increase in employment was due to a rise in part-time work and by young people taking jobs on zero-hour contracts.

Though underemployment is lower than it was pre-COVID.² Positive trends such as the Great Resignation are not necessarily improving the work conditions of all types of workers (as seen in the previous section). Precarious work is a long-term challenge for the youth.

Non-standard work is expanding, particularly for the young

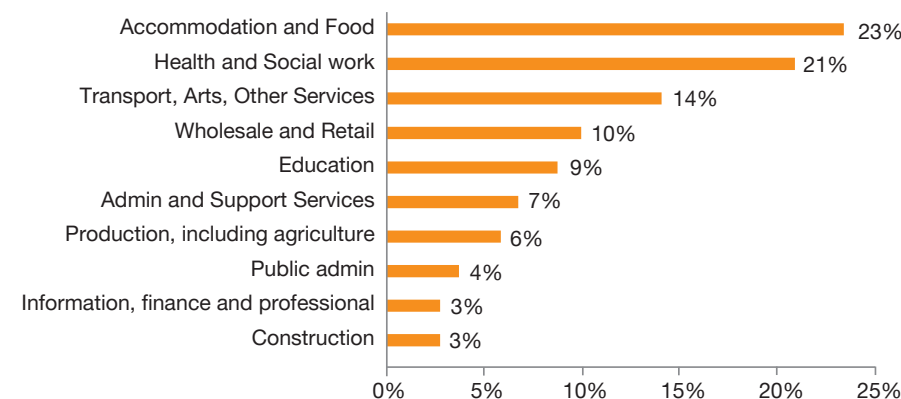
Young people are more likely than older age groups to be in part-time employment – 36.9% of workers aged between 15-24 years in the UK worked less than 30 hours a week in 2020 (versus only 19.2% of workers aged between 25-54).

% of employed in each age group on zero-hour contracts



Source: PwC analysis using ONS data

Percentage of people in employment on zero-hour contracts, by sector, Q2 2021



Source: PwC analysis using Statista data

Moreover, pre Pandemic the UK gig economy was expanding rapidly – more than doubling in size in the three years to 2019 (accounting for roughly 5 million workers)³

In the UK, young people were more likely to be employed in zero-hour contracts compared to other age groups. In Q4 2020, 1 in 10 people aged between 16 to 24 were employed in zero-hour contracts. Zero-hour contracts are also more prevalent in sectors that employ a greater proportion of young people such as food and accommodation.

¹ Strauss, D., 2021. UK employment rises despite end of furlough scheme. [online] FT.com.

² PwC, UK Economic Outlook December 2021, (2021)

³ Partington, R., 2019. Gig economy in Britain doubles, accounting for 4.7 million workers. [online] The Guardian.

Non-standard work is often more precarious and affects the productivity and wellbeing of workers

Contingent work: impacts on young people

On the positive side, part time work and zero-hour contracts provide young people with increased choice and flexibility to manage their working hours around full-time education. Indeed, many young workers do not seek permanent employment (1 in 4 temporary employees in the UK do not want a permanent job).¹ It also is common for women, in particular young mothers, to participate in temporary employment as it gives them the flexibility to balance work with household and/or childcare.

Some entrepreneurs, often young, also find the gig economy a good platform to provide new services. Yet, there are several drawbacks. Many gig workers see it more like a 'necessity' rather than an 'opportunity' (The Productivity Institute, 2021). Part-time employment, like zero-hour contracts, makes young people more vulnerable to economic recessions – zero-hour contracts are a **form of precarious** employment for young people as the lack of guarantee in working hours means that workers have lower job and income security:

- The risks of spells of unemployment are larger (Blanchard and Wolfers, 2001; and O'Higgins, 2014).
- The risk of falling into unemployment is also larger in the first place – which has left many disadvantaged workers in a more precarious position since the Pandemic. Longitudinal data from the ONS shows that between Q3 and Q4 of 2020, 17.6% of young people on zero-hour contracts moved from employment to unemployment, compared to 7.5% of older workers on zero-hour contracts.

There is also evidence that contingent work is less productive. Evidence from the OECD shows that the growth of the Gig Economy shows positive effects on overall employment (largely, self-employment) but a small negative impact on wages.² The OECD suggests that for fully reaping the potential benefits from gig economy platforms while protecting workers and consumers requires adapting existing policy settings in product and labour markets and applying them to traditional businesses and platforms on an equal footing.

Productivity and Good Jobs in the UK

Before the start of the COVID-19 pandemic in early 2020, stagnating productivity was one of the UK's most pressing challenges.

In January 2020, FT's Martin Wolf wrote: 'what has happened to the UK economy since the financial crisis at the most aggregate level? [...] The short answer to the first question is that employment has boomed while productivity has been a disaster.'³ He then cites academic research that shows that aggregate productivity performance of the UK economy since the financial crisis of 2007-08 has been its worst since 1860.

PwC's UK Economic Outlook 2019 dedicated a whole section to analysing the drivers of low labour productivity and concluded that 'relatively low levels of UK investment and R&D spending and a longer tail of companies and workers with relatively low productivity and skills are the main reasons for this productivity shortfall in the UK relative to other advanced economies.'⁴ Such shortcomings have a regional angle. According to our analysis, if local areas with productivity below the UK average level could make up half of this gap, the boost to UK GDP could be as much as 4%, or around £83bn.

The pandemic employment disruption is not likely to solve this long-term challenge. The phenomenon of the 'Great resignation', where many workers are moving to new, better jobs, normally applies to skilled workers (and often middle-aged professionals). Whereas younger people becoming long-term unemployed after the job losses linked to the pandemic is likely to exacerbate the productivity challenge – also if more (young) workers are more exposed to precarious employment.

In the UK, better outcomes in terms of (quantity of) employment often come at the expense of job quality – and this is the more reason to enhance measurements of job quality in future editions of the YEI (as discussed in **Section 3**). Productive employment must be at the heart of macroeconomic and social policies to successfully integrate disadvantaged young people into the labour market. In the UK, evidence suggests that upskilling and investment (as share of GDP, which is low in the UK as compared to other developed nations) must increase hand-in-hand.

¹. Source: PwC analysis of ONS data

². Schwellnus, C., Geva, A., Pak, M. and Veiel, R. (2019). Economics department gig economy platforms: Boon or bane?

³. Wolf, M. (2020). The UK's employment and productivity puzzle. [online] Financial Times

⁴. PwC (2019). UK Economic Outlook.

Case study

Helping Jack back into work after COVID-19



Jack came to Job Start, our 12 week programme employability programme, after attending Project Search (the supported internship programme), in 2020-2021. He graduated in 2020 but due to COVID-19 and lockdowns he'd had a very disrupted year of work experience. He wanted to get a paid job but his confidence was low and there was no follow on support after Project Search.

I held the initial meeting with Jack and his mum on Zoom. She, and his family, were very supportive and wanted the best for him. Jack also wanted help. Jack is autistic and his mother was clear that Jack's health had suffered. He needed structure and a plan to help him, as his parents were out all day working. Due to the distance and COVID restrictions, meeting up was not easy. We switched to Zoom, texts and calls to communicate.

We agreed a weekly plan of support and structure of tasks that he would need to do. Jack took to the tasks really well, his confidence returned and I supported him with several applications for hospitality roles. Within eight weeks, Jack successfully secured a paid job at Novotel as a customer assistant.

Employment Services Manager for Ealing Mencap



Jack attended Project Search 2020-21. It was a trying year because of COVID and I had grave concerns about my son being able to find a job. My son's tutor put me in touch with Mencap Ealing when Project Search was coming to an end. Straight away, they were extremely positive and had a plan of action to help him find work. I cannot express how invaluable their contribution was in guiding Jack in the right direction and into a job. All the agencies involved in helping my son into paid employment has been like a dream come true. For Jack, having a routine and a purpose is essential to his everyday life.

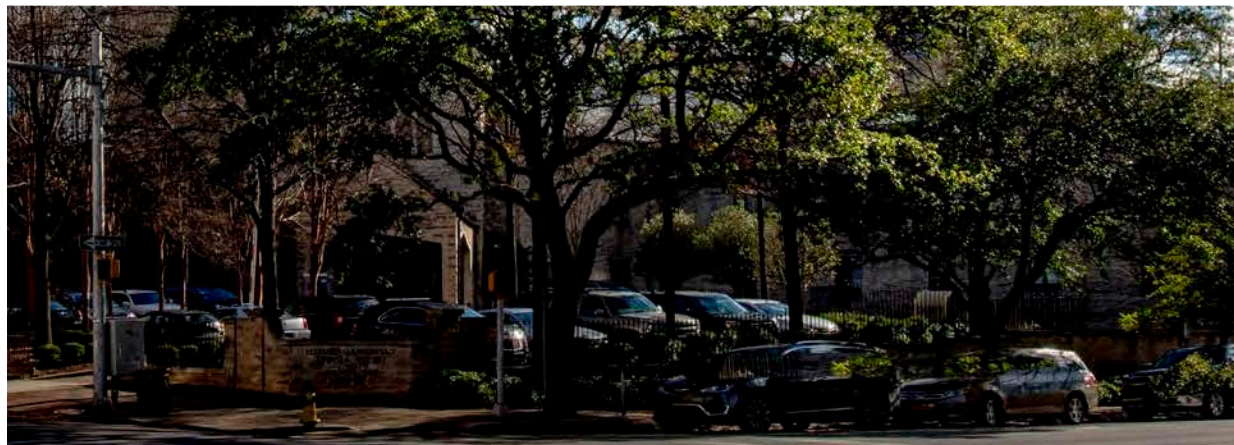
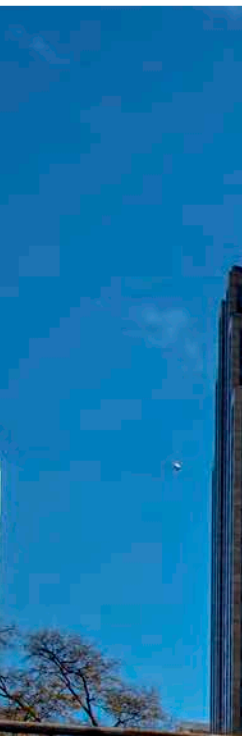
Jack has been working since August 2021 and is thoroughly enjoying it. This would not have been possible without Ealing Mencap Job Start. In my opinion, the people involved go above and beyond to help people with a learning disability and are invaluable in helping adults like Jack move into work.

Jack took part in Ealing Mencap's Job Start project, funded by an Inspiring Futures grant, delivered by Youth Futures Foundation in partnership with BBC Children in Need.

Jack's mother

4.1

UK case studies



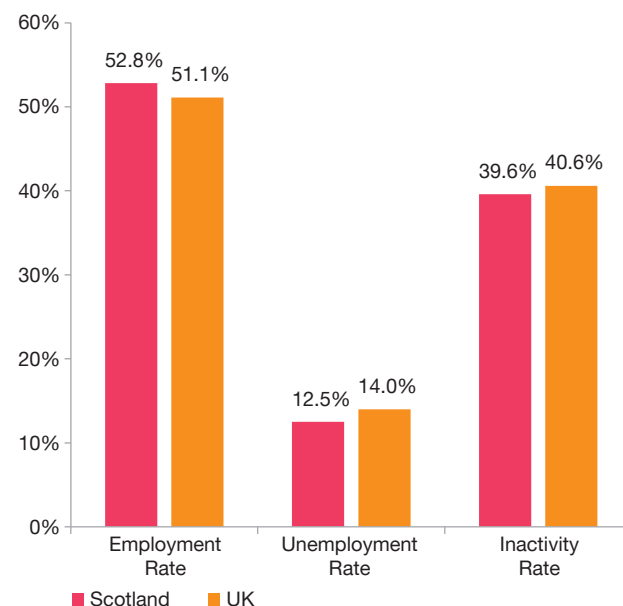
Since the start of the pandemic, the Scottish Government invested in youth employment programmes that helped bring down the youth unemployment rate



Different policies were implemented across the four nations in the UK at the onset of the pandemic to support young workers through the crisis. Scotland had the lowest NEET rate in the UK in the three months to December 2020 and the fourth lowest youth unemployment rate out of all UK regions.¹ However, it was also the region with the fourth highest increase in youth unemployment rate of 4.4pp in 2020 due to the pandemic.² To tackle the rise in youth unemployment, the Scottish Government has invested heavily in the last two years in programmes such as the Young Person's Guarantee to upskill the youth and incentivise employer recruitment.

Scotland has performed better than the UK on average in terms of youth labour market statistics since the implementation of youth labour market policies. Between April 2020 and March 2021, Scotland's youth employment rate was 1.7pp higher than the UK average, and had a lower youth unemployment rate by 1.5pp.³

Employment Rate, Unemployment Rate, Inactivity Rate, 16-24 year olds, April 2020 – March 2021

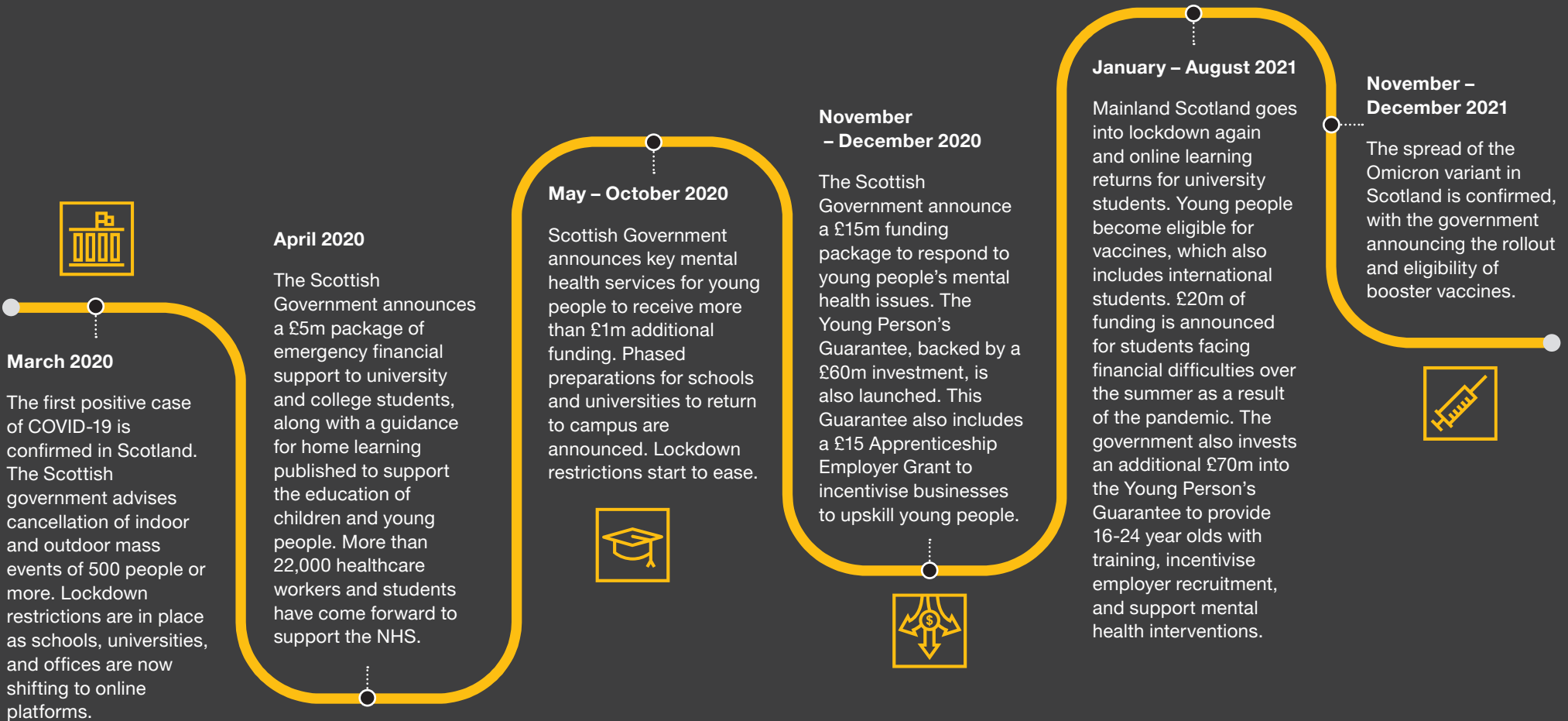


Source: Annual Population Survey, ONS

^{1,2,3} Sources: PwC analysis of ONS data

⁴ Source: The Scottish Parliament Information Centre (2021). Timeline of Coronavirus (COVID-19) in Scotland.

