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Rt Hon Stephen Timms MP
Chair, Work and Pensions Committee
House of Commons
London
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29 July 2020

Dear Mr Timms,

I write in response to the Work and Pensions Committee's call for evidence for its inquiry on the *Department for Work and Pensions' preparations for changes in the world of work*.

As the Committee will be aware, the Office for National Statistics (ONS) is the UK's National Statistical Institute, and largest producer of official statistics. We aim to provide a firm evidence base for sound decisions and develop the role of official statistics in democratic debate.

We have focused our evidence on the immediate impact COVID-19 has had on the Labour Market and what our initial statistics on industries affected, hours worked and changes to working practices are illustrating. We have also considered the impact of automation on the Labour Market, which may have been accelerated or delayed due to the recent pandemic. We anticipate that our analysis will track the long-term effect of the COVID-19 pandemic on the Labour Market for some time, alongside the potentially more gradual move to automation, and would be happy to continue to keep the Committee updated.

I hope this evidence is helpful to the Committee. Please do not hesitate to contact me if I can be of any further assistance.

Yours sincerely,

Jonathan Athow

Office for National Statistics written evidence: Department for Work and Pensions' preparations for changes in the world of work inquiry

Executive Summary

- Analysis of the immediate impact of COVID-19 on the labour market shows that while we haven't seen a significant change in headline employment and unemployment figures, the largest changes are seen in the number of people temporarily away from work, including furloughed workers.

- Occupations see variety in the probability of automation in the future. The occupations with the highest probability of automation are low skilled or routine occupations, such as waiters and waitresses (72.1%) and shelf fillers (71.70%). Conversely, high-skilled occupations, such as medical practitioners and higher education teaching professionals have a much lower probability of automation at 18.11% and 20.27% respectively.

- The risk of job loss due to automation is higher for young people and women. When looking at jobs with a higher risk of automation, women account for 70.2% of employees in those jobs, compared with 42.6% of employees in jobs at low risk of automation. Of those aged 20 to 24 years who are employed, 15.7% were in jobs at high risk of automation. Just 1.3% of people aged between 35 and 39 are at a high risk of automation.

- Young people are more likely to work in low-skilled occupations, putting them at a higher risk of job loss through automation, or being furloughed during the COVID-19 pandemic, as lower-skilled occupations are also less likely to have the ability to work from home.

- The ability to work from home also varies by occupation, with occupations requiring higher qualifications and experience more likely to provide the opportunity to homework than manual occupations. 69.6% of professional occupations did some working from home in April 2020, compared to 18.9% of skilled trade occupations.

- The amount of homeworking undertaken also varies significantly between regions. Working from home during the COVID-19 pandemic is more common in London, where 57.2% reported home working, than in the West Midlands, where just over one-third (35.3%) did some homeworking.

Unemployment before pandemic

The UK unemployment rate for the period February to April 2020 was estimated at 3.9%, 0.1 percentage points higher than a year earlier but largely unchanged compared with the previous quarter[1].

Estimated unemployment rates for both men and women aged 16 years and over have generally been falling since late 2013 but have levelled off in recent periods.

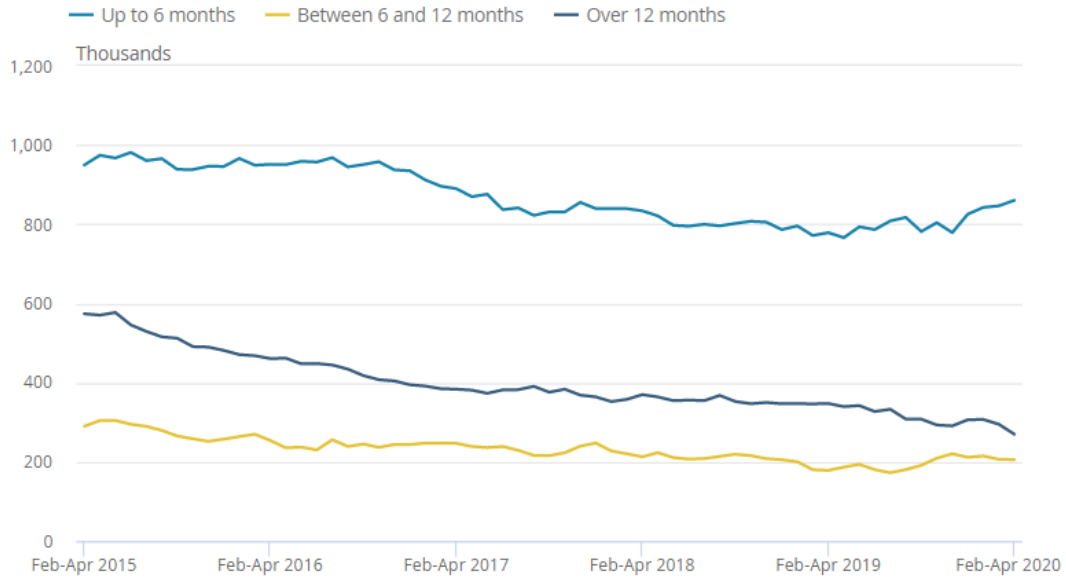
Unemployment measures people without a job who have been actively seeking work within the last four weeks and are available to start work within the next two weeks. The unemployment rate is not the proportion of the total population who are unemployed. It is the proportion of the economically active population (those in work plus those seeking and available to work) who are unemployed.

For men, the unemployment rate was 4.1%, 0.1 percentage points higher than a year earlier but largely unchanged compared with the previous quarter. For women, it was 3.7%, largely unchanged compared with a year earlier and also compared with the previous quarter.

The annual increase in unemployment was driven by unemployed people aged under 25 years (up 48,000) and people who have been unemployed for up to six months (up 82,000, the largest annual increase since October to December 2011). However, this was offset somewhat by a 77,000 decrease for people who have been unemployed for over 12 months.

Figure 1 shows that ultimately, long-term unemployment – the number of people who are out of work and have been actively seeking employment for at least a year - continued to fall, while short-term unemployment has increased.