Timeline of the Scottish response to COVID-19⁴



⁴ Source: The Scottish Parliament Information Centre (2021). Timeline of Coronavirus (COVID-19) in Scotland.

Bradford: Building back better with an inclusive economic plan

The COVID-19 pandemic had a severe adverse effect on young people in the Bradford district, situated in Yorkshire and the Humber region. The claimant rate of young people aged between 16-24 in Bradford was the highest in the country and rose faster than the overall claimant rate to 11.4% in October 2020, from 6.0% in March 2020.¹ Youth unemployment rose in all parts of the District, but hotspots such as Manningham, Tong, and Keighley Central wards were particularly hit hard.²

Bradford is known for its young and ethnically diverse population. The pandemic has exacerbated the economic inequalities in the district as people from Black, Asian and minority ethnic (BAME) communities were disproportionately affected by the health impact of the pandemic and were also more likely to be employed in the shut down sectors of the economy.³ In 2020, BAME women made up three quarters of the employment gap in Bradford, signalling the potential of their diverse population to contribute to the growth of the economy.⁴

What is the Bradford District's Economic Recovery Plan?

Developed by Bradford's Economic Recovery Board, the Plan aims to support the district's recovery from the pandemic while building a more inclusive, sustainable, and resilient economy. A key focus of the plan is on strengthening Bradford's youth labour market given the large potential of its young and diverse population to contribute to the growth sectors of the economy. With more than 25% of the population in Bradford aged under 18,⁵ the Bradford District Council has prioritised upskilling young people, reducing youth NEET and unemployment rates, and fostering social inclusion and mobility as part of its overall strategy.

In addition to the measures the District had in place before the pandemic, the Economic Recovery Plan has identified three interventions to achieve its' youth labour market targets:⁶

1

Making Bradford a learning District:

Providing young people with the skills and experiences required for work, for example, through access to SkillsHouse, which seeks to bring together a seamless education and skills offer for employers and individuals while promoting inclusive learning.

2

Providing access to work:

Offering opportunities to young people by making them more employable, particularly in industries with high expected labour market demand, such as social care, digital skills and green economy.

3

Inspire, Reskill, and Upskill:

Informing the development of vocational provision, including higher level skills with a cohesive offer for employers, the self-employed and the unemployed. This will include leveraging the above mentioned SkillsHouse partnership to retrain the youth, in addition to a District-wide prospectus and careers portal to signpost skills provision.

Before the COVID-19 pandemic, the Bradford District was already facing high youth unemployment rates due to a growing younger population, skills mismatch, lack of access to training and education for vulnerable communities, and economic inequalities in opportunities between the rich and the poor. COVID-19 has exacerbated these pre-existing challenges in Bradford's youth labour market given that youth unemployment doubled in the district, and has led the Bradford District Council to address them as part of its' Economic Recovery Plan, launched in February 2021.



The claimant rate of young people aged between 16-24 in Bradford was the highest in the country and rose faster than the overall claimant rate to 11.4% in October 2020, from 6.0% in March 2020.

¹. Source: NOMIS, Claimant count by sex and age, Claimant count, March 2020 – November 2020

^{2, 4, 5, 6}. Source: City of Bradford Metropolitan District Council (2021). Bradford District's Economic Recovery Plan

³. Source: The Institute for Fiscal Studies, Are some ethnic groups more vulnerable to COVID-19 than others? May 2020

5

The outlook for youth employment



This section looks at several potential scenarios for the youth labour market in the UK to understand the future challenges faced by young people and policymakers

What is the purpose of our scenarios?

In order to support young people through any potential changes the future may bring, businesses and governments need to be forward thinking, anticipating trends that may shape the economy.

This section sets out 3 future scenarios for the UK labour market and their likely impact on young people. Each scenario has been developed using a number of key mega trends, shown to the right. These four mega trends are adapted from the existing PwC framework to focus on the trends that will have the most significant impact on the UK.*



Mega trend 1

Shift in global economic power

The long term shift of global GDP away from established economies, such as the US and the EU, towards emerging economies, including China and India.

PwC's World 2050 predicts that six of the seven largest economies in the world could be emerging markets by 2050.



Mega trend 3

Technological breakthroughs

The digital revolution is changing behaviour and expectations, as well as providing new tools to deliver new services and experiences.

This revolution includes maturing technologies such as AI, Augmented and Virtual Reality, Blockchain and 3D printing, along with emerging technologies yet to be developed.



Mega trend 2

Climate change and resource scarcity

Global demand for energy, food and water is predicted to rise, however the Earth has a finite amount of natural resources.

At the same time, the planet is unable to support current models of production and consumption, leading to rising average temperatures and the risk of irreversible environmental changes.



Mega trend 4

Demographics and social change

The UN projects that the world's population will rise by more than 1 billion by 2030, to over eight billion. At that same time, populations are ageing as life expectancy increases and birth rates fall.

Demographic shifts will vary by region, with 97% of population growth expected to be in emerging or developing countries.

* The PwC framework includes rapid urbanisation as a 5th mega trend, however given high levels of urbanisation in the UK, this has been removed as a core trend and included as part of the Demographics and Society mega trend.

Impact of mega trends on labour market



Mega trend 1:

Shift in global economic power

Impact on the UK economy and labour market

Skills gaps and shortages in the labour force, combined with global economic shifts have led to falling productivity in the UK relative to other economies. Rapidly developing nations with large working-age populations will gain the most from the shifts in economic power when coupled with business favourable policy. In developed countries, wealth disparities and job losses due to large-scale automation will exacerbate **economic inequality** and increase the risk of **crumbling social cohesion**.

- Rising economic inequality due to job disruption from **globalisation** of the labour force and **technological innovation** could polarise the domestic labour market with widening earning disparities. The OECD (2016) suggest that alongside decreasing real wages and increasingly precarious employment, the growing middle class will find itself more urbanized, indebted and fragile.

What this means for young people

- The UK may become relatively less attractive for business and investment as workforces become increasingly globalised heightening intervention from government to increase the UK's attractiveness and secure UK jobs.
- Emerging markets become increasingly attractive to highly educated and skilled UK youth, increasing the risk of domestic 'brain drain'.
- The low-skilled will increasingly face job insecurity, poorer working conditions and the lowering of wages as a result of globalisation as workers around the world now compete with one another for employment.
- Globalisation has exposed UK youth to labour forces better educated in digital subjects such as computing, design and technology and creative subjects that are absent or underrepresented within the UK's core curriculum despite being growth and in-demand areas.

Key uncertainties:

Some UK businesses have begun to return their production to the UK and other parts of Europe in a process referred to as 'reshoring'. Rising costs associated with offshoring, customer service complaints and an increased demand for high quality products with minimal delivery times are some of the factors precipitating this trend. The extent to which reshoring will provide protection to a globalised workforce is unknown but it is anticipated to be limited as global economies integrate further and businesses look to reduce costs.



2050

The UK has legislated to achieve net zero annual carbon emissions by 2050 and has an ambition to support two million green jobs by 2030.



Mega trend 2:

Climate change and resource scarcity

Impact on the UK economy and labour market

Resource scarcity and the impact of **climate change** are prominent economic concerns which will cause significant disruption to labour markets.

Whilst the UK is not expected to bear the worst environmental impacts of climate change, the global ramifications are manifold. The UK's international commitments under treaties, such as the UNFCCC, see it responsible for a greater share of the costs associated with climate change mitigation.

Climate change commitments will have a profound and lasting impact on the UK economy. The UK has legislated to achieve net zero annual carbon emissions by 2050 and has an ambition to support two million green jobs by 2030. This transition to a **green economy** is already highlighting areas where disruption is likely to create more challenges than opportunities for young people in the UK.

Consumerism continues to aggravate resource scarcity. An increasingly technologically equipped populace demanding cheap digital devices not only places pressure for the precious metals required to produce these products but also continues to create significant supply chain emissions as goods are shipped across the globe to the consumer's door.

What this means for young people

Skills mismatches are the greatest impediment to realising a green economic revolution. Half of British people aged 18 to 34 want a job in the green economy, however findings from PwC's Green Jobs Barometer found that in the period July 2020 – July 2021, only 1.2% (124,600) of jobs advertised in the UK were 'green jobs'. Matching young people with green jobs will require transforming the UK business environment into a hotbed of green job creation but more crucially require aligning initiatives to address skills gaps and shortages in UK youth with the skills requirements of employers. A recent study by the IPPR estimated that a 'future proofed' scenario of green and social jobs characterised by high ambitions in public investment could support, 130 thousand jobs for young people.¹

Technical skills will be required in a greening economy. This will mobilise resources and support for technical apprenticeships, and place a greater emphasis on STEM subjects within the curricula. As women and ethnic minorities are underrepresented in STEM subject and in technical subjects, without proper targeted policy, there is a risk of a divorce of vision between elements of the green industrial revolution and that of the UK's levelling up agenda.

PwC's Green Jobs Barometer (2021) reveals stark contrasts in how a green transition is already affecting and will continue to affect regions and industries unevenly and create greater challenges for the UK's levelling up agenda.

Climate anxiety and eco-anxiety (distress relating to the climate and ecological crises) are also becoming pervasive amongst the youth in developed economies and their limited ability to exert power to limit such harm is a factor increasing their vulnerability to climate anxiety. A survey by UNICEF of British 11 to 16-year-olds, showed that 74% were worried about the impact of climate change on their future. COVID-19 has exacerbated the mental health challenges facing young people who are increasingly physically isolated, disenfranchised and indebted.

¹. Source: IES, 2021. A Better Future: Transforming jobs and skills for young people post-pandemic.



Mega trend 2:

Climate change and resource scarcity

Impact on the UK economy & labour market

The UK Government's Net Zero Strategy, published in October 2021, sets out how government will support the creation of 190,000 green jobs by 2024, growing to 440,000 across net zero industries by 2030, as well as setting a clear ambition to create the right conditions to support two million green jobs throughout the economy.

The Government aims to achieve this through 'working with business to grow green industries, supply chains and skills in the UK [and using] net zero policy and funding to promote the growth of green skills and the green economy.'

In addition, the Government's Ten Point Plan announced in November 2020 has committed £12 billion of domestic green investment and aims to leverage up to £90 billion of private investment by 2030.

Facilitated by the Green Jobs Taskforce which seeks to support the Government's green job ambitions, the UK is making significant progress towards 'building back greener' and creating green jobs for young people.

The focus areas of the Taskforce highlight the strategic priorities of Government:

1. Ensuring we have the immediate skills needed for building back greener, such as in offshore wind and home retrofitting.
2. Developing a long-term plan that charts out the skills needed to help deliver a net zero economy.
3. Ensuring good quality green jobs and a diverse workforce.
4. Supporting workers in high carbon transitioning sectors, like oil and gas, to retrain in new green technologies.

Key uncertainties:

Technology is an essential component to ameliorating some of the effects of climate change. From aiding decarbonisation to supporting more energy-efficient modes of extraction and consumption, technological breakthroughs will continue to play a vital role in helping the UK meet its decarbonisation objectives.

Ensuring the political will remains to see these plans through is far from certain. A transitioning green economy will not impact all parts of society equally. Whilst the highly skilled will have opportunities created in from this period of change, the low skilled and those in hard-to-abate sectors will experience a disproportionately higher risk of their jobs being lost and higher unemployment. Ensuring that a green transition – necessary for address climate change – is equitable, job creation will not only have to exceed job losses but those who are most vulnerable to these changes will need to be supported in gaining skills that continue to be relevant to employers.

The UK Government's Net Zero Strategy will boost green skills but whether it does so in line with industry needs to support the transition to net zero and delivering a Green Industrial Revolution remains to be seen. Existing initiatives for addressing skills mismatches have been short-sighted and have often failed to address the structural impediments to youth employment. The House of Lords Youth Unemployment Committee cited Kickstart¹ as a 'missed opportunity' for failing to align young people with the green skills agenda.

¹ Youth Unemployment Committee Skills for every young person. Report of Session 2021-22, HL Paper 98 (Online), (2021)



Mega trend 3:

Technological breakthroughs

Impact on the UK economy and labour market

There are reasons to be optimistic about the role technological breakthroughs will have on young people. The impact of digitalisation and hyperconnectivity on ways of working has the potential to further increase the participation of women in the labour force as new modes of working reduce barriers to participation for working mothers. Increase participation, especially at the mid-career stage when women are most likely to take a career break, will increasingly facilitate rising participation in leadership positions for women, creating role models for young women entering the labour force.

Big data can become the basis for smart policy design for young people. As the segment of society most actively engaged on social media, data scraping and analysis could continue to provide new, innovative, and highly tailored methods to address long term structural barriers in the labour market for young people.

The adoption and implementation of intelligent automation and robotisation will also create opportunities for young people in new and emerging industries and occupations which are poised to capitalise on their digital capabilities.

70%

with 70% of Europeans saying that they would like to work outside their home country at some point in their career (PwC, 2013).



What this means for young people

The widespread vulnerability of jobs threatened by automation might lead to greater job displacement and income inequality if technological developments advance at a much faster rate than governments' and institutions' reactive capacity. This could be particularly significant owing to the fact that skills demand and skills development occur on two very different time scales with skills taking years to develop and demand materialising instantaneously to address current trends and needs.

Whether big data becomes widely adopted in designing policy for young people will be dependent on whether institutions see a need to make youth labour policy demographically or regionally bespoke and whether dynamic policies, dependent on real-time data are prioritised over paternalistic 'static' policies.

Technological adoption lag by people and businesses could limit the significant anticipated increases in productivity and the creation of new opportunities that are yet to materialise.

Legal institutions have moved to formalise workers' rights in non-standard employment but they may not continue to do so in sufficient time to prevent a generation of labour force entrants whose career security and progression has been scarred by early career precarisation.

So, whilst there may be some cause for optimism in areas, ensuring that the economy fully uses the talents of people in conjunction with technology, to achieve more sustainable prosperity, involves policy questions that go well beyond the realm of a narrow definition of 'skills development'. Supply-side considerations that focus on factors such as skills also need to be linked to employment opportunities and decent work (the demand-side). This can be achieved through integrating policies that embed skills development within broader development strategies (e.g. industry sector development, local economic development, youth employment). Linking supply-side and demand-side factors in such a way, can address the timeframe asymmetries of skill demand and supply by fostering an environment where the cultivation of resilient and future-proof skills becomes a focus of programme design.



Megatrend 3:

Technological breakthroughs

Impact on the UK economy and labour market

Familiarity with digital technologies and experience of using these in an ever-widening range applications and contexts, makes young people particularly well-positioned to benefit from trends such as **intelligent automation**, **hyperconnectivity** and the **changing work** environment.

- Technological breakthroughs will destroy, create and change jobs. An OECD estimate suggests that approximately 14% of jobs in OECD countries are at a high risk of automation with an additional 32% of jobs facing substantial changes in the way they are performed.
- Technological innovations have precipitated **changing work** patterns. The growth of the gig economy is an example which is already redefining traditional relationships between employers, and employees who are turning to non-standard forms of work as a means of accessing the labour market.
- AI and related tech is projected to create as many jobs as they displace in the UK over the next 20 years (7m displaced vs 7.2m created) with health industries anticipating the largest gain (+22%) and manufacturing, the largest loss (-25%).



Big data can become the basis for smart policy design for young people.

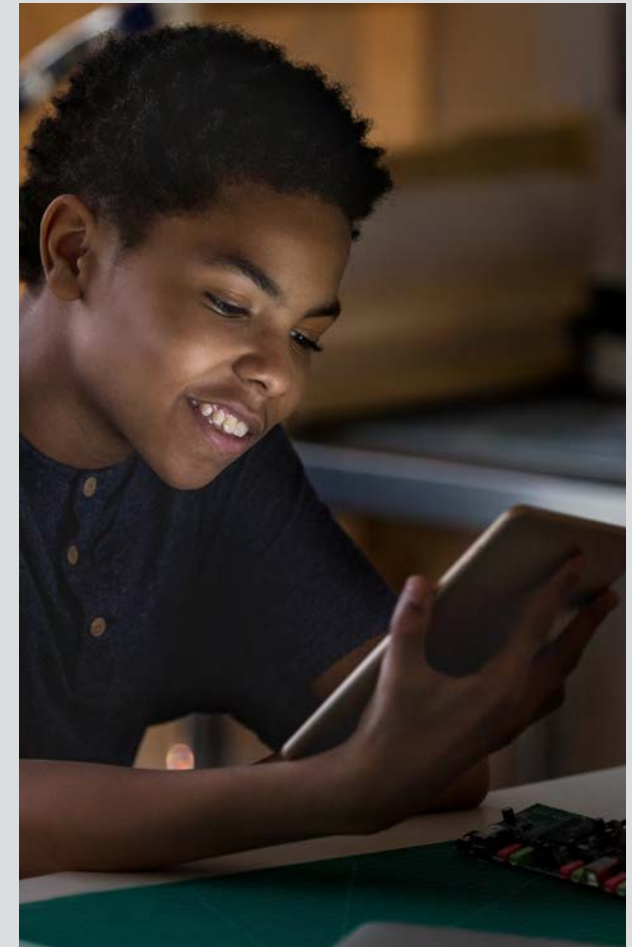
What this means for young people

Technological breakthroughs are constantly changing the nature of the work people do and where they perform it. Intelligent Automation, robotisation and hyperconnectivity, are creating both opportunities and challenges for businesses and policy makers. Workforce composition and organisational structures are also being redefined as older people stay in employment longer and young people enter the workforce more educated and more digitally adept than the generations before them.

AI will make it possible to automate entire market segments causing labour force disruption across the economy. The risk of automation, whilst higher for, is not endemic to low-skilled roles – jobs requiring intermediate and even high skills levels will also face being automated. Young people are the most at risk of job automation which might enhance the extent to which they emigrate for work. Millennials (those aged 24 to 38), for instance, ‘have far greater expectations of working internationally than their older counterparts [...] with 70% of Europeans saying that they would like to work outside their home country at some point in their career’ (PwC, 2013). Moreover, Seventy-one percent of global Gen Z (those aged 9 to 24) and Millennials have only worked in one country thus far in their careers, yet 56 percent aspire to work in more than one country in the future. (Randstad and Future Workplace, 2016).

The UK continues to experience skills polarisation amongst young people. Declines in intermediate level skills have become a longer-term trend resulting in a growing number of young people with low-level skills at the highest risk of job insecurity from automation. Skills polarisation will be accentuated in rural areas but may also result in widening inter-urban inequalities due to some workers being ‘locked in’ to automatable positions’ with significant barriers to retraining. These trends will have significant ramifications to the UK’s levelling-up agenda.

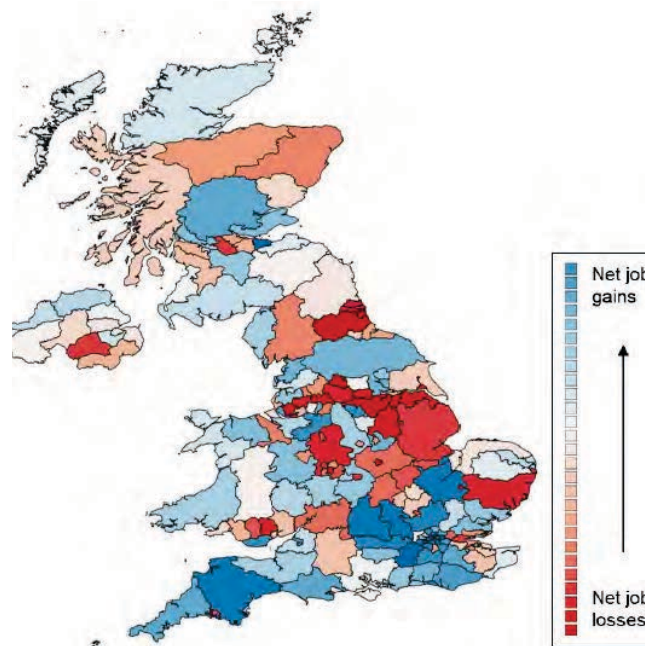
As skills polarisation has advanced and skills mismatches have become a threat to UK competitiveness, educational institutions have been forced to evolve their modes of delivery to meet the challenges greater digitalisation and the demand for more technical subjects.



Regional Impact of AI and Automation on jobs (net effect of job creation and job decline)

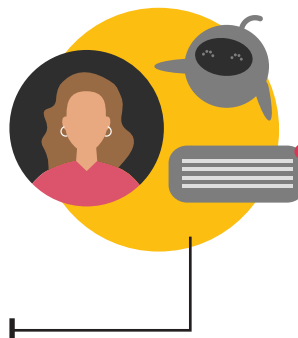


Estimated net effect of AI by region (NUTS 3) over 20 years (in terms of no. jobs)



Source: PwC analysis of OECD PIAAC and ONS APS data (developed in a collaboration with BEIS)

AI may see a continuation of skill-biased technological change. There is a positive correlation between estimated net employment effects of AI and education levels.



AI and Automation is likely to have a positive impact, though the gains risk being unequally distributed

AI and related technologies should not cause mass technological unemployment, but our analysis suggests that they may lead to significant changes in the structure of employment across occupations, sectors and regions of the UK. The effects may be relatively small over the next five years, but could become more material over the next 10-20 years. These technological changes may also add to income inequalities, with our analysis suggesting that they may favour those with higher education and skills levels, who also tend to have higher earnings.

AI may see a continuation of skill-biased technological change. There is a positive correlation between estimated net employment effects of AI and education levels. This conclusion also holds across a range of plausible scenarios around the overall scale of job displacement and creation.

There is some indication that entry-level jobs for younger workers may be more likely to be automated. However, young workers may be more adaptable in adjusting to new technologies and digital 'upskilling' will be important for all demographic groups.

Breaking the results down by UK region and sub-region, our base case estimates, as well as plausible alternative scenarios, suggest somewhat more positive net effects in higher income areas such as London and the South East and more negative net effects in some cities in Northern England and the Midlands. But there are also considerable variations within regions, reflecting different occupational mixes across towns and cities.

Impact of AI and Automation on youth employment (net effect of job creation and job decline)

Technology and automation bring economic benefits, but young workers need to be prepared to take on the opportunities

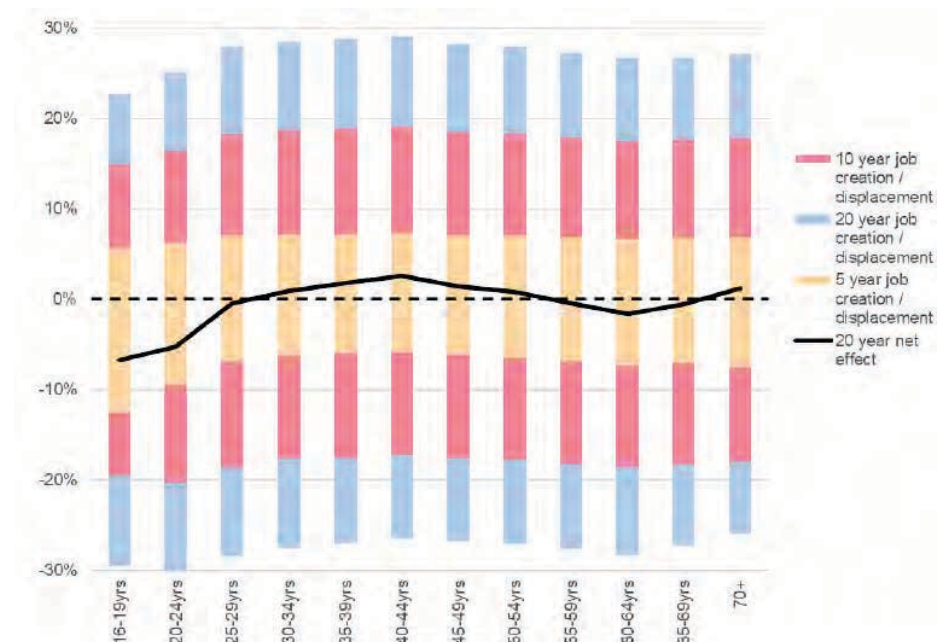
The acceleration of innovation and technology is expected to create jobs in several sectors of the economy, and young people will also benefit from this.

Yet, given that up to 30% of jobs typically held by younger workers could be affected (and decline) due to AI progress and automation, the net impact on employment is expected to be negative for young people in the UK over the next 20 years.

As automation takes over the jobs currently filled by low-skilled workers, large populations of disengaged youth could create a drain on a nation's GDP.

The adverse impacts of automation can be exacerbated if NEET rates remain high, particularly if young people do not equip themselves with the transversal skills (skills that are typically considered as not specifically related to a particular job or area of knowledge and that can be used in a wide variety of situations and work settings – for example, organisational skills), needed to continuously adapt (and move) to new jobs – in an economic environment increasingly expected to be in constant flux.

Estimated net employment effect of AI for different age groups



Source: PwC analysis of OECD PIAAC and ONS APS data (developed in collaboration with BEIS)

Countries that stand to minimise the labour market effects of automation are those that are already gearing their young people towards highly skilled jobs and professions, according to our research.

30%

of jobs typically held by younger workers could be affected (and decline) due to AI progress and automation

Impact of mega trends on labour market

18% to 24%



People aged 65 and over are projected to increase from 18% to 24% of the UK population by 2043 (17.4 million people)



Mega trend 4:

Demographics and social change

Impact on the UK economy and labour market

The demographic shift driven predominantly by increasing life expectancy coupled with declining fertility, has resulted in an **Ageing Population** in the UK. The number of people aged 65 and over is expected to increase from 18% to 24% of the UK population by 2043 (17.4 million people). Over the same period, 15 to 24 year olds will decline from representing 12% to 11% of the population. An ageing population will impact the UK economy in a number of ways:

- Shrinking tax base and rising Old Age Dependency Ratio (OADR)*
- Increased **Health Challenges** and associated rise in healthcare spending
- Higher net **Migration**
- Greater diversity in the workforce
- Enhanced political focus on increasing employment rates for women, older and youth workers

What does this mean for young people?

- An ageing population is typically associated with increases in health and social costs which are, owing to their political implications, rarely addressed through significant spending cuts. The majority of mitigation policies are invariably targeted at the working age population; young people will likely see their costs increase as a result of an older UK demographic.
- Inward migration will be encouraged to offset the effects of the UK's ageing population. As migrants enter the workforce, young people seeking entry-level work will compete for roles with migrants who have higher level qualifications than required for low-skilled employment. This is particularly relevant to newly arrived migrants, who are prepared to accept jobs they are overqualified for while they work towards longer-term aspirations (Migration Advisory Committee, 2014). Compounded with technological advancements and changes to work environments, UK youth will increasingly become part of and compete with a global workforce. Acquisition of qualifications and relevant skills will therefore be of greater relevance than ever before.

Key uncertainties:

- The ONS project that the OADR will increase over the next 40- years however the extent to which it will impact youth will also be dependent on the increasing labour force participation of workers older than retirement age.
- A 'migrant dividend' to the UK's ageing population will be contingent on migrants being able to access decent jobs and benefit from quality training and education, social care and health spending (i.e. the wide range of economic and social benefits that can accrue to states which support, rather than restrict, migrants)

* The number of people of pensionable age for every 1,000 people of working age

Scenarios: Flexible Transformation; Constrained Green Growth; Decline

Using alternative scenarios, this section outlines three possible future realities for young people in the UK: flexible transformation, constrained green growth, and decline. Each scenario articulates the key driving forces which characterise these disparate futures and a synopsis is provided to describe the impacts of megatrends, policy performance and socio-economic factors on outcomes for young people. Finally, a strategy landscape characterisation for each scenario highlights the types of policy responses which may be commensurate to the scale of the challenges outlined in the respective scenario.



Scenario 1

Flexible Transformation

Key driving forces:

- Burgeoning green and digital economies
- Flexible and coordinated skill management
- Data-driven public-private partnerships in education
- An outward-looking UK with capital formation supporting the rollout of the UK's Net Zero infrastructure



Scenario 2

Constrained Green Growth

Key driving forces:

- Green growth is positive but limited by continued siloing of institutional approaches to skills and apprenticeships
- Migration and an ageing population heightens social tensions
- Eco-anxiety is a greater concern for young people than the automation anxiety facing the working population



Scenario 3

Decline

Key driving forces:

- Automation and technology advance at a much faster rate than UK institutions' reactive capacity
- Youth unemployment increases amid a rapid escalation of social unrest, as job prospects decline and the climate crisis worsens
- Foreign investment stagnates and inflation increases steadily over the 2020s

Scenario 1: Flexible transformation



Climate change and technological breakthroughs disrupt but significant recognition of reskilling and retraining as a priority

A skills-centric UK where technology becomes an asset for policy makers

The skills-centric vision of the UK economy has been achieved through the delivery of flexible policy that prioritises resilience over interventions that are seen as being 'optimal'. Climate change and technological breakthroughs continue to be disruptive forces within the labour market but significant recognition of the need to prioritise reskilling and retraining has enhanced the resilience of young people to manage these disruptions.

Combined with transparent strategy and a coordinated and collaborative ecosystem of policy stakeholders across the public and private divide, much of the disruption caused by mega trends have been alleviated and there have been significant improvements in many of the structural barriers to labour market participation for young people.

Key driving forces:

- 1 Burgeoning green and digital economies.
- 2 Flexible skill management from institutions who coordinate youth labour policy across social, regional and business divides through the use of big data.
- 3 Intelligent automation highlights the limitations of technological solutions to growth and human development.
- 4 Early childhood development programmes are commonplace, and more resources devoted to aligning primary education with the digital skills needed for the future of work.
- 5 Public-private partnerships in education use big data to identify and deliver evolving skills pipelines that are tailored to the needs of individuals, regions and sectors of the economy
- 6 Young people are increasingly digitally entrepreneurial.
- 7 Educational institutions are overhauled to be closely aligned to the skills demand of industry. Support for many more technical qualifications and apprenticeships provide a pipeline of talent for an increasingly green and digital workplace. University education is made more affordable and minority groups are actively supported in attending.
- 8 Various digital initiatives lead to growing civil society initiatives that socially and politically enfranchise individuals, particularly from more vulnerable groups.
- 9 Extra-European trade increases. Shifts in global economic power increases demand for UK value-added goods and services leading to more frequent trade surpluses. The ensuing capital formation accelerates the development of the UK net zero infrastructure as well as creating green jobs and supporting these roles with funding for technical apprenticeships.
- 10 Successful mobilisation of private finance supports initiatives essential for the UK to achieve its Net Zero ambitions.
- 11 Mental resilience and agility are embedded in curricula and in workplace skill initiatives.