Figure 1: *Unemployment in the UK by duration (aged 16 years and over), seasonally adjusted, between February to April 2015 and February to April 2020*



Source: Office for National Statistics – Labour Force Survey

Regional Unemployment

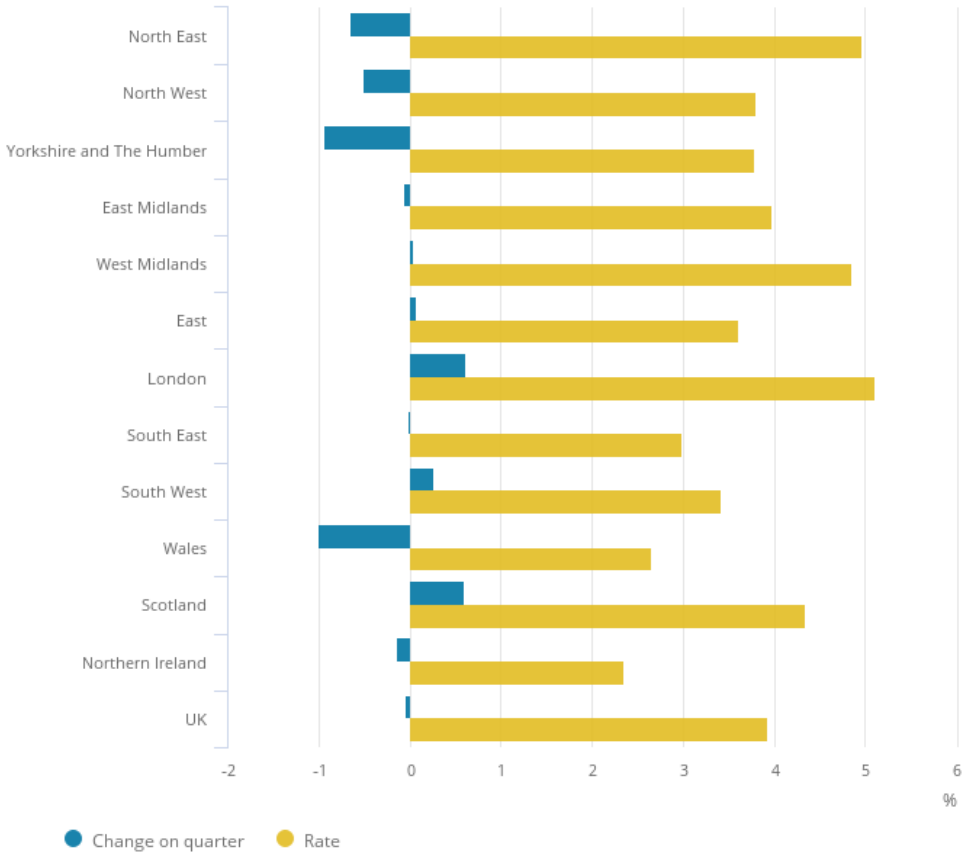
Looking at regional breakdowns, For the three months ending May 2020, the highest employment rate estimate in the UK was in the South East (79.7%) and the lowest was in Northern Ireland (71.6%). For the same period, the highest unemployment rate estimate in the UK was in London (5.1%) and the lowest was in Northern Ireland (2.4%)[2].

[1] ONS: Employment in the UK: June 2020
[2] ONS: Labour Market in the regions of the UK: July 2020

The UK region with the highest unemployment rate estimate for March to May 2020 was London at 5.1%, followed by the North East at 5.0%.

The region with the lowest estimated unemployment rate was Northern Ireland at 2.4%. This was followed by Wales with a record low unemployment rate for the region, of 2.7%; driven by a record low unemployment level. Yorkshire and The Humber also had a record low unemployment rate and level for the region, with the rate at 3.8%.

Figure 2: *Unemployment rates by UK region, seasonally adjusted, March to May 2020.*



Source: Office for National Statistics, Labour Force Survey

The immediate impact on the Labour Market due to COVID-19

The ONS statistics on the labour market include both detailed and less timely survey data from the Labour Force Survey, and more up to date indicators, including administrative data from HM Revenue and Customs and the Department for Work and Pensions.

Early indicators for June 2020 suggest that the number of employees in the UK on payrolls is down around 650,000 compared with March 2020. The largest falls were seen at the start of the pandemic and while the number of payroll employees is still falling the decline is slowing. Flows analysis suggests that the falls in May and June are largely due to fewer people moving into pay-rolled employment.

Employment is weakening and unemployment is largely unchanged for June, but there are some signs of economic inactivity rising, with people out of work not currently looking for work. Hours worked has continued to fall reaching record lows both on the year and on the quarter. There are still a large number of people temporarily away from work, including furloughed workers, although this is falling through May. New analysis shows that there were around half a million people away from work because of the pandemic and receiving no pay[3].

[3] Labour market overview, UK: July 2020

Meanwhile, vacancies in the UK in April to June 2020 are at the lowest level since the survey began in April to June 2001, at an estimated 333,000; this is 23% lower than the previous record low in April to June 2009[4].

Employee average pay growth slowed notably in April 2020 and maintained a similar pattern in May; pay is now growing slower than inflation, especially in industries where furloughing is most prominent. Growth in average total pay (including bonuses) among employees slowed sharply in March to May to be negative (at negative 0.3%) for the first time since April to June 2014; regular pay growth (excluding bonuses) slowed to 0.7%.[5]

Labour Force Survey (LFS) estimates of self-employment shows a record decrease of down 178,000 on the quarter to 4.85 million people, the number of employees in employment continues to increase by 97,000 on the quarter to 27.95 million for March to May 2020.[6]

Hours Worked

Average hours per worker from the LFS have fallen when compared to the same period in 2019. However, imputation used for the LFS was not designed to deal with the changes experienced in the labour market in recent months. Experimental work with adjusted methodology suggests the use of the existing methodology has understated the reduction in the actual numbers of hours worked by approximately 5% to 6%.

Between March to May 2019 and March to May 2020, total actual weekly hours worked in the UK decreased by 175.3 million, or 16.7%, to 877.1 million hours. This was the largest annual decrease since estimates began in 1971, with total hours dropping to its lowest level since May to July 1997.