Scenario synopsis

Reskilling and retraining efforts have shifted away from the short-sighted focus of industry requirements at the time of design and past successes and are now cognizant of future disruptive trends. The skills landscape is primed for disruption and leverages big data to make informed policy decisions in real-time. Government and private sector collaborate to make disruption planning and workforce strategies transparent and mutualistic. Employers are increasingly communicating with employees over the need to constantly upskill and retrain.

Young people are now perceived as a key strategic priority in a new skills-centric economy. Thanks to big data, policy design is able to account for microtrends. Analysis of aggregated individual data allows policy to be designed and delivered with the individual in mind – with an emphasis on protecting people and not jobs. This continues to alleviate some inequalities facing groups of young people.

- 1 The success of the UK's Net Zero Strategy results in significant investments in green infrastructure. Apprenticeships with regional targets increases youth employment and reduces regional inequalities. Green jobs creation is catalysed by a large-scale green infrastructure fund which stimulates employment through incentives for employers and skills development, signposting and funding for both young people and those who have lost jobs as a result of trends such as intelligent automation. Digital and green skills identified to be demanded in the future are mainstreamed in a curriculum which is adaptive to the evolving demands of businesses.
- 2 With a competitive workforce, replete with green and digital skills and access to skills development, the disruption caused by technological advancements is lower than anticipated. Organised labour in lower skilled occupations at high risk of being replaced by automation has helped delay the implementation of technology in high-employment industries, buying institutions time to react and adapt.
- 3 Despite organised labour and formalisation of employment rights for workers in non-standard employment, the UK continues to be an attractive market to these employers, increasing participation of young people in the gig economy and leading to higher employment, although at the cost of the quality of employment for those engaged.
- 4 The economic and social burdens of an ageing population are not offset but increasing trade surpluses and sustainable growth of the economy make increases to OADR more palatable and national insurance contribution exemptions for the under-25's ameliorate some of the fiscal burden to young people.

Strategy landscape

By treating people as the key asset of the economy, upskilling becomes the basis for competitiveness, inclusive growth and social cohesion. For this reason, skills development strategies need to be at the heart of policymaking and national economic strategies.

Removing barriers to lifelong learning will require coherent and creative policy development. For example, welfare services such as childcare or housing support may need to be strengthened in order to give individuals the time and space to learn; the potential synergy between skills policy and welfare policy has

This people-centred approach to policy making requires governments to treat citizens as individuals, and tailor policies such as nudges to certain segments of society. For example enabling learning to be delivered in bite-sized modules, rather than larger, set-piece learning.

This will also require alignment of institutions that coordinate youth labour policy across social, regional and business divides through the use of big data. Along with this governments can better adapt to transformation in the economy through piloting policies and constant learning from policy impacts.

Scenario 2: Constrained green growth



Green growth remains a priority for central government but visions of a green economy struggle to be translated through siloed institutional delivery models

Green growth struggles to translate vision into reality

Mega trends, such as technological breakthroughs and climate change, cause disruption. However, this is moderated by a combination of technological adoption lag and active, albeit disjointed, skills cultivation and redeployment. Green growth remains a priority for central government but visions of a green economy struggle to be translated through siloed institutional delivery models. While there is a legacy of optimal labour market policies, integration of flexible strategies that embed resilience and skills development within broader development strategies such as local economic development and net zero are underway.

The UK remains an attractive location for foreign direct investment however, private investment in green domestic infrastructure has not achieved the vision set out in the UK's Ten Point Plan due to shifting global power. Increases in capital formation have been able to plug some of the gap and support the continued development of the UK net zero infrastructure as well as creating green jobs and supporting these roles with funding for technical apprenticeships. There remains a mismatch in demand signals and supply meaning skills cultivation remains an evolving strategic priority.

Key driving forces:

- 1 Positive growth in green jobs.
- 2 Siloed institutional approach to skills and apprenticeships.
- 3 Intergenerational tension and conflict increase as OADR increases.
- 4 Inward migration is actively encouraged as a means of offsetting the burdens of an ageing population. Xenophobia rises, exacerbating the cultural polarisation between young and old.
- 5 Technological uptake supports a more capable and productive public service.
- 6 Skills management improves but has not reached its sweet spot and mismatches persist.
- 7 Schools and other educational institutions are provided the framework and funding to support technical apprenticeships and mentoring.
- 8 More inclusive social safety net including an expansion in social and affordable housing.
- 9 Eco-anxiety is a greater concern for young people than the automation anxiety facing the working population.
- 10 Agri-tech investments improve agricultural yields and resource efficiency on productive land but long term declines in food self-sufficiency are not abated as changing diets, the attractiveness of cheap food imports, and wildlife-friendly policies increase the amount of land taken out of agricultural production.

Scenario synopsis

Technological adoption lag has delayed job losses from intelligent automation. An improved focus on digital and technical qualifications in the curricula and developments in labour protection have also moderated against the more extreme disruption technological breakthroughs had the potential to create. The UK High Court's 2021 ruling against Uber's contracting model became a signal to tech employers in non-standard employment, reforming employment delivery models and protecting workers' rights. The gig economy does not decline as a result but formalised protections reduce some of the inherent precarisation it creates. The gig economy offers employment in a period of increased competition and job automation but there is a tradeoff in the quality of employment for those engaged.

There are significant improvements in skills management. Big data has become a key tool in identifying and projecting demands in skills in key strategic industries and is widely used for the forming of smart, real-time policy recommendations. Skills cultivation reflects the UK's ambition as a leader of sustainable green growth with technical skills as the fore of those most in demand.

The UK's Net Zero Strategy enhances youth participation in the green economy and youth unemployment declines. The high demand for STEM subjects result in disparities in the adoption rate of technically focussed courses by the most marginalised young people including those from low income households and those from ethnic minority backgrounds. In this way, efforts to green the economy are increasingly successful but fall short of also achieving material improvements in levelling up.

- 1 Being relevant to a much larger proportion of the economy than only green jobs, digital skill development achieves considerable attention and support and is much more successful. Skill overlap between digital and green trends sees investment in essential digital skills (those with a low risk of skill obsolescence) embedded in the curricular from primary school.
- 2 Apprenticeships are at the centre of the UK's response to its evolving labour market demand. Improvements in career guidance and the promotion of technical qualifications to school children have ensured that young people have a roadmap of how to acquire qualifications for and get a job in a technical discipline.
- 3 Apprenticeships are perceived as a panacea to the UK's growing skills mismatch. While this improves the technical capabilities of young people and supports roles in strategic industries, the resulting tradeoff means that few inroads have been made to improve access to university for the most disenfranchised youth.
- 4 Despite a comprehensive skills agenda, mechanisms to mobilise governmental, non-governmental and private collaboration in addressing barriers to young people remain siloed. There is a divorce in strategic responsibility for young people across the national-regional divide, across government departments, and across age and demographic thresholds. Complex application processes to the Treasury make the offer of devolved funding for regionally bespoke skills policy onerous and only the most cohesive and well resourced local authorities are able to enact these policies with success.
- 5 The economic and social burden of an ageing population are not offset and constrain UK growth. OADR increases but labour force participation of workers older than retirement age, favourable post-Brexit immigration policies and increases to national insurance contributions for the over-25's ameliorate some of the fiscal burden to young people.

Strategy landscape

Wide adoption of skills accelerator programmes will successfully tailor technical skills training to employers' needs. These programmes require capital and grant funding to incentivise providers and cover the cost of providing training that meets local skills needs

Place or demographic-based strategies for transitioning workers from jobs lost by automation and those at risk of unemployment are the primary objective of Big Data use.

Apprenticeship changes can address regional imbalances in youth access to 'pay as you learn' education by linking local and regional authorities through local skills improvement plans. Apprenticeships are not however sufficient in isolation to address neither the mismatches nor polarisation or UK skills. The UK has a highly educated youth workforce but improvements in relative performance of youth from other countries, particularly in technical disciplines, poses a significant threat to job competition in an increasingly globalised workforce. Ensuring young people in the UK stay competitive internationally, the curricula and higher educational institutions need to be supported.

Career perceptions are formed at a very young age. Children begin to form perceptions about occupations, such as gendered roles, when they are around six to eight years old.¹ Engaging children around the future nature of work assists them in creating a vision for the relevance of green and digital skills.

Young people can be provided with a formalised career mapping service for technical roles and a transparent digital application portal to facilitate their chosen career paths.

¹. Source: Gottfredson, L.S. (2002). 'Gottfredson's theory of circumscription, compromise, and self creation.' In: Brown, D. (Ed) Career Choice and Development. Fourth edn. San Francisco, CA: Jossey-Bass. Cited in: Gutman, L.M. and Akerman, R. (2008). Determinants of Aspirations. Centre for Research on the Wider Benefits of Learning (Research Report 27). London. Institute of Education.

Scenario 3: Decline



UK youth become locked in a downward spiral of skills polarisation, career precarisation, greater competition and higher unemployment.

What does a Decline UK look like?

Disruption to young people is severe. The pursuit of optimal labour market policies has resulted in short-sighted policies that prioritise the working age population at the expense of the future workforce. Long term plans, that could have equipped young people with skills relevant in a rapidly automating economy, fail to

materialise and result in worsening structural barriers in the labour market for young people. UK youth become locked in a downward spiral of skills polarisation, career precarisation, greater competition and higher unemployment.

Key driving forces:

- 1 Automation and technology advance at a much faster rate than UK institutions' reactive capacity.
- 2 Legal institutions are slow to formalise workers' rights in non-standard employment resulting in growing career insecurity, stagnation of career progression and precarisation, particularly for low skilled workers.
- 3 OADR increases significantly.
- 4 Rapid escalation of social unrest as declining job prospects and a worsening climate crisis.
- 5 Distribution of wealth becomes increasingly polarised.
- 6 Youth unemployment increases.
- 7 Young people requiring some level of income support increase substantially.
- 8 Capacity declines in key areas of governance, and the reduction of provinces and the consolidation of municipalities into fifty administrative areas only partially alleviates the decline in services at local levels.
- 9 Foreign investment stagnates and inflation increases steadily over the 2020s.
- 10 Declining economic prospects for the UK as a whole and a strong regional low carbon economy prompts further calls for Scottish independence. The resulting referendum sees Scotland leave the UK and strengthen its relationship with EU countries.

Scenario synopsis

Intelligent automation disenfranchised workers from entire segments of the economy. Young people who are low and intermediate-skilled face enormous competition for the remaining jobs from more experienced workers displaced by automation. The resulting labour surplus hands leverage to employers stagnating real wage growth.

Technology advances at a much faster rate than governments' and institutions' reactive capacity and coupled with low technological adoption lag, the impact of technological breakthroughs on the labour force is significant. Legal institutions are slow to formalise workers' rights in non-standard employment. The informal economy thrives resulting in growing career insecurity, stagnation of career progression and early career precarisation.

Initiatives for addressing skills mismatches continue to be short-sighted and fail to meet the pace of change in industry. Workplace upskilling and retraining are endemic to large businesses that retain the most well educated graduates.

- 1 The UK's Net Zero Strategy fails to deliver green jobs for young people as the gulf widens between skill demand and skill supply. The UK falls far behind the necessary progress needed to achieve carbon neutrality by 2050. Climate protesters combine with organised marches of citizens against automation as social unrest escalates.
- 2 Regional inequalities are exacerbated by the continued centralisation of educational initiatives. Young people in remote areas are unable to get apprenticeships because of low numbers and significant distances between businesses that support such schemes.
- 3 The economic and social burdens of an ageing population are not offset. OADR increases significantly as labour force participation of workers older than retirement age stagnates and the UK cultivates unfavourable immigration policies.
- 4 As a developed economy, the UK still exerts significant policy and fiscal measures to create a business-friendly environment. Nonetheless, the globalisation of workforces has made the UK relatively less attractive for business and investment and increasingly exposes UK youth to competition from global talent.
- 5 Coupled with climate and eco-anxiety, the risk of job losses to automation, creates the perfect vector for a mental health epidemic amongst UK youth.

Strategy landscape

Measures are needed to address extreme skills polarisation. Low and intermediate-level qualifications are revised to target skills demand from jobs that analysis has shown to be at lower risk of automation; an end to training for jobs that will not exist in the medium to long term.

Intermediate level qualifications and funding becomes available to individuals already possessing similar qualifications, but in need of retraining following automation job loss, and to individuals within occupations and sectors at high risk of net zero job loss.

In the absence of long term planning, shorter term solutions have to be smart. Big data will help institutions understand the direction of automation and engage with stakeholders about how best to guide it.

Large businesses (250 employees or more) to publish automation and net zero roadmaps linked to job security. Non-legally binding these will publications will inform employees about the risk profile of their role providing them with the opportunity for them to retrain.

Support for workers in non-standard employment will secure higher wages and outline modes of skills development and career progression.





6

Policy responses



Effective and resilient youth employment policy requires wider institutional change as well as better individual policies

The key challenges facing policymakers

As shown through our scenario analysis, whether labour markets will present more challenges or opportunities for young people depends greatly upon the policy response from local and national government.

What is certain is that current policy is already leaving behind a subsection of young people who are unable to overcome barriers to education and employment and who are disengaged from the current system. While it is useful to understand why individual policies may succeed or fail, it is also important to understand the structure of the overall policy system that designs and delivers these policies. A coherent and effective youth employment policy requires a coordinated long-term strategy across government departments.

Policies also need to be comprehensive, inclusive and adaptable. This applies to all the developed countries covered in this report, particularly to a diverse country like the UK. Young people are a cross-section of UK society and include all income levels, regions,

ethnicities, physical and mental attributes, genders and religions. Along with this, the young people who make up the statistics presented in our analysis will not be the same young people impacted by youth employment policy in the decades to come. As society and technology evolves, so will the needs and aspirations of our youth and therefore so must policy aimed at supporting them. At the same time, the negative impacts felt by the young people we fail to reach today could reverberate across every aspect of the UK economy.

Our recommendation is for policymakers to first focus on institutional change to deliver youth employment policy more effectively. This leads to four policy areas to achieve an integrated approach to holistic policies. As emphasized by the ILO, 'tackling youth employment requires an integrated approach, one that combines supportive economic policies and targeted measures addressing labour demand and supply, as well as the quantity and quality of employment.'¹



Institutional change looks at how to improve the way that this policy is developed, implemented and evaluated – from the data used to understand policy requirements to the way that responsibilities are divided between actors.

- 1. Developing skills:** Providing appropriate support to young people to develop the skills needed by business now and in the future; promoting lifelong learning and an agile workforce.
- 2. Supporting people:** Promoting the overall wellbeing of young people beyond work to ensure the long-term sustainability of the workforce.
- 3. Supporting incomes:** Strengthening the social safety net for young people income, particularly in times of economic crisis, to allow for smoother job transitions and empowered.
- 4. Shaping labour demand:** Incentivising businesses to create high-quality, productive jobs for young people in future-focused industries.

UK youth employment policy is designed and delivered by a fragmented system that leaves behind the most vulnerable

Institutional change



Key organisations responsible for delivering youth services in the UK:

Central government

Dept. for Digital, Culture, Media and Sport

Dept. for Education

Dept. for Business, Energy and Industrial Strategy

Dept. for Work and Pensions

Responsible for overall strategy and funding of national policy related to young people within each department's specific remit.

Local provision

Local authorities

Mayoral/combined authorities

Schools

Local youth services

Responsible for funding and delivering local services including health and well-being, education, and personal development, particularly focusing on the needs of the most disadvantaged and vulnerable. Expected to benchmark performance and identify measures to improve impact and cost-effectiveness.

Non-government organisations

Not-for-profit organisations e.g. Youth Futures Foundation

Charities e.g. UK Youth

Service/activity organisations e.g. Scouts, sport associations

Volunteering organisations

Provide specific local and national services to young people – often commissioned, supported and facilitated by government when it is more cost-effective to do so.

See Appendix A4 for references



How the current system works

Youth employment policy is designed and delivered by a mix of central government, local government and the social enterprise sector, covering a wide remit of services, including health, education, employment and training. Responsibilities often overlap and there is no overarching organisation responsible for the coordination of policy.

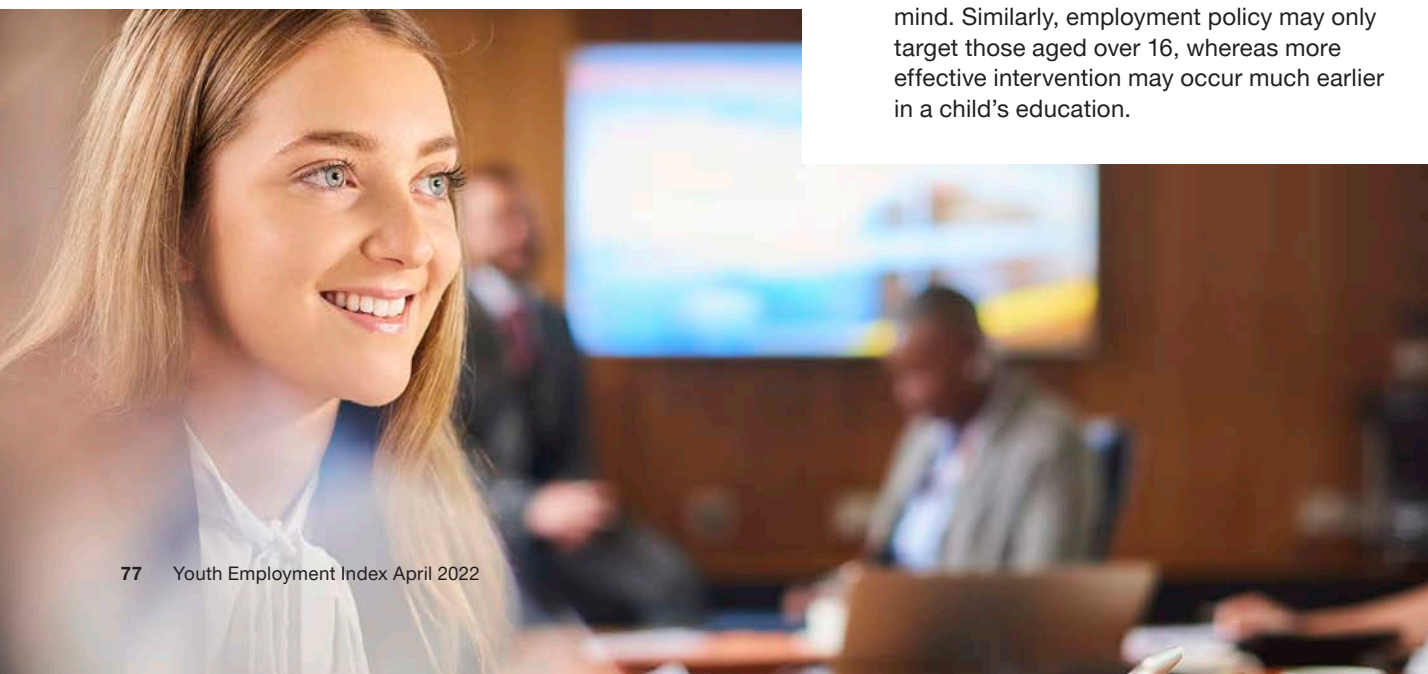
The services a young person requires change as they age and therefore so does their engagement with the system. These shifts often occur at key ages e.g. at 18 a young person's training and education moves from the responsibility of the Department for Education to the Department of Work and Pensions.

Funding in this sector was described as fragmented by Baroness Barren who led the DCMS Youth policy and funding review¹, with sources of funding coming from local authorities, the public, the National Lottery, private philanthropy and charitable foundations.

Issues with the current system

The fragmentation of the current system leads to three key issues in the design and delivery of policy:

- 1 **Incoherence:**
Without proper communication between departments or local and regional governments, policies enacted by different organisations risk negating or acting in contention with one another.
- 2 **Complexity:**
Young people with complicated needs may access services from many places, which can lead to the most vulnerable not accessing the services they need and slipping through the cracks of the system.
- 3 **Myopia:**
The remit of different departments often focuses on particular age-groups or outcomes and so this may prevent them designing policy with a long-term outlook in mind. Similarly, employment policy may only target those aged over 16, whereas more effective intervention may occur much earlier in a child's education.



Policy makers need a better understanding of current and future labour market trends, through data collection, better coordination, and by listening to and understanding the needs of young people



Key principles underpinning effective design and delivery of youth employment policy

1

Promote better interdepartmental and regional cooperation.

Youth policy is divided between many different organisations, leading to risks of conflicting policy or gaps in service provision which could be addressed by a more integrated national and regional approach. There are multiple routes to this with varying benefits and drawbacks – for example, creating a Central Youth Workforce versus increasing decentralisation. The Netherlands, for example, adopts a decentralisation approach to successfully integrate youth services. In 2015, all municipalities became responsible for the breadth of welfare and support, meaning at a local level, responsibility for youth policy is coordinated by one organisation and can be adapted to local needs.

2

Build a resilient policy-making approach.

The pandemic showed that governments were able to act quickly to implement sweeping labour market policy with great impact. However, it also showed how inadequate current labour market policy is for supporting workers, particularly young people. Government needs to move beyond reactive policy, to a proactive approach that anticipates change in order to build more resilient policy. The lessons from the pandemic should be internalised and not repeated in future crises.

3

Make policy-making more participatory.

Effective policy listens to and understands the needs of those it is supposed to support. Government should focus on developing a more participatory approach to policy making that represents and takes into account the concerns of young people today. This can be done through multiple methods, such as including youth groups in the policy making process or using citizens juries to evaluate policy.¹

4

Take an integrated approach to develop holistic policies.

There are often important links and synergies between youth employment policy packages, for example, housing and welfare policies can facilitate upskilling and transitions between jobs by empowering workers to move to find employment. As emphasised by the ILO, government must simultaneously promote: pro-employment economic policies, sound educational and training systems, and gender-sensitive programmes to ease the school-to-work transition as well as labour market policies that are sensitive to the constraints and needs of young women and men, plus measures to ensure that young people have access to better health care, and a voice in decisions that affect them.

5

Utilise emerging technology and big data for policy making.

Government often lacks the necessary data to fully understand labour market challenges or evaluate policy. Labour market information systems and the use of AI can identify trends, such as which skills are growing in demand and where skills gaps are emerging. Existing data can be utilised more effectively such as using job postings to understand real-time changes in labour demand. Labour market information will also become more effective if data is shared in a consistent way across departments and levels of government.

See Appendix A4 for references

Policy area 1: Developing skills

Holistic
policies



Providing support to young people to develop the skills needed by business now and in the future; promoting lifelong learning and an agile workforce.

According to PwC's Social Mobility survey, the majority of UK respondents believe that early intervention through improving the quality of education in schools, along with offering alternatives such as apprenticeships would be most effective in improving social mobility.¹ For that, the education system will need to be more adaptable, including apprenticeships instead of higher education when appropriate. Some 23% of UK employers surveyed by the Institute of Student Employers¹ plan to shift recruitment away from graduates to school leavers, as companies seek to diversify their hiring streams in the face of skills shortages.

Policy development:

1a – Invest in better vocational training



Issue

The number of young people entering into apprenticeships and traineeships has fallen in recent years, with apprenticeships starts peaking in 2011/12 at 521,000, and fell to 323,000 for 2019/20.¹ Meanwhile, in 2018 the Education Committee pointed out 'there is not enough high-quality apprenticeship training, which is letting down both apprentices and employers'² and found many new entrants to the apprenticeship market provided low quality training. Despite the introduction of the Apprenticeship Levy, the UK performs poorly compared to other developed countries for skilled and vocational training.



Solution

The government should reform the Apprenticeship Levy to greater benefit young people by restricting use of the fund to those under 25 or to lower levels of apprenticeship, as well as by making the system more flexible for employers.

The development of apprenticeships in high productivity sectors such as a green jobs and AI will give more opportunities for young people to convert into these sectors.

Beyond apprenticeship reform, recent market trends challenge the idea that vocational education is the way forward for the future of work. With the rapid evolution of technology and expansion of green jobs, young people are expected to develop 'transversal' skills that are durable, such as adaptation and resilience, to navigate a future of work constantly in flux. PwC's research into the Workforce of the Future³ found 60% of survey respondents think 'few people will have stable, long-term employment in the future.' Vocational education will certainly help young people, particularly from disadvantaged backgrounds, to obtain employment more quickly and gain relevant work experience. However, vocational training is more specialised and less transferable than higher education, and so young people also need new forms of training to support continuous lifelong learning.

See Appendix A4 for references

PwC



Policy proposal:

1b – Improving skills matching and profiling to address skills gaps



Issue

Skills gaps, where the skills of the labour force do not match with the skills required by employers, are a key driver of underemployment and low productivity in the UK. Such gaps are likely to increase as automation and the green transition create new jobs that require skills that are different from the ones people are currently acquiring. Curricula and on-the-job training needs to adapt. Yet, policymakers, education providers and employers lack the necessary data to understand how skill requirements are changing and are therefore unable to design effective education and training schemes to address this gap.



Solution

Accurate and timely data on skills requirements is needed to inform government and educational institutions how to invest in skills development and give appropriate careers guidance to young people. Moving towards competence-based profiling and job matching will help those with less formal training uncover practical skills that have been developed outside of formal education (for example through housework). This focus will more accurately match young people to appropriate jobs, but will also address skills inequalities and increase the confidence of some of the most vulnerable young people in the UK.

New technology, in particular machine learning and AI, can be used to interpret unstructured data from online sources to better understand skills requirements across the economy. The World Bank² suggests three ways in which AI can be used to address skills shortages and boost youth employment:

- **Holistic skill profiling and matching** – use of machine learning to cluster skills into competency clusters and create skills profiles;
- **Actionable insights from skill assessments** – use of AI to identify skills gaps and provide recommendations for skills development; and
- **Just in time information on market trends** – use of AI to interpret unstructured data (e.g. job postings websites) to predict jobs demand.

This information can then be used to inform a long-term national skills strategy. PwC and UNICEF's joint research, 'Reaching YES',³ which looks to understand the youth skilling challenge, recommends the creation of a National Skills Mapping System. These are already successful used in Singapore and Germany to name and define common skill categories and methods for measuring competency. This will ensure comparability and help young people understand what skills are needed for particular occupations. This can then be supplemented by a National Digital Skills Verification trust where young people can register their skills credentials – both formal and informal – to share with employers and be externally verified.



See Appendix A4 for references



Policy proposal:

1c – Encouraging a more flexible education system



Issue

The UK has a world-leading higher education system, however only 38% of 18 year olds accepted university places in 2021, meaning that current higher education provisions do not reach a majority of young people.¹ At the same time, rapid changes to the labour market means workers will need to continue upskilling and reskilling throughout their careers e.g digital skills (see Policy proposal 1a). The World Economic Forum estimates that 85 million jobs may be displaced by automation by 2025 and 97 million jobs created.² As the pace of technological change increases, the time for workers to upskill will shorten and more people will need access to high-quality, flexible education to increase competitiveness in the labour market.



Solution

The focus of education providers needs to shift from traditional education models to a vision of life-long learning. Higher education providers should offer a wider range of options for students to increase accessibility, for example the use of nanodegrees (which are under 12 months), and other diverse qualifications, as well as switching to more online and self-directed learning.

Employers should be more involved in the designing and delivery of curriculums to ensure that the education that is delivered meets labour market needs. A successful example of this is the introduction of the Industrial Masters programme for Artificial Intelligence (IMAI), which matches postgraduate AI students with industry organisations. Businesses have stressed the need for better education of soft skills, which are needed more as repetitive tasks are automated. A focus on problem-solving, stress tolerance and flexibility will not only increase productivity but also equip young people to be more adaptable to change, which will be increasingly crucial as the labour market evolves.

Policy proposal:

1d – Increased emphasis on place-based policies



Issue

Economists and governments often overlook the needs for place-based policy by overestimating the geographical mobility of the labour force, especially of young people from low income households. While this can be addressed by increasing geographical mobility – such as housing and transport policy, this assumes young people are willing or able to move from home.



Solution

Another approach is to emphasise place-based policy to improve opportunities for young people locally. Academics and policymakers have found there is a significant reluctance of people to move to the point where some argue a national skills equilibrium does not exist and instead policy should be defined in terms of local skills ecosystems.

Instead, effective place-based policy involves leveraging local strengths to achieve regional specialisation, whilst being coordinated in the context of national industrial strategies. This can be coupled with a more decentralised system that empowers local authorities to make the right policy decisions for its young people.

See Appendix A4 for references



Policy area 2: Supporting people

Holistic
policies



Promoting the overall wellbeing of young people beyond work to ensure the long-term sustainability of the workforce

Policy development:

2a – Provide proper career guidance and mentorship from an early age



Issue

Young people, particularly those from disadvantaged backgrounds, often do not have appropriate role models to help them visualise potential careers for themselves. Those most in need of support and guidance are often the most disengaged with the system and are unequipped to make informed choices about the type of education, training or employment they should pursue.

At the same time, provision of career guidance is often low quality and begins late into a child's education. Teachers play a crucial role in students' educational and career decisions, but often lack the information needed to make children aware of the full range of options available to them.



Solution

Investments need to be made to improve the availability of high-quality careers advice from a young age, and to provide all students mentoring to increase career aspirations. The Baker Clause stipulates schools must allow colleges and training providers access to every student in years 8-13 to inform them about approved technical education qualifications and apprenticeships, whilst the Gatsby benchmarks set appropriate standards for careers guidance. However, careers advice must be improved further through the creation of more centralised careers advice services, available to children below year 8. These services will help children understand the skills they will need, encourage them to invest in their schooling and increase awareness of a wider range of career opportunities. The expansion of UCAS to include apprenticeships is a step in the right direction, creating easier access for young people into vocational training after school.

See Appendix A4 for references



Policy development:

2b – Promote youth wellbeing beyond economic outcomes



Issue

Work and education are only a part of a young person's life and out of work activities can be as important to their personal development. Research has shown that factors such as being in care and becoming a young parent are linked to higher likelihood of being NEET (see slide 18).



Solution

The ILO has identified five key transition periods that policy should support young people through: 2: Transition to parenthood or other care work; school-to-skills transition; school-to-work transition; school-to-business transition and transition to migration. Policy should focus on giving young people the tools they need to deal with these changes – whether driven by economic forces or personal challenges.

Many policy proposals suggested here are designed to support young people through the School-to-skills and School-to-work transitions, but the government also needs to ensure there is appropriate availability of other youth services to support young people's wellbeing. The ILO recommends policies for sexual and reproductive health, care compensation and youth-migration management.³ Investment into improved mental health services will be also be crucial, as mental health issues continue to rise, particularly since the pandemic. The NHS reported in 2021 that rates of probable mental disorders have increased since 2017 from 11.6% to 17.4% in 6 to 16 year olds and from 10.1% to 17.4% in 17 to 19 year olds.⁴ Investment to reduce wait times for accessing NHS mental health services, committing to equal access to services for disadvantaged young people and providing more online services can all help address this growing issue.

Policy proposal:

2c – Address inequality through use of targets



Issue

Minority groups face higher barriers to skilled employment compared to the average worker. PwC estimates ethnic minorities earn 4.1% less than White British workers in like-for-like jobs (i.e. after controlling for personal and work characteristics)⁵ and these penalties higher for women from ethnic minorities. Increasing the diversity of organisations will improve opportunities for young people from all backgrounds and is also beneficial for businesses, through increasing diversity of thought. A diverse workforce is a more resilient workforce, leading to better financial outcomes than less diverse businesses.⁶



Solution

Businesses should be mandated to report on both ethnicity pay gaps as well as overall participation rates. Information should also be collected on pay, working hours, promotion and representation in senior roles. This will provide robust data on a national level which will support the designing of effective policy and targeting interventions.