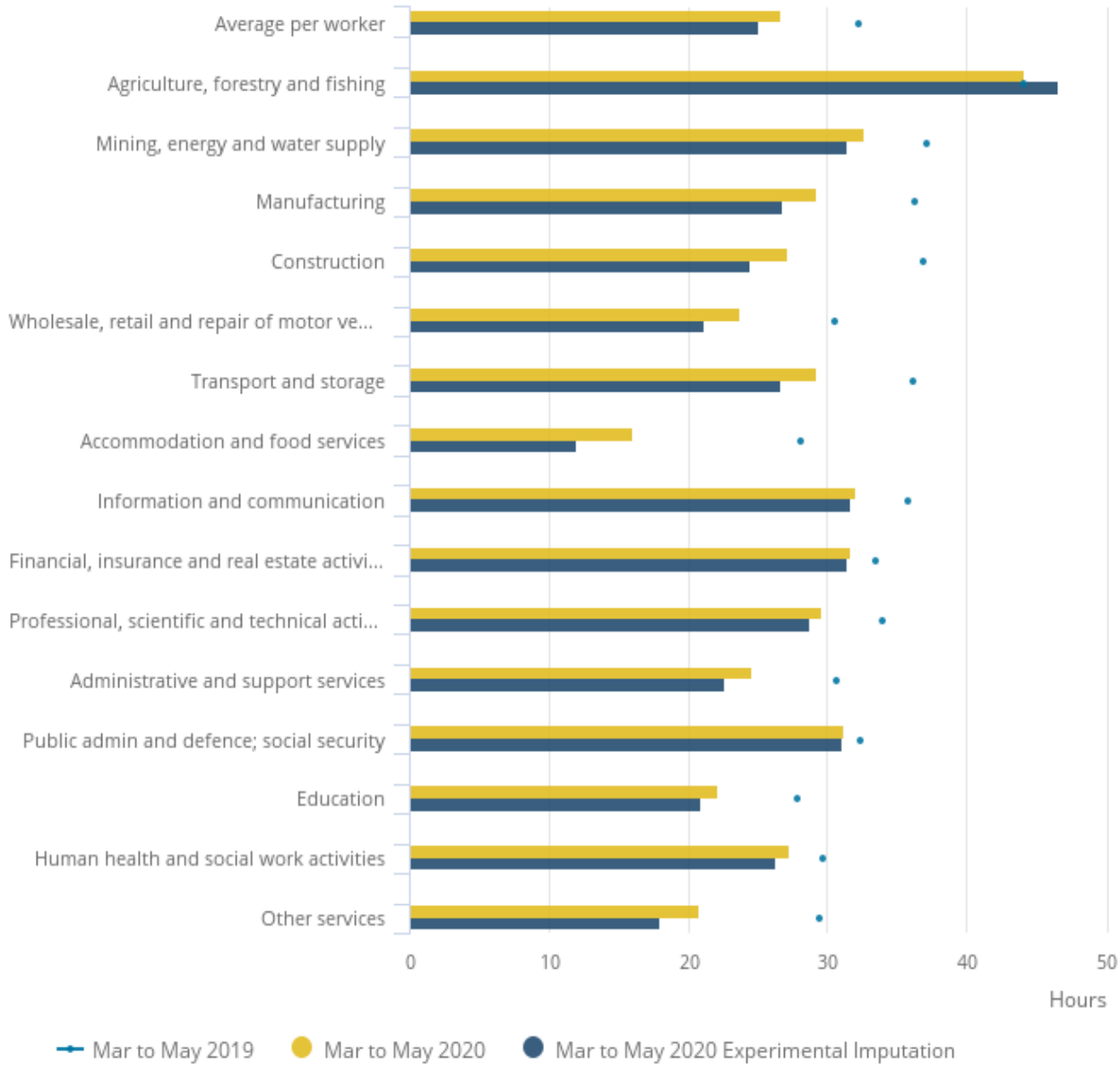
Over the same period, average actual weekly hours fell by 5.5 hours to a record low of 26.6 hours. The “accommodation and food service activities” industrial sector saw the biggest annual fall in average actual weekly hours; down 12.0 hours to a record low of 16.0 hours per week[7].

Looking at our experimental weekly data, we saw the largest falls in average actual weekly hours during the week commencing 23rd March (i.e. the week in which lockdown measures were introduced). This fall was most evident for those who work part-time and for the self-employed. The fall in average actual weekly hours continued throughout the weeks in April, however during May we saw increases in average actual weekly hours for all groups (men/women, full-time/part-time, employees/self-employed). The average actual weekly hours are not yet in-line with pre-lockdown levels, however there has been a sharp rise in self-employed hours throughout May and they are almost coming back in-line with the employee estimates.

Figure 3 shows the industries that have experienced the largest reduction in hours because of the coronavirus are also those where this reduction is most understated. For example, using this adjusted imputation methodology, the hours worked in accommodation and food service activities decrease by a further four hours compared with the original imputation method, to an average of 12.0 hours a week in March to May 2020.

Figure 3: *Average actual weekly hours worked by industry (people aged 16 years and over), not seasonally adjusted, between March to May 2019 and March to May 2020*

[4] ONS: Vacancies, jobs and public sector employment in the UK: July 2020
[5] Average weekly earnings in Great Britain: July 2020
[6] Labour market overview, UK: July 2020
[7] ONS: Employment in the UK: July 2020



Source: Office for National Statistics – Labour Force Survey

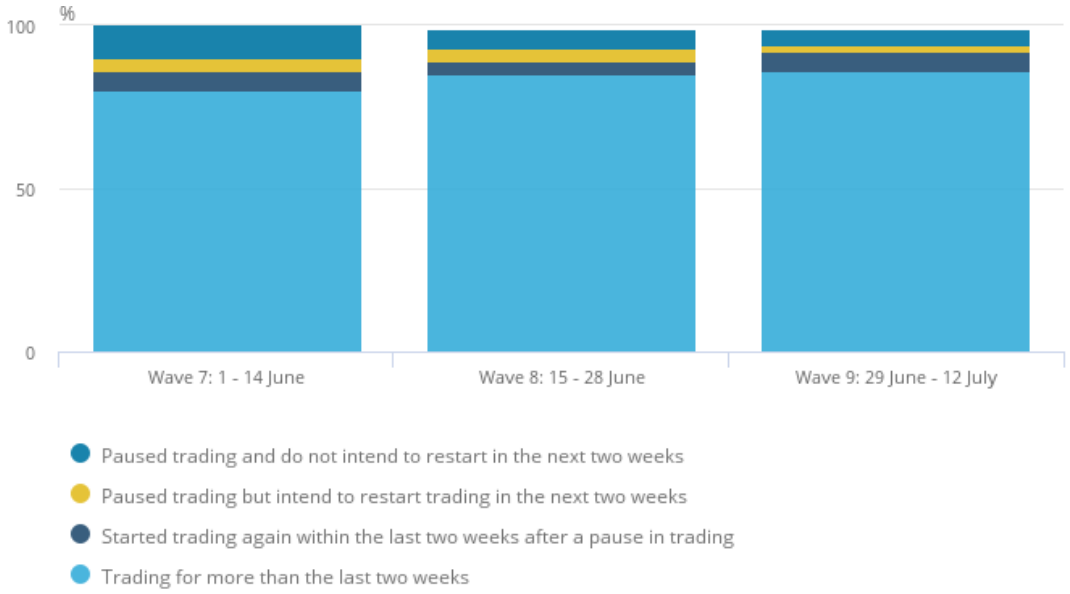
Impact on Businesses

The Business Impact of Coronavirus (COVID-19) Survey (BICS) was set up within the first two weeks of lockdown and is sent to 24,500 businesses each fortnight. We call each return period a wave. We have changed a number of the questions on the survey over that time to reflect that businesses impacts have changed. This online survey provides a timely and useful snapshot of the impact of COVID-19 on business conditions and sentiment.

Figure 4 shows a comparison of trading status between businesses responding to Wave 7 (reference period 1 to 14 June), Wave 8 (reference period 15 to 28 June) and Wave 9 (reference period 29 June to 12 July). However, please note that Wave 9 results are still provisional at this stage and that the estimates are not weighted; therefore, the estimates for each wave are dependent on which businesses responded to the survey, which may be different in different waves.

Figure 4: *Percentage of businesses by trading status and wave, UK, 1 June to 12 July 2020*[8,9]

[8] The percentages in this chart might not sum to 100% because of rounding and the exclusion of businesses permanently ceased trading.
[9] Estimates are not weighted; therefore, the estimates for each wave are dependent on which businesses responded to the survey, which may be different in different waves.