The PwC ethnicity pay gap report also recommends that there should be effective policy initiatives such as long-term diversity action plans and targets to support and empower young people from minority groups.

See Appendix A4 for references



So many different ethnic minority communities live in Newham. Like me, a lot of the young people we work with are the children of first-generation immigrants. One of the disadvantages they face is not being able to tap into an extended family to develop career aspirations or guidance about career opportunities. Networks are vital to getting a job. We open up networks, joining the dots between primary school, secondary school, work readiness and local businesses.

Sug Sahadevan

Chair of Newham-based charity 15 billionebp, a recipient of a Youth Futures Foundation grant

Case study

Supporting young people through the Switch Up programme

Vulnerable to gang exploitation, excluded from school and arrested by the police, Darren (17) was referred to Nottingham-based charity Switch Up to help him make more positive choices about his life.

The Youth Futures Foundation funded employability programme provided a range of support including mentoring, workshops about criminality and knife crime, boxing classes and gym membership. Changing the people that surrounded Darren presented alternative opportunities through a new support network, key to helping him change direction and opening him up to new possibilities.

Once the social support was in place, Darren developed a new mindset and the confidence to pursue a long-held ambition to work in construction. Thanks to Switch Up's network of 30 supportive employers, he was able to gain work experience and help to gain the paperwork needed to work in the sector.

With extra in-work support to help smooth the transition, the work experience progressed well and turned into an apprenticeship. Now Darren returns to Switch Up, sometimes clad in his hi-vis PPE workwear, to talk to newly referred young people about his story and journey to work.

Darren is a beneficiary of the Nottingham-based charity Switch Up's employability programme, funded by a Youth Futures Foundation grant



See Appendix X for references

Policy area 3: Supporting incomes

Holistic
policies



Strengthening the social safety net for young people, particularly in times of economic crisis, to allow for smoother job transitions and empowered workers.

Policy development:

3a – Improving social safety nets for young people



Issue

Poverty and low income can act as a barrier to young people accessing education and higher paid employment. A lack of appropriate social provisions often forces students to drop out from school or move to more precarious forms of employment and underemployment.

Currently, those under 25 receive the lowest benefit entitlements of any age group (£257.33 per month for a single person compared to £324.84) and many young people who could benefit from welfare payments do not claim them due to the complexity of the system. At the same time, maintenance loans and subsidies are provided to university students, but those who pursue vocational training receive no such support, when these young people are disproportionately from lower-income backgrounds.



Solution

The social safety net needs to be updated to include more young people and to make payments more generous to empower young workers to find employment and education that is right for them, no matter their existing income level. This could also take the form of a Universal Youth Credit, which would be provided to young people whether they chose to pursue work or education to prevent perverse incentives, reduce NEET rates and support those working in the gig economy on low hours.

See Appendix A4 for references



Policy development:

3b – Targeted fiscal policy to protect young people from economic downturns



Issue

Young people are disproportionately impacted by economic downturns² and so policy must be used to support them from the worst impacts of recession and prevent unnecessary reductions in wellbeing and the most vulnerable young people falling into long-term unemployment and skills reductions.



Solution

The ILO has found that prompt expansionary financial policy can support young people and keep them in work or education during periods of economic recession.¹ This support can also be targeted at high-growth sectors such as green jobs or AI to support high productivity work and fit with wider government strategy.

Research has also found that interventions to support the incomes of young people has wider knock-on impacts for the economy. This is because young people have a low propensity to save and so the money invested will be spent and support businesses in other sectors.³

Source: OECD Stat

See Appendix A4 for references

Policy proposal:

3c – Supporting those who are negatively impacted by technological innovation



Issue

Whilst evidence shows that in the long term, technological innovation increases the overall productivity of the workforce, in the shorter term there is a significant risk that this innovation will drive inequality.⁴ Evidence shows that young people are more likely to have their jobs automated⁵ and inequality is one of the greatest challenges raised by AI and automation. Many young people also do not have the appropriate access to digital technologies to take full advantage of the opportunities presented by technological innovation.



Solution

Ensuring all young people have appropriate access to technology – such as computers and wifi – will be essential to helping all young people benefit from technological change. Extensions to schemes rolled out during the pandemic, such as the government's 2020 devices scheme – which committed to providing over 1 million laptops and tablets to schools, colleges and councils – will be fundamental to providing to achieving this.

Along with this, policies such as providing income support to those who are facing the negative impacts of automation, creating jobs guarantee schemes to prevent increasing unemployment or encouraging wider ownership of robots (e.g. employer providing works with shares of the machines and robots)⁶ will help distribute the productivity benefits of technological change across a wider section of society.

“

Many of our young people's households are overcrowded with no access to printers, laptops, internet or digital services. When schools and colleges turned to online learning due to COVID-19, many of our young people were isolated even further. By focusing on digital skills training in this programme, we hope to close the educational and employability gap for our young people. They'll have more confidence in using digital equipment and will be able to access more work and training opportunities.

Samson Rattigan

Project Manager for Friends, Families and Travellers, a recipient of a Youth Futures Foundation Inspiring Futures grant delivered in partnership with BBC Children in Need.

Policy area 4: Shaping labour demand



Incentivising businesses to create high-quality, productive jobs for young people in future-focused industries.

Policy development:

4a – Invest in high productivity and future-focused sectors



Issue

Underemployment, when a person works less than they would want or is employed in a job with lower skill requirements than they have, is a growing issue for young people in the UK. For example, the percentage of recent graduates in non-graduate roles was 45% in 2019.¹ Underemployment is partly driven by a low labour demand for high skilled workers. If there is a lack of high-productivity jobs for young people entering the labour market (whether graduates or apprentices) then they will move into lower skilled work, impacting their long-term earnings potential.



Solution

High-productivity, future-focussed sectors such as AI and green jobs, have the potential to drive sustainable long-term growth for the economy and create knock-on positive impacts. For example, PwC's Green Jobs Barometer² estimates that 1 green job can stimulate 1.4 additional jobs in the wider economy. Investment into these sectors will help create skilled jobs over the long-term, creating ongoing opportunities for young people newly entering the workforce.

As part of the Net Zero Strategy, the government has already mobilised £26 billion of government capital investment and is looking to leverage £90 billion of private investment by 2030 in order to support up to 440,000 green jobs.⁴ Additional investment into such sectors along with other labour market policies, such as hiring subsidies and tax incentives for businesses, will encourage the recruitment of young people into these jobs.

The health and social care sector is another key sector that will see long-term growth, due to the UK's ageing population. The Institute for Employment Research at Warwick forecasts that the public administration, health and education sector is expected to see some of the strongest growth in employment by 2027 compared to other sectors, largely driven by health, residential care and social work. Between 2017 and 2027 the sector is forecast to increase by 4.8% of over 400,000 workers.³

See Appendix X for references



Policy development:

4b – Improving legal and regulatory protections for all workers



Issue

New ways of working have been facilitated through digital platforms and accelerated by the pandemic, which forced people to rely on these platforms more than ever. Much of this new work is within the gig economy and precarious. Young people are more likely to be in these jobs and many find the flexibility of this work useful and empowering. However, changes in technology has raised new questions about how to protect workers from low-quality or insecure work.



Solution

Legal protections need to develop and evolve in line with labour market changes to ensure that workers are protected and that jobs created are of a good enough quality. The recent Supreme Court ruling in Uber BV and others vs Aslam and others has set an important precedent, finding in favour of Uber drivers who argued they should be treated as employees rather than independent, third party contractors. However these rights need to be protected and reassessed going forward to adapt to ongoing changes in the labour market. For example, the ILO recommends extending worker protection to include rights such as ergonomic or psychosocial risks (such as women being impacted by increasing unpaid care requirements during the pandemic) and the right to digitally disconnect.⁶

See Appendix X for references

Policy proposal:

4c – Develop appropriate measures of job quality and collect robust national and regional data



Issue

There is a lack of robust data on the quality of work and so whilst increases in youth employment rates may seem positive on the surface, this could be hiding the fact that much of this work is precarious or impacting the overall wellbeing of workers. Difficult, stressful and disempowering work is more likely to demotivate young people and cause them to be stuck in lower paid work long-term or even leave the workforce entirely.



Solution

A holistic definition of job quality needs to be created and monitored centrally so that it can be prioritised and effective policy can be created. The Carnegie Trust⁷ recommends the government to adopt a new measure of job quality post Covid including: terms of employment (including the level of job security); health, safety and wellbeing; job design and the nature of work; and social support and cohesions. The DWP recommends extending the Skills Employment Survey to include a measure of job quality so that changes in the nature of work can be more accurately captured.⁸

Source: OECD Stat





Appendix

A1

Youth Employment
index methodology

We've selected a mix of seven indicators to gain a holistic view of labour market performance for young people, looking at labour market participation, quality of work and skills acquisition



Measures of labour market participation

1 Youth employment rate

2020 (or most recent) data

What is it?

The percentage of the youth labour force (15 to 24 year olds) who are employed (i.e. reporting at least one hour of work in gainful employment in the past week or who had a job but was absent.)

Why is it included?

This captures those young people who are contributing to GDP through full or part time work. Many of these young people may be developing skills in the workplace that will also lead to future productivity growth, although this is not true for all work.

2 Youth unemployment rate

2020 data

What is it?

The percentage of the youth labour force who are unemployed. A person is classed as unemployed when they report that they are without work but available for work and have taken active steps to find work in the last four weeks.

Why is it included?

This represents inefficiencies in the labour market, as these young people would like to find work but are unable to. This also represents lost GDP.

3 Long-term youth unemployment rate

2020 (or most recent) data

What is it?

The percentage of the youth labour force who have been unemployed for 12 months or more.

Why is it included?

This represents those young people who are facing particularly high barriers to finding employment and who are suffering long-term negative consequences from being unemployed. Long-term unemployment leads to skills erosion that will also impact overall productivity in the long-term.

4 Relative youth/adult unemployment rate

Calculated from 2020 data

What is it?

The youth employment rate (15 to 24 year olds) divided by the adult employment rate (25 to 54 year olds), i.e. the ratio of young workers to adult workers.

Why is it included?

This captures how young people fare in the labour market relative to older workers. Equality implies there are equal opportunities across age groups, though in reality young people are more likely to be unemployed across the OECD.

Measure of quality of work

5 Part-time youth employment rate

2020 (or most recent) data

What is it?

The percentage of the youth labour force who usually work less than 30 hours per week in their main job.

Why is it included?

Part-time employment is associated with lower earnings, pensions and job security, however many young people may prefer part-time employment as it is more flexible, in particular students or young parents and so is not weighted highly in our methodology.

Measure of inactivity

6 Youth NEET rate

2020 (or most recent) data

What is it?

The percentage of the total age group who are not in employment, education (including part-time education) or training.

Why is it included?

This captures those young people who are neither contributing actively to GDP (through employment) or developing their skills and raising future productivity (through education and training). This is associated with long-term negative economic and health outcomes.

Measure of skills acquisition

7 Enrolment rate

2020 (or most recent) data

What is it?

The percentage of the total age group who are enrolled in secondary and tertiary education, including part-time education.

Why is it included?

This captures those young people who are still in education and so, whilst not yet employed, are still contributing to the economy and enhancing their productivity.



We used a standard method to construct the Youth Employment index, similar to the one used in the PwC Women in Work and Golden Age indice – with the methodology largely consistent with the previous edition in 2018



Variables used in the index

Variable	Weight	Factor*
NEET rate 20-24 (% of the age group)	2X	–
Employment rate 15-24 (% of the age group)	2X	+
Unemployment rate (UR) (% of the labour force)	1X	–
Relative UR youth/adult (15-24)/(25-54)	1X	–
Incidence of long-term unemployment (% of unemployment)	1X	–
Incidence of part-time work (% of employment)	1X	–
Excluded from the 2021 index (due to lack of recent data):		

Enrolment 15-19 (% in education)

* Indicates whether higher values of an indicator are positively or negatively scored in the index.



Calculating the PwC Youth Employment Index

Scale the index

Scores are rescaled to values between 0 and 100 with the average value across all 34 countries set, by definition, to 50 in 2006.

Calculate the scores

The scores are constructed as a weighted average of normalised labour market indicator values.

Apply positive/negative factor

Positive/negative factors are applied so each variable enters the index with the correct sign (e.g. positive for employment rates, negative for NEET rates).

Normalise

Indicators are standardised using the z-score method, based on the mean and standard deviation of the sample of 34 countries in a base year of 2006, to allow for comparisons both across countries and across time.

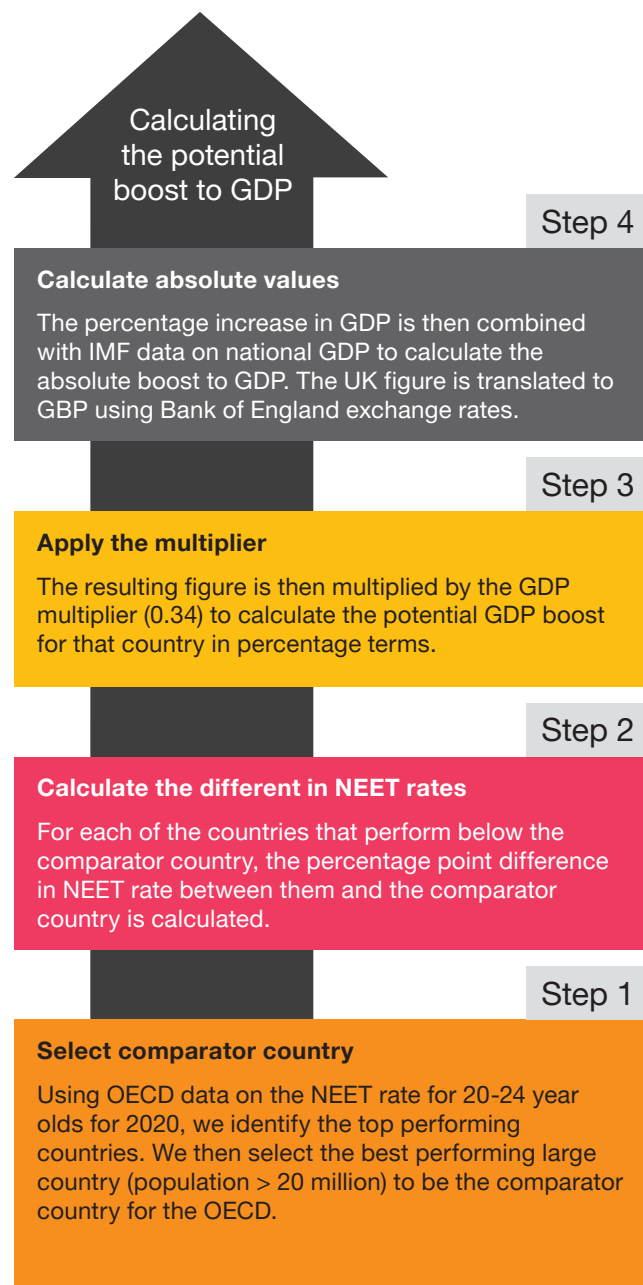


Key index results: 2018 – 2020



Ranks			Country	Index		
2018	2019	2020		2020	2019	2018
1	1	1	Switzerland	71	71	71
2	2	2	Iceland	68	71	71
4	4	3	Germany	66	67	65
3	3	4	Netherlands	63	67	66
5	5	5	Japan	63	64	64
7	8	6	Austria	60	62	62
12	11	7	Denmark	58	59	59
13	13	8	Norway	57	58	58
10	14	9	Latvia	57	57	60
14	12	10	Czech Republic	56	58	58
11	10	11	Australia	55	60	59
16	18	12	New Zealand	55	56	56
15	15	13	United States	55	57	57
8	7	14	Lithuania	53	62	61
9	9	15	Estonia	53	61	61
6	6	16	Slovenia	52	63	62
20	16	17	Poland	52	56	54
21	20	18	United Kingdom	52	54	52
22	22	19	Israel	51	52	52
17	21	20	Sweden	50	53	56
27	24	21	Belgium	50	50	50
19	19	22	Finland	49	54	55
24	25	23	Korea	49	50	51
23	23	24	Ireland	48	51	52
26	26	25	Hungary	48	47	50
18	17	26	Canada	47	56	55
29	31	27	Mexico	46	45	45
30	30	28	France	45	45	45
28	29	29	Slovak Republic	43	46	47
31	27	30	Portugal	41	46	45
25	28	31	Luxembourg	39	46	50
32	32	32	Chile	38	40	41
36	33	33	Spain	31	35	33
37	37	34	Greece	30	28	26
34	35	35	Turkey	29	31	36
35	36	36	Costa Rica	28	31	34
33	34	37	Colombia	28	35	36
38	38	38	Italy	25	26	23
OECD Average				49.0	51.8	52.1

To calculate the potential boost to GDP from lowering NEET rates, we adopted a four step methodology using academic literature to calculate a GDP multiplier from lowering rates of young people not in employment, education or training



Understanding the multiplier

- We apply a multiplier of 0.34 to the percentage point difference in NEET rates between OECD countries and the comparator country – this means that every 1 percentage point decrease in NEET rates is estimated to increase GDP by 0.34%.
- This figure was based on previous academic research focused on the UK undertaken by York University for the UK National Audit Office.¹ We use this to estimate the present value of lifetime economic gains from a person aged 20-24 being moved out of the NEET category (around £140,000.) This figure is broadly in line with other research.²
- This impact would take time to build up so it should be interpreted as a long term potential boost to the economy.
- For simplicity we assume this multiplier is the same in each country (when it is likely to vary based on labour market conditions) and that it is linear (i.e. it does not change as the difference in NEET rate changes.) The figure is based off UK research and so is most applicable to the UK.



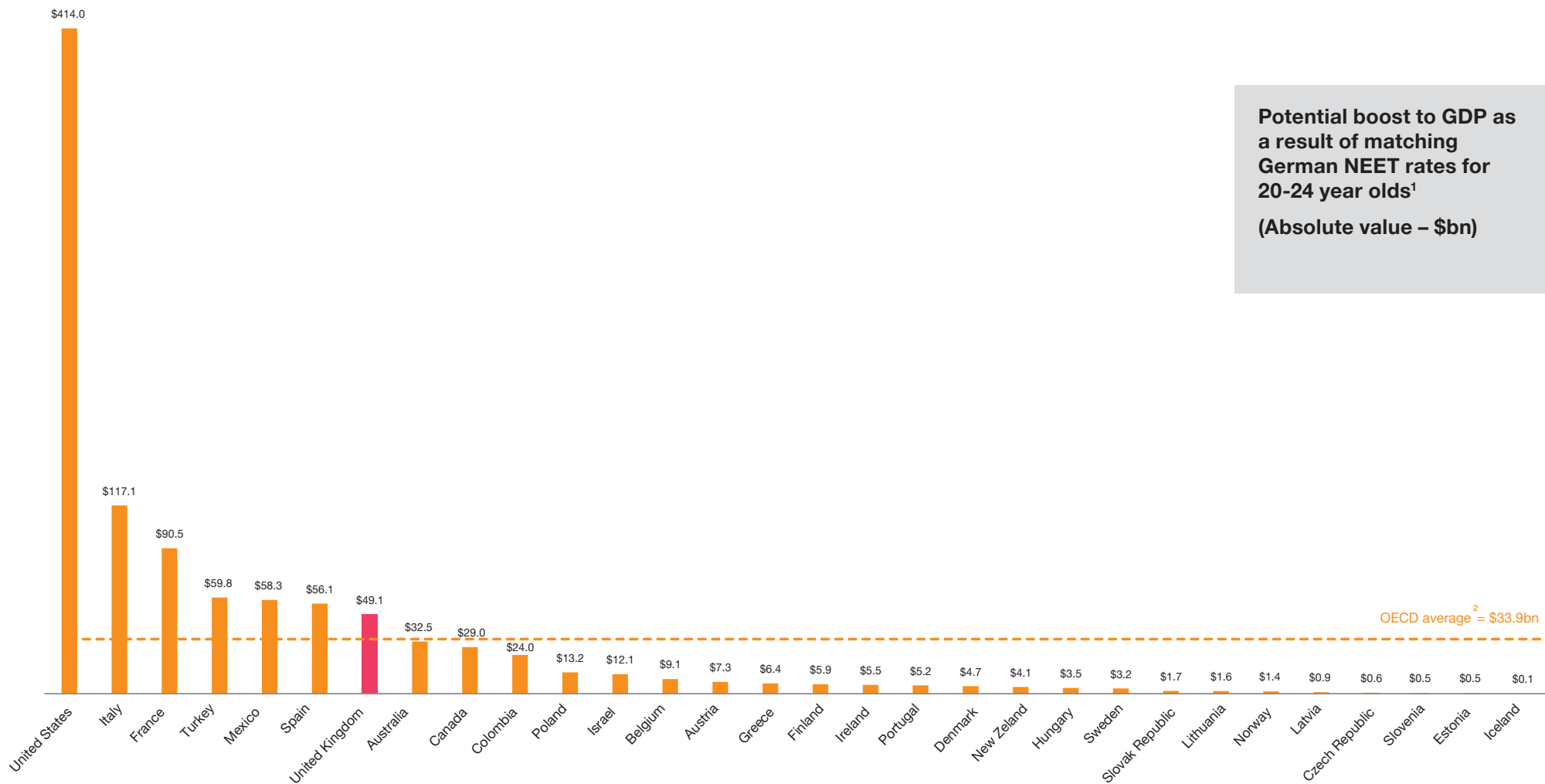
£140,000

The present value of lifetime economic gains from a person aged 20-24 being moved out of the NEET category (around £140,000.)

¹ Coles et al., 'Estimating the life-time cost of NEET: 16-18 year olds not in Education, Employment or Training (2010)

² Social Finance, 'New insights into improving outcomes for at-risk youth' (2016), Prince's Trust, 'The cost of exclusion: counting the cost of youth disadvantage in the UK' (2010)

GDP boost results – Absolute terms



¹Source: PwC analysis of OECD data
² Netherlands and Switzerland have been excluded from this analysis as they already have a lower NEET rate than Germany. Chile, Costa Rica, Japan, Korea and Luxembourg have been excluded from the analysis as they do not have available NEET rate data for either 2019 or 2020.

Suggestions for future editions of the Youth Employment Index

Our research for this edition of the Youth Employment Index has highlighted a number of areas in which the index could be updated and where further research would be beneficial:

1

Potential updates to the Youth Employment Index:

- The current methodology and weightings should be reviewed to create a refreshed index to reflect changes to labour markets over the past 10 years.
- The variables used could be updated to include data on gender and ethnicity differences for key variables (e.g. the NEET rate). Our long-term unemployment variable looks at the percentage of those unemployed but could be refreshed to look at the percentage of young people overall.

2

Potential updates to the drivers of youth employment model

- The report currently looks at the aggregate youth unemployment dynamics. It will be interesting to investigate whether and how economic and structural factors affect the female youth unemployment rate, and so separate models could be run for the drivers of male and female youth unemployment rates
- Variables to capture the skills or education level of young people could be included in future models as it is an important determinant of youth unemployment



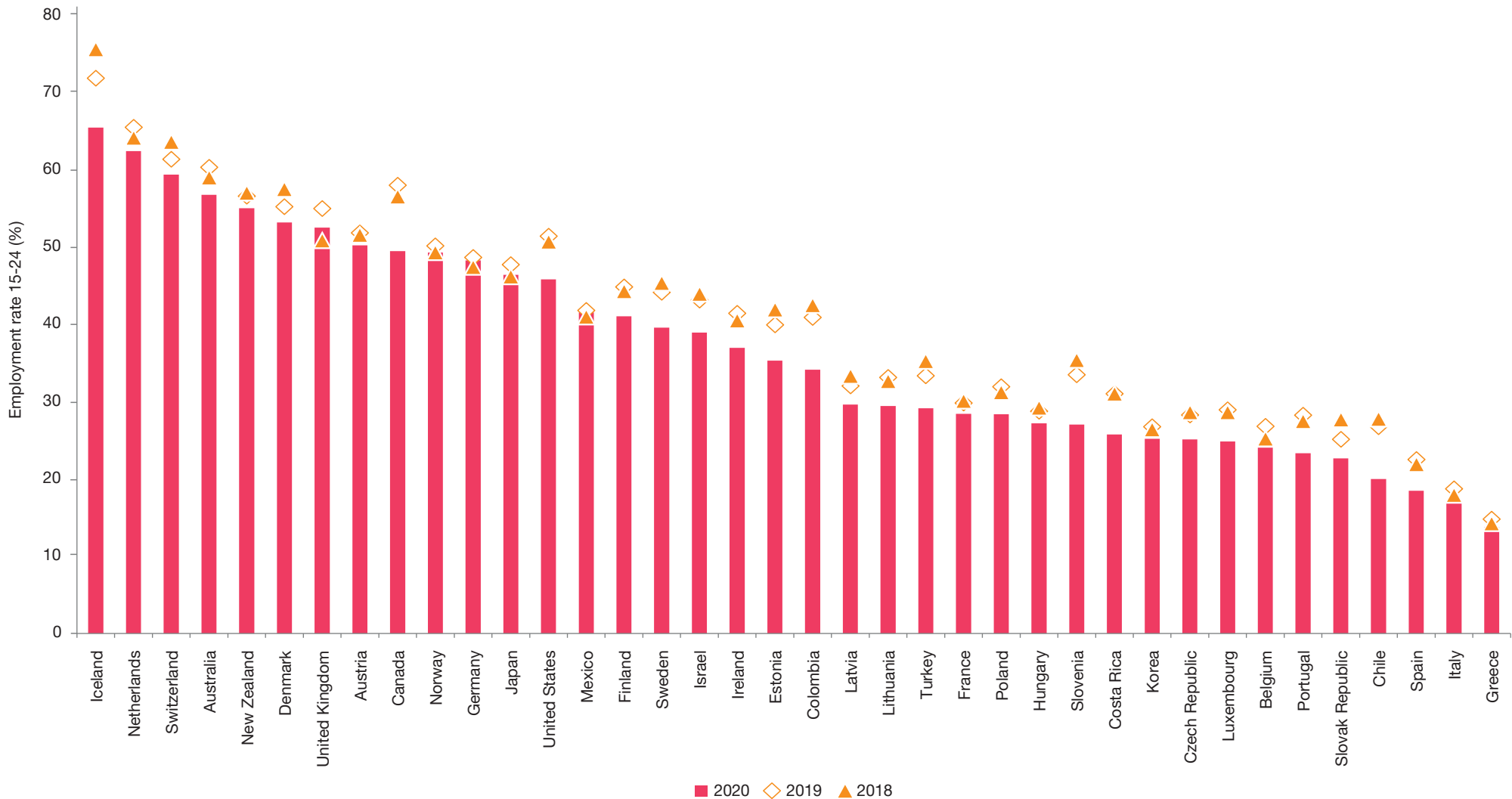


Appendix

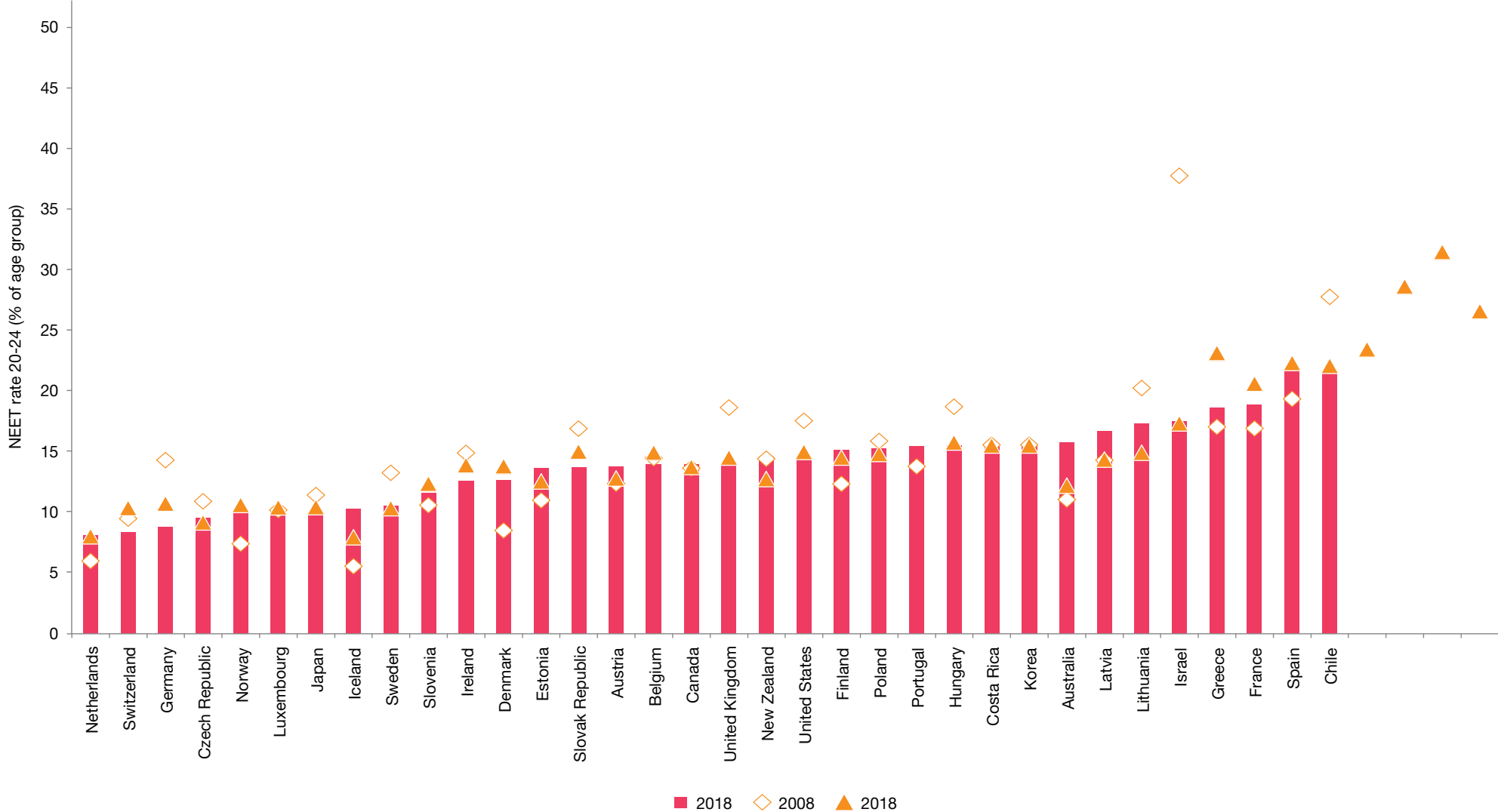
A2

Youth Employment
indicators

Employment rate, 15-24 (% of age group)



NEET, rate 20-24 (% of age group)