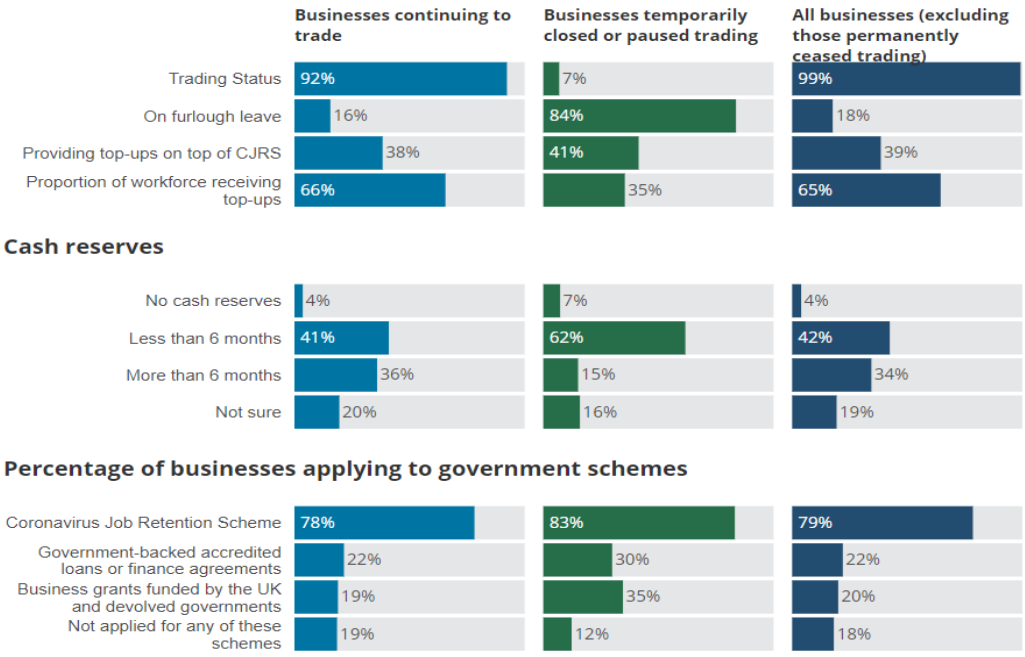


Source: Office for National Statistics, Business Impact of Coronavirus Survey

92% of responding businesses said they were trading between 29 June and 12 July, compared with 86% between 1 and 14 June. Of the businesses currently trading, 7% of their total workforce had returned from furlough in the two weeks prior to completing the questionnaire and 4% had returned from remote working[10].

Figure 5 shows that 39% of businesses who had furloughed staff, were providing pay top-ups to the Coronavirus Job Retention Scheme (CJRS), covering 65% of their furlough workforce.

Figure 5: *Proportion of businesses by trading status, and proportions of workforce on furlough leave and receiving top-ups.*



Source: Office for National Statistics, Business Impacts of the Coronavirus

Of government schemes intended to support the workforce, the CJRS was the most popular, with 79% of all businesses currently trading applying for this.

[10] Coronavirus and the latest indicators for the UK economy and society: 23 July 2020

Of businesses currently trading, 7% of their total workforce had returned from furlough in the two weeks prior to completing the questionnaire and 4% had returned from remote working. In businesses still trading or intending to restart trade in the next two weeks, 6% of the workforce are expected to return from furlough and 4% are expected to return from remote working.

Changes to Working Practices

Homeworking during COVID-19 pandemic

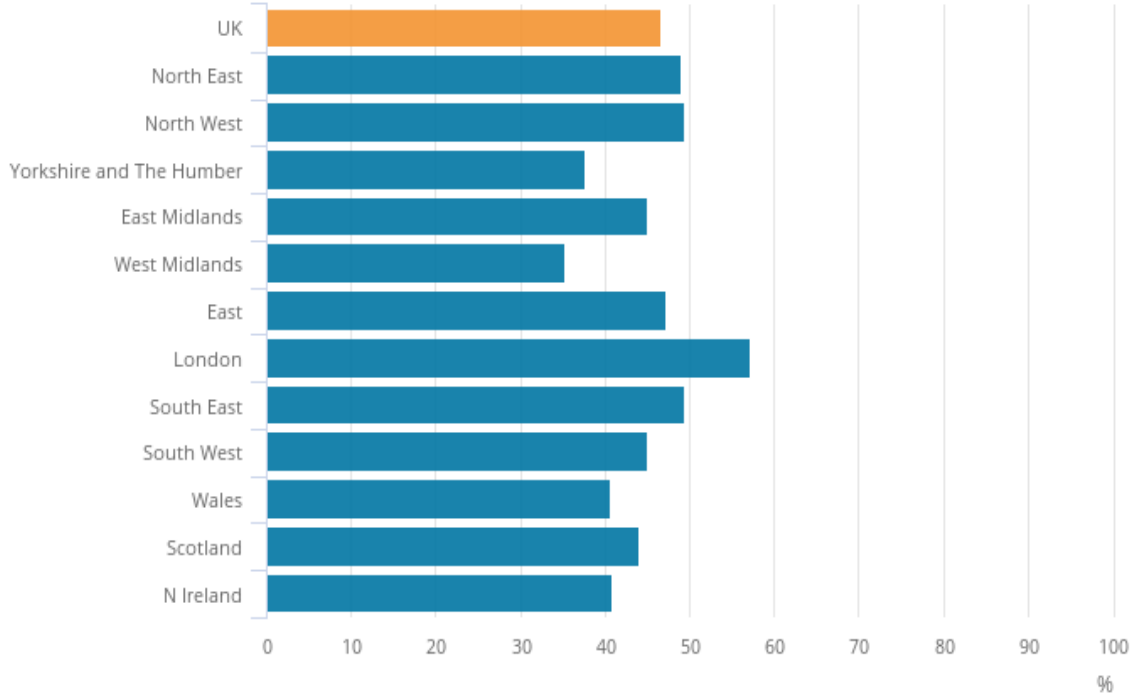
The ONS has published analysis[11] of Labour Market Survey data from April 2020 on homeworking patterns in the UK, broken down by sex, age, region and ethnicity.

In April 2020, nearly half (46.6%) of people in employment did some of their work from home, with the vast majority (86.0%) of these homeworkers stating that this was because of the COVID-19 pandemic. Of those who did some work from home, around one-third worked fewer hours than usual (34.4%), and around one-third worked more hours than usual (30.3%).

There are regional variations for those doing some of their work at home. More than half of people living in London (57.2%) did some work at home, while just over one-third of workers living in the West Midlands (35.3%) and Yorkshire and The Humber (37.6%) did some of their work from home. Wales, Scotland, and Northern Ireland saw broadly similar proportions of homeworkers (approximately 40%).

Of those residents of London who did some work at home, 91.6% cited the coronavirus (COVID-19) pandemic as their main reason for doing so. Conversely, the North East (76.6%) and the South West (79.1%) were the two regions where respondents were least likely to cite the coronavirus pandemic as the main reason for homeworking.

Figure 6: *Homeworking rates, by region, of those in employment (aged 16 years and over), UK, April 2020*[12]



Source: Office for National Statistics, Labour Market Survey

Occupations requiring higher qualifications and experience are more likely to provide homeworking opportunities than elementary and manual occupations. The first four major occupations all saw over

[11] Coronavirus and homeworking in the UK: April 2020

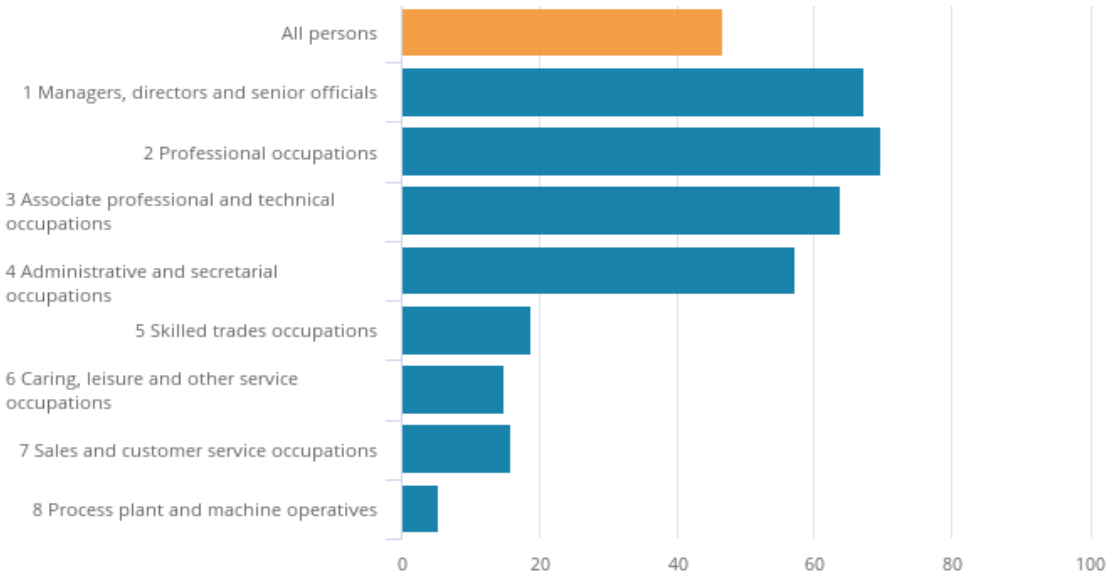
[12] A homeworker refers to a person who did anything working from home in the reference week.

half of their workers doing some amount of homeworking. Over two-thirds (69.6%) of the professional occupations did some work at home.

Conversely, the last five major occupations (except “Elementary Occupations” which has been excluded because of small sample sizes) all saw under 20% of their workers doing some amount of homeworking. The skilled trade occupations saw 18.9% of their workers home working

Those working in associate professional and technical occupations were most likely to cite the coronavirus (COVID-19) pandemic as the main reason for homeworking (91.1%), while those in skilled trades occupations were least likely to do so (65.0%).

Figure 7: *Homeworking rates, by occupation, of those in employment (aged 16 years and over), UK, April 2020*



Source: Office for National Statistics, Labour Market Survey

Additional analysis published in July 2020 examined the ability to work from home by occupation[13], considering location, interaction intensity, exposure to hazards, physical activity and use of tools/equipment to develop a measure of the ability to work from home[14]. One additional element – not fully reflected by the measure – is the access to technology and extent to which the workplace is digitalised.

The analysis showed that professional occupations such as actuaries, economists and statisticians are most likely to be able to be done from home. Occupations such as these, alongside management, technical and administrative jobs, involve relatively little face-to-face contact, physical activity or use of tools or equipment.

Applying data from the Annual Survey of Hours and earnings showed employees who earn higher hourly wages are more likely to be able to work from home. Employees in the 20% of the workforce most likely to be able to work from home had median earnings of around £19.00, compared with around £11.00 for workers in the 20% of the workforce in jobs least likely to be adaptable to home working.

The gender split of the 20% of the workforce most likely to be able to work from home is fairly representative of the workforce as a whole: 49% are women. Around 75% of employees in the 20% of the workforce least likely to be adaptable to work from home are men.

[13] ONS: Which jobs can be done from home?
[14] This analysis was conducted using data from the Occupational Information Network (O*NET) database.

Skill level of Employees Working from Home

According to the Standard Occupational Classification (SOC) manual[15], occupations can be classified into four skill levels defined with respect to the duration of training and/or work experience normally required to perform the job competently and efficiently.

The first skill level equates with competence associated with a general education, usually acquired by the time a person completes compulsory education and signaled via a satisfactory set of school-leaving examination grades. Competent performance of jobs classified at this level will also involve knowledge of appropriate health and safety regulations and may require short periods of work-related training. Examples of occupations defined at this skill level within the SOC2010 include postal workers, and catering assistants.

The second skill level covers a large group of occupations, all of which require the knowledge provided via a good general education as for occupations at the first skill level, but which typically have a longer period of work-related training or work experience. Occupations classified at this level include machine operation and caring occupations.

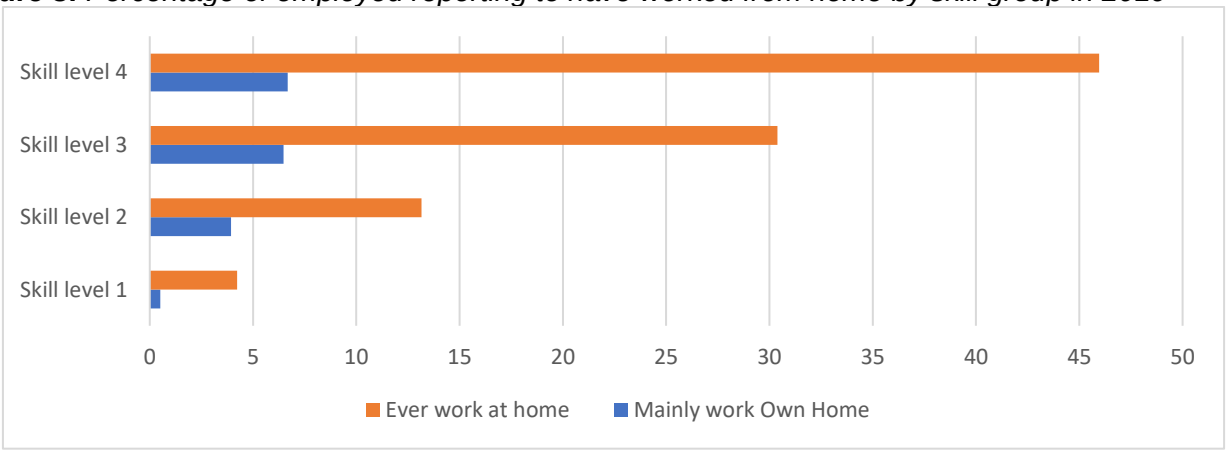
The third skill level applies to occupations that normally require a body of knowledge associated with a period of post-compulsory education but not normally to degree level. A number of technical occupations fall into this category, as do a variety of trades occupations and proprietors of small businesses. In the latter case, educational qualifications at sub-degree level or a lengthy period of vocational training may not be a necessary prerequisite for competent performance of tasks, but a significant period of work experience is typical.