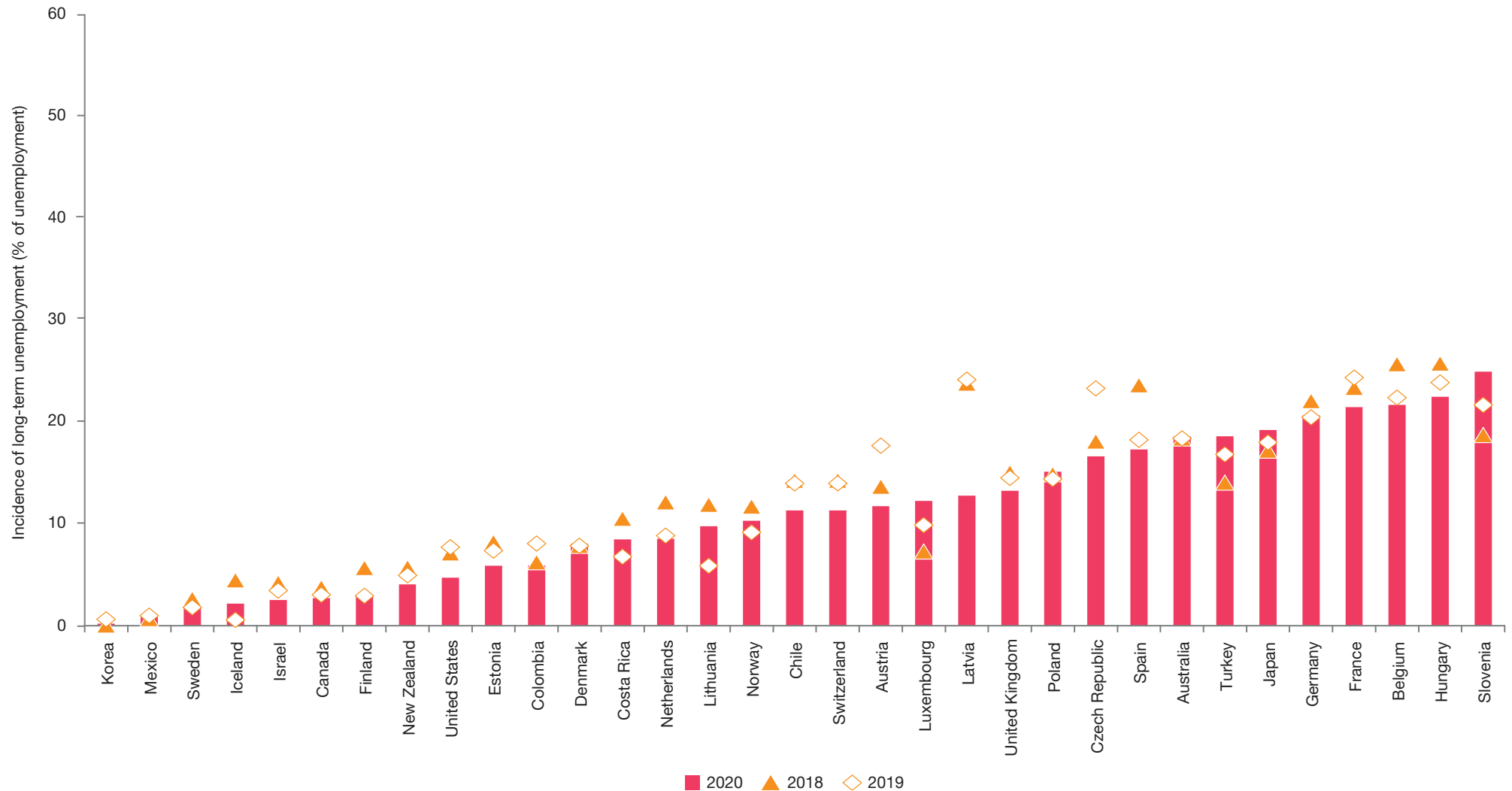
Unemployment rate, 15-24 (% of age group)



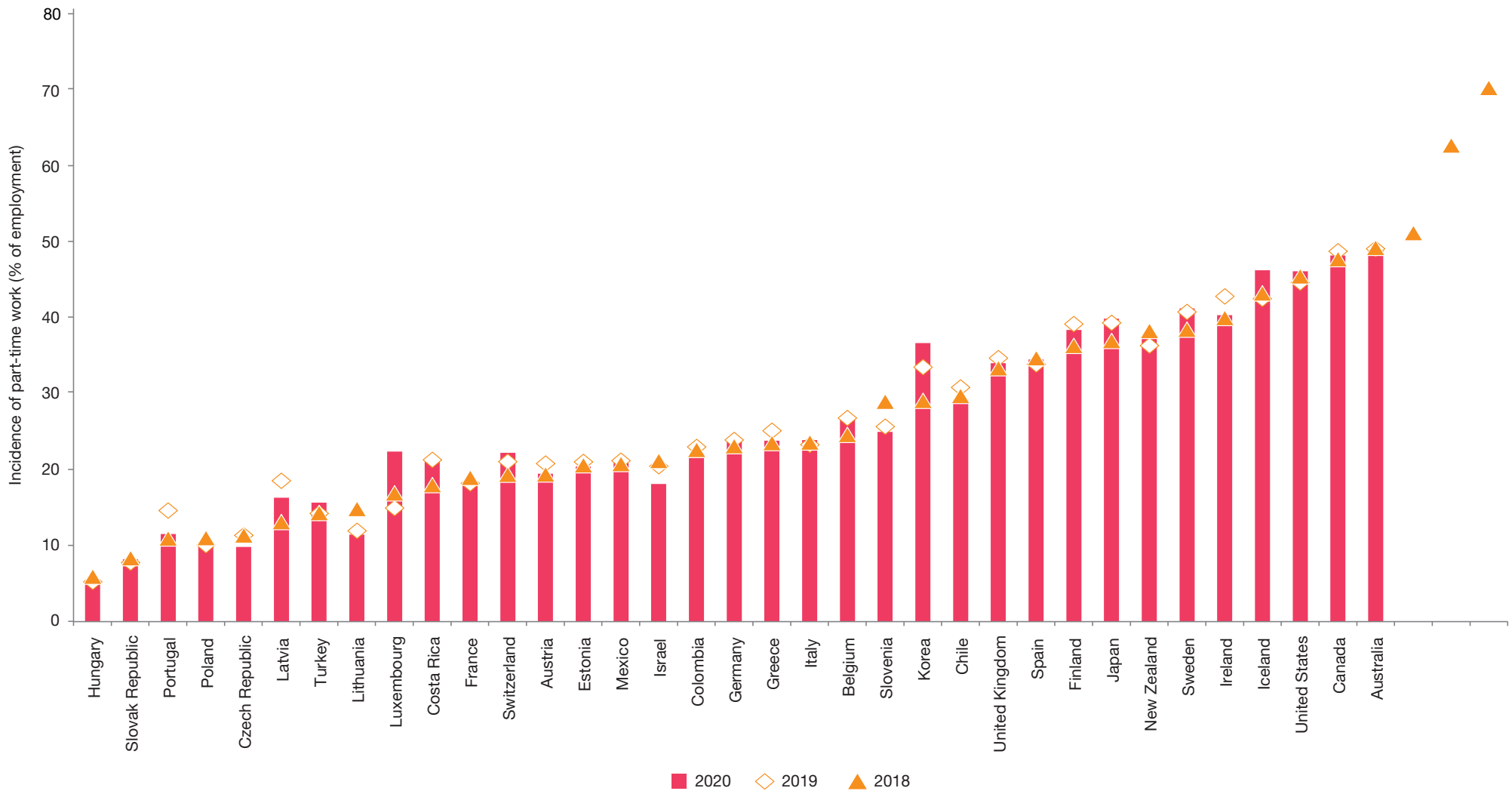
Relative unemployment ratio, youth/adult (15-24)/(25-54)



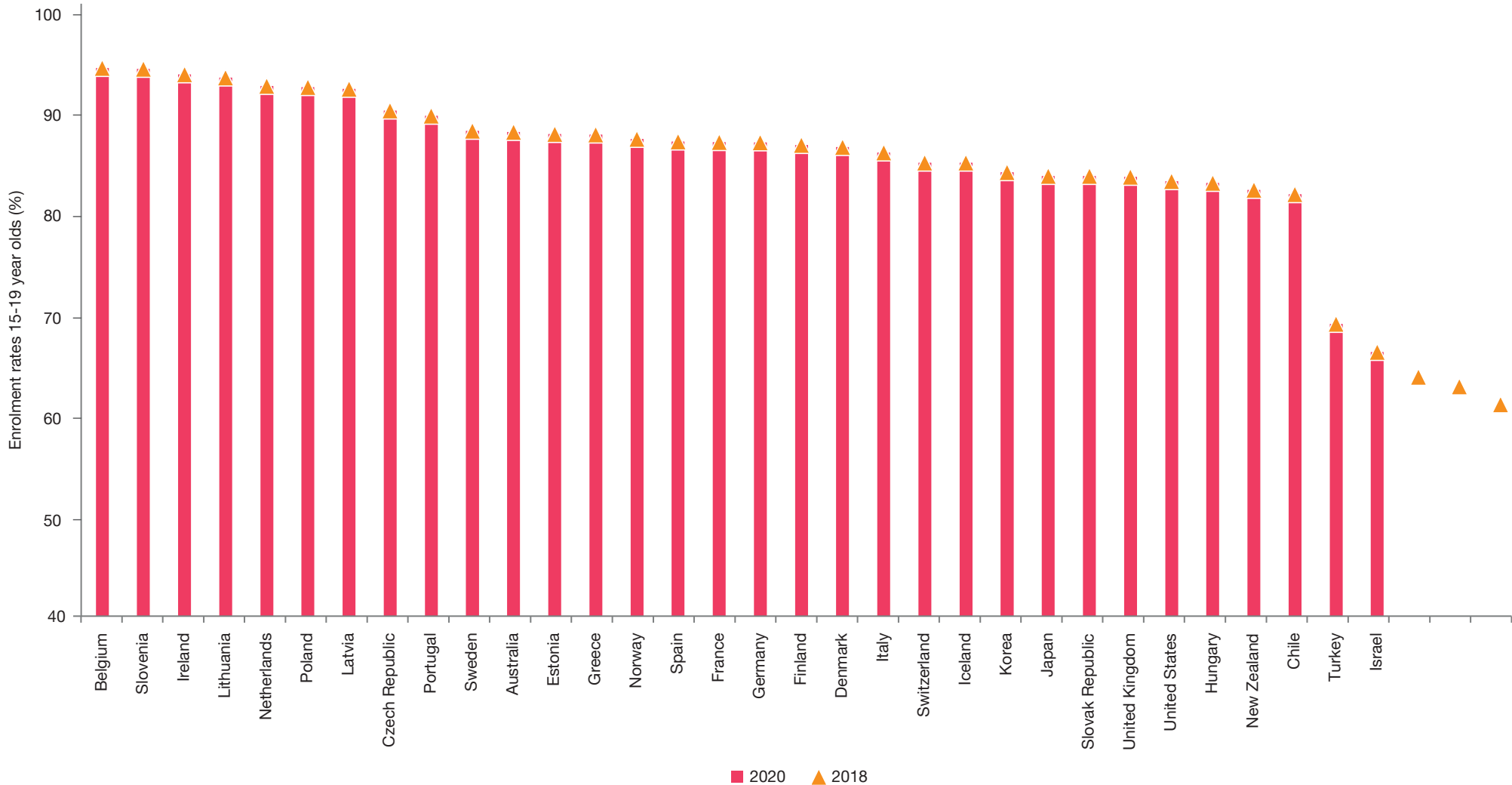
Incidence of long-term unemployment (% of unemployment)



Incidence of part-time work (% of employment)



Enrolment rates 15-19 year olds (%)



The image is a collage. The top left shows a glass wall with several sticky notes (red and blue) and some faint pencil sketches. The top right shows a man with long dark hair, wearing a dark blue shirt and a red lanyard, looking towards the left. The bottom left shows a man with a beard and a red and black plaid shirt, looking towards the left. The bottom right shows a close-up of the man with long hair, focusing on his red lanyard and a silver ID badge hanging from it.

Appendix

A3

**Drivers of youth unemployment
methodology**

Drivers of youth unemployment rates in the OECD: Econometric methodology



- 1 We used a dynamic panel approach in our analysis which exploits cross-country differences in unemployment rates for the 15-24 age group across the OECD. We specify a fixed-effect model to control for unobserved country-specific characteristics that might explain the youth unemployment rate and are constant over time.
- 2 We used the existing academic literature to inform our specification of drivers that explain variations across countries and time in youth unemployment rates.
- 3 Our specification also contains fixed effects for each country to account for country-specific characteristics that explain the youth unemployment rate. This unemployment rate is also likely to be driven by structural factors – to account for this, we included a lagged term for the youth unemployment rate in our overall specification to account for the persistence in this rate over time.
- 4 To ensure robustness under a serially correlated dependent variable (in this case the youth unemployment rate), we used a system generalised method of moments (GMM) estimator (Blundell and Bond, 2000). The GMM approach involves using an instrumental variable-based approach where higher lag values of the lagged dependent variable are used as instruments. This approach also serves to eliminate any potential omitted variable bias and unobserved heterogeneity, which means country fixed effects are accounted for.
- 5 We used a linear trends assumption to impute the values for missing observations of the relevant variables.
- 6 Costa Rica was dropped from our final model due to lack of sufficient data. Moreover, our final model included observations from 25 out of the 38 OECD countries due to lack of country data for certain variables.
- 7 The key results from our analysis are shown in the table on the right.

Dependent variable: Unemployment rate, 15-24 year old	Coefficient (standard error)
Lagged unemployment rate, 15-24 age group	0.84 (0.04)***
GDP growth	-0.58 (0.09)***
Gender employment gap	-0.06 (0.05)
Older Employment rate, 55-64 age group	-0.07 (0.02)***
Employment protection of temporary contracts	-0.09 (0.11)
Log of real minimum wage	-1.36 (0.84)
Expenditure on public employment services as a share of GDP	-0.12 (2.57)

Source: PwC analysis

*significant at 10% level; **significant at 5% level; ***significant at 1% level.

Drivers of youth unemployment rates in the OECD: List of model variables used and other variables considered



Variables used in the econometric model	Definition	Source
Lagged youth unemployment rate	Lag of number of 15-24 unemployed persons expressed as a % of youth labour force.	OECD
GDP growth	Annual gross domestic product growth (%)	World Bank
Older Employment rate, 55-64 age group	Percentage of the 55-64 age group in employment	OECD
Employment protection for temporary contracts	Strictness of regulations for temporary employment protection	OECD
Log of real minimum wage	Natural logarithm of real minimum wage, measured in USD, at constant prices and 2020 PPP terms	OECD
Expenditure on public employment services as a share of GDP	Public expenditure on public employment services as a percentage of GDP, which includes placement and related services, benefit administration and other expenditure.	OECD
Gender employment gap	Male youth employment rate minus female youth employment rate (15-24 age group)	OECD



Other variables considered but not included in the econometric model

	Definition	Source
Lagged economic crisis dummy variable	Dummy variable where 1 = indicator for the year in which a country is experiencing an economic crisis as defined by a contraction in GDP and continuing until the previous peak level of GDP prior to the economic contraction, and 0 = otherwise.	OECD
Consumer price index	% change in Consumer Price Index (percentage change on the same period of the previous year)	OECD
Minimum wage relative to average wage	Minimum wage relative to median average wages of full-time workers	OECD
Foreign direct investment regulatory restrictiveness index (FDIRRI)	Strictness of FDI regulations where 0 corresponds to minimum regulations and 1 corresponds to maximum regulations on foreign direct investment	OECD
Public spending on training as share of GDP	Public expenditure on training as a percentage of GDP, which includes institutional, workplace and alternate/integrated training, as well as special support for apprenticeship.	OECD
Income tax	Average personal income tax and social security contribution rates on gross labour income	OECD
Participation rate, 15 to 24 age group	Labour force participation rate for 15-24 age group	OECD
Part-time employment, 15 to 24 age group	Part-time employment rate for 15-24 age group	OECD
Value added by services, industry, manufacturing sectors	Value added by each sector calculated by dividing the value added in each sector by total value added	OECD
Ratio of 15-24 population to 25-64 population	Percentage of population in the 15-24 age group divided by the percentage of population in the 25-64 age group	OECD

Appendix

A4

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