The fourth skill level relates to what are termed 'professional' occupations and high-level managerial positions in corporate enterprises or national/local government. Occupations at this level normally require a degree or equivalent period of relevant work experience

Using the published data for occupation groups on the level of homeworking, one can sum occupations into skill categories and calculate a rate of homeworking for each skill level.

In 2019, the highest skill level showed the highest proportion of individuals homeworking, with the lowest skill level showing the least. While these data do not reflect the COVID-19 period, they do provide an insight into the skill group previously most likely to homework.

Figure 8: *Percentage of employed reporting to have worked from home by skill group in 2019*[16]



Source: Office for National Statistics – Annual Population Survey

Homeworking by Industry

[15] Standard Occupational Classification for the UK
[16] Skill levels taken from SOC2010

This section primarily focuses on proportions of the workforce within responding businesses as opposed to proportion of businesses as is the case for other sections.

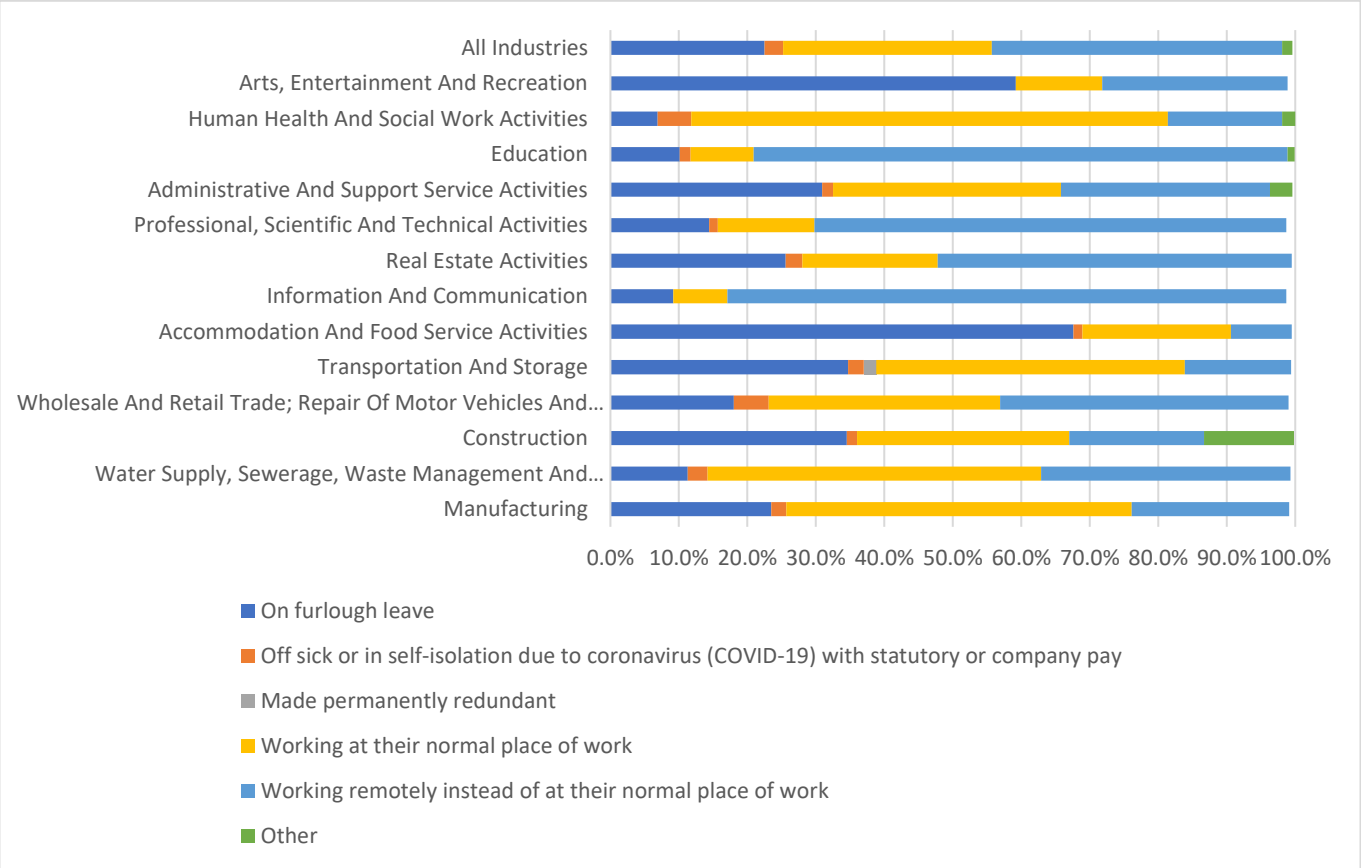
Across all industries, for businesses continuing to trade and apportioned by employment size, 23% of the workforce was on furlough leave, 2.7% was off sick or self-isolating due to coronavirus, 31% was working at their normal place of work and 42% were working remotely.

The accommodation and food service activities and the arts, entertainment and recreation sector reported the largest proportion of workforce on furlough leave at 68% and 59% respectively. This was followed by the transport and storage and construction sectors reporting 50% of workers furloughed.

The wholesale and retail trade sector reported the same proportion of workers off sick or self-isolating as the human health and social work sector at 5%. However, the human health and social work sector reports the highest percentage of workers working at their normal place of work at 70% followed by the manufacturing (50%) and water supply (49%) sectors.

The largest proportion of workers working remotely instead of at their normal place of work is given by the information and communication sector (82%), the education sector (78%) and the professional, scientific and technical activities sector (69%).

Figure 9: *Working arrangements, businesses who have not permanently stopped trading, broken down by industry, apportioned by workforce size, UK, 18 May to 31 May 2020*



Source: Office for National Statistics – Business Impact of Coronavirus

Automation in the workplace

Automation involves replacing tasks currently done by workers with technology, which could include computer programs, algorithms, or even robots. Potential automation may have an impact on the labour market in the future.

Automation in different occupations

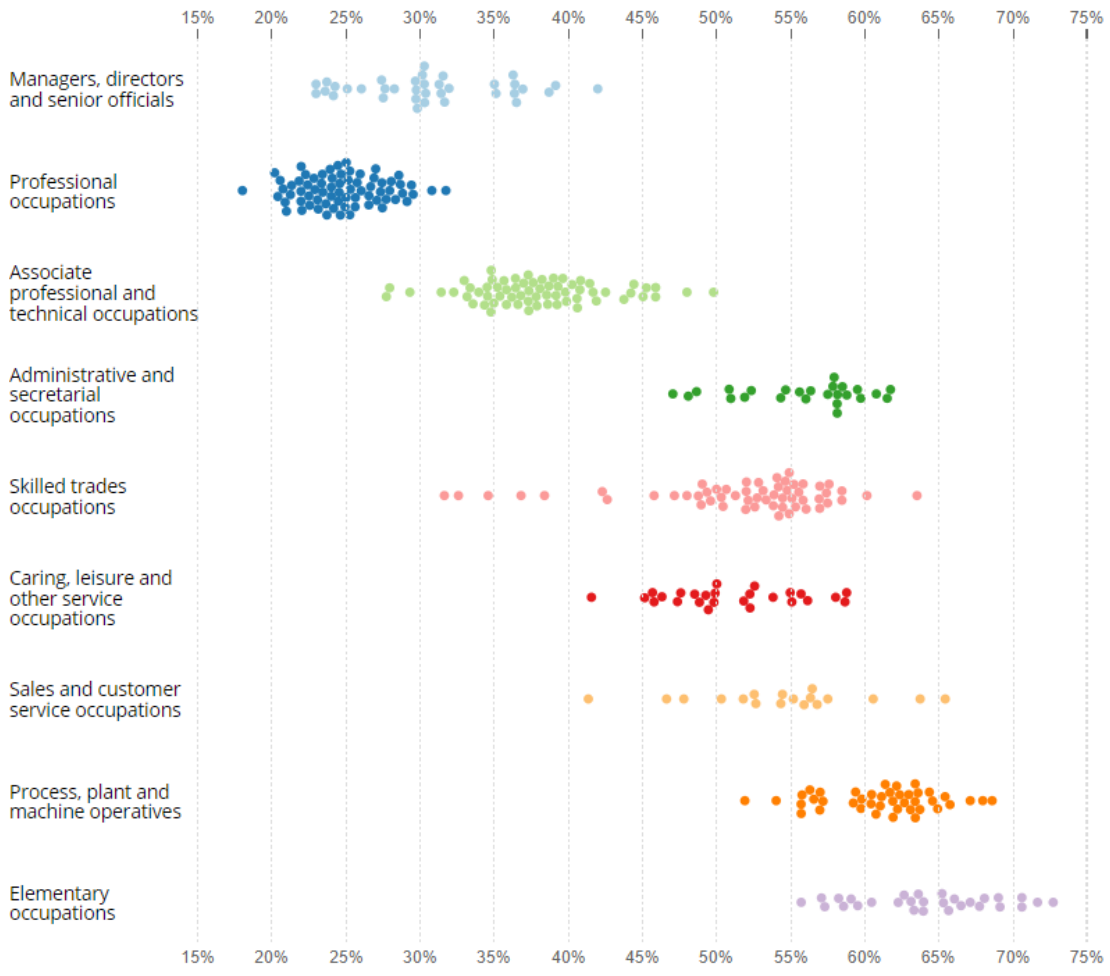
Data analysis from the ONS published in March 2019 examined which occupations are at the highest risk of being automated[17]. The analysis looked at the tasks performed by people in jobs across the whole labour market, to assess the probability that some of these tasks could be replaced through automation. Routine and repetitive tasks can be carried out more quickly and efficiently by an algorithm written by a human, or a machine designed for one specific function. The risk of automation tends to be higher for lower-skilled roles for this reason.

The three occupations with the highest probability of automation are waiters and waitresses (72.81%), shelf fillers (71.70%) and elementary sales occupations (70.69%), all of which are low skilled or routine.

The three occupations at the lowest risk of automation are medical practitioners (18.11%), higher education teaching professionals (20.27%), and senior professionals of educational establishments (20.56%). These occupations are all considered high skilled.

Figure 10 shows the probability for different occupations, grouped by their skill level, as assigned in the SOC.

Figure 10: *Probability of automation for each occupation (4-digit SOC2010 code) clustered by SOC major group in England, 2017*



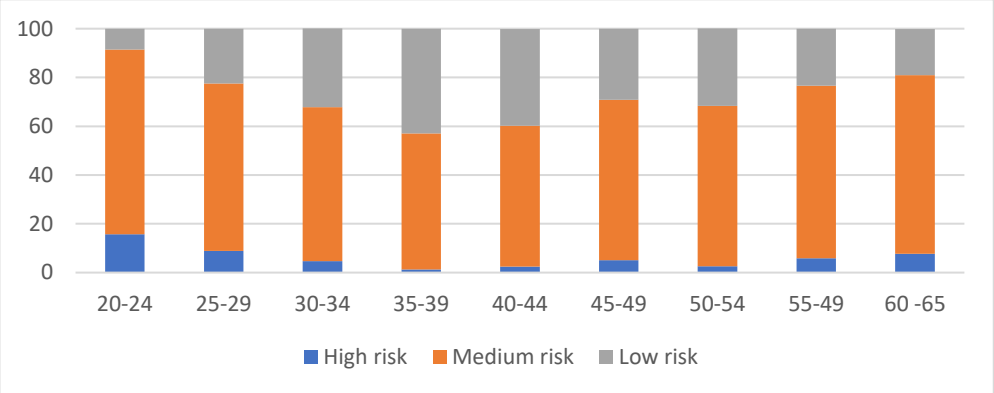
Source: Office for National Statistics - The probability of automation in England: 2011 and 2017

Automation, Age and Gender

[17] ONS: Which occupations are at highest risk of being automated?

Younger people are more likely to be in roles affected by job automation. Of those aged 20 to 24 years who are employed, 15.7% were in jobs at high risk of automation. The share of people in jobs at high risk of job automation then decreases as workers get older – due possibly to workers gaining experience and skills – and the probability of automation is lowest for workers between 35 and 39 years. Just 1.3% of people in this age bracket are at high risk of automation. The risk then increases from the age group 40 to 44 years upwards.

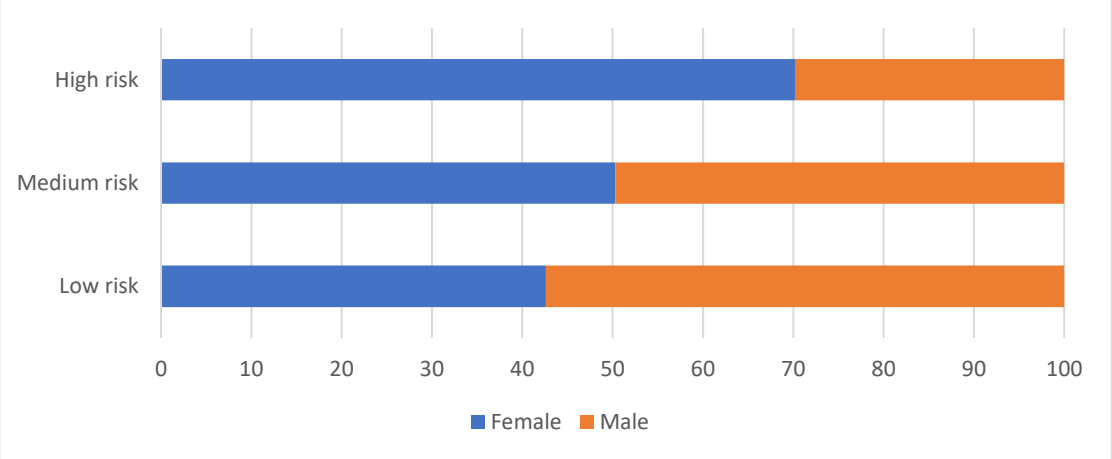
Figure 11: *Proportion of main jobs at risk of automation by age band, England, 2017*



Source: Office for National Statistics – Annual Population Survey

When looking at those in jobs with a high risk of automation, women account for 70.2% of employees in those jobs. This compares with women accounting for 42.6% of employees in jobs at low risk of automation.

Figure 12: *Proportion of main jobs at risk of automation by sex, England, 2017.*

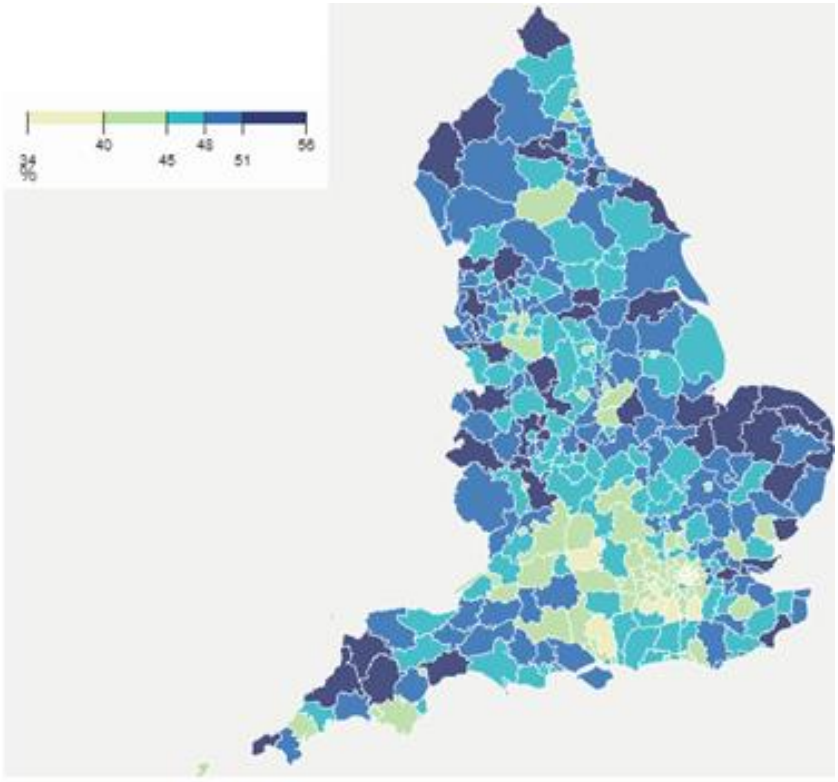


Source: Office for National Statistics – Annual Population Survey

Regional Automation

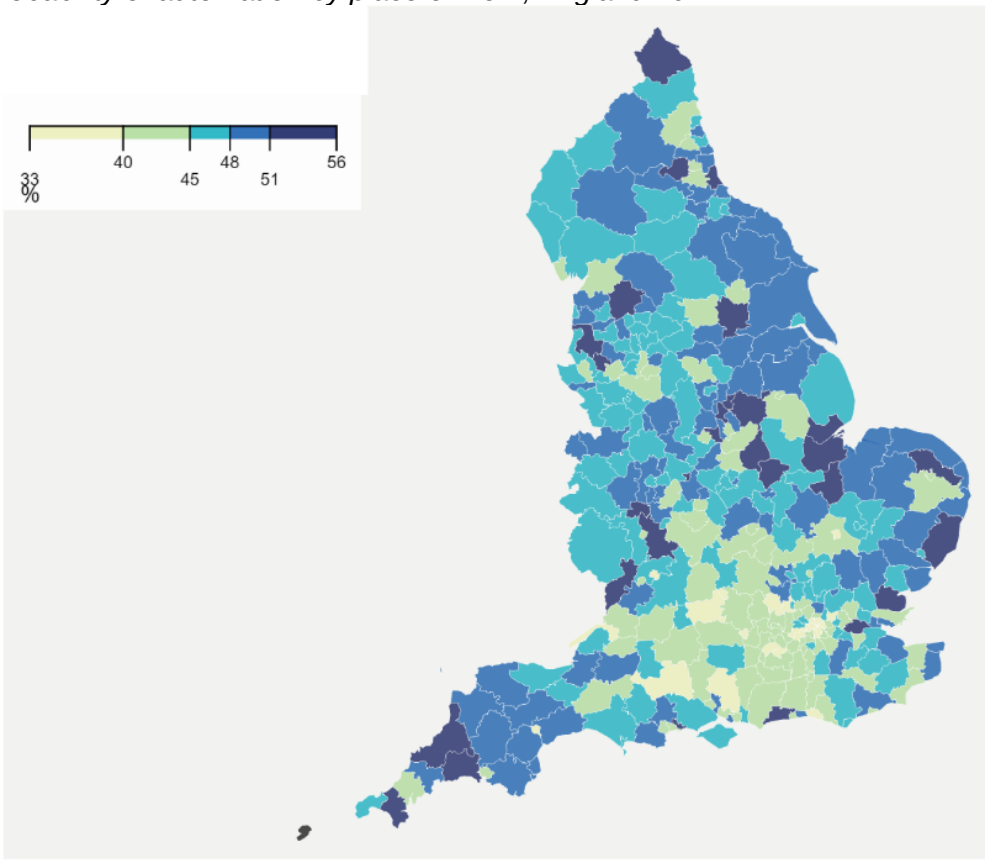
When considering where people work, most regions with a low probability of automation are concentrated in the South East of England and London, with an increase in the number of areas with a low probability of automation across the country in 2017 compared with 2011. This is driven by the types of jobs available in a particular area. Generally, the more jobs that require high-skilled workers in an area, the lower the risk of automation overall. The reduction between 2011 and 2017 in the number of high-risk jobs in an area could be an indication that automation may have already occurred in the occupations within these areas.

Figure 13: *Probability of automation by place of work, England 2011*



Source: Office for National Statistics – The probability of automation in England: 2011 and 2017

Figure 14: *Probability of automation by place of work, England 2017*[18]



Source: Office for National Statistics – The probability of automation in England: 2011 and 2017

July 2020, Office for National Statistics

[18] These map excludes the Isle of Scilly due to small sample sizes.