Institute for Fiscal Studies

Job vacancies during the Covid-19 pandemic

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Executive summary

Key findings

By the time the lockdown was announced, firms had stopped posting new vacancies almost entirely. New postings on 25 March were just 8% of their levels in 2019.

Vacancies fell across the wage distribution. The fall was sharpest in low-paid occupations directly affected by social distancing measures, but new vacancies for higher-paid jobs in legal and managerial professions also saw falls of over 60% relative to 2019.

There have been some tentative signs of recovery since mid April, but this has been entirely driven by vacancies in health and social care. Health and social care vacancies rebounded from half their 2019 levels in the first week of April to 85% of their 2019 levels in the first week of May. In all other occupations, new vacancies in the first week of April were 21% of their 2019 levels, and were still only 26% of their 2019 levels in the first week of May.

Whilst the initial drop in job postings was evenly distributed across more and less deprived areas, the recovery in health and social care vacancies has been concentrated in more affluent areas. New health and social care vacancies in the least deprived fifth of local authorities (measured by their Index of Multiple Deprivation) were 15% lower than their 2019 levels in the first week of May, whilst those in the most deprived fifth were still 35% lower.

The health and social care occupations in which vacancies are recovering pose relatively high health risks. They are relatively difficult to do from home, involve working in close physical proximity to others and are more exposed to disease.

The new jobs that are emerging require high levels of preparation. Jobs in health and social care require a high level of training, but even outside healthcare, labour demand has recovered more in occupations that require higher levels of preparation. This suggests that workers who have been furloughed or made unemployed are likely to struggle to fill vacancies in areas where labour demand is recovering.

1. Introduction

Job vacancies are an early indicator of economic activity. When a firm's demand for labour increases, it may post new vacancies some time before these vacancies are actually filled; conversely, when labour demand falls, a firm may stop recruitment efforts before an effect on employment is felt. Tracking the evolution of vacancies allows us to see where labour demand has fallen most during the pandemic, and where it is tentatively picking up again, much faster than official employment statistics allow.

In this note, we present virtually real-time information from a daily census of all job adverts posted on *Find a Job* (FAJ), a recruitment website maintained by the Department for Work and Pensions (DWP). Details about the data source are given in the appendix. The objective is to provide a detailed and up-to-date picture of the current state of labour demand across the UK economy, as it emerges from lockdown. The information presented here will be updated and extended regularly as new data become available.

At this point, we only present information about job postings. This is only one side of the labour market. Matching vacancy data with information on who is looking for work will be essential for facilitating the (temporary) reallocation of workers from sectors that have shut down during the pandemic to those where demand is recovering.[1] This is particularly relevant now, as the lockdown measures sent home 7.5 million workers on furlough, according to official figures from HM Revenue and Customs.[2] Many other workers are likely to have lost their jobs permanently, with 1.8 million new universal credit claims made between mid March and the end of April.[3] If activity in shut-down and other affected sectors does not return to more normal levels soon, these numbers are set to increase, and there will be pressures to create job opportunities and reallocate these workers to where there is demand. Our plan is to combine the vacancy data presented here with information on job destruction, business closures and worker mobility as these data become available.

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[1] https://www.ifs.org.uk/publications/14767.

[2] https://www.gov.uk/government/news/chancellor-extends-furlough-scheme-until-october.

[3] https://www.gov.uk/government/speeches/dwps-response-to-coronavirus-covid-19.

2. Trends in vacancy postings since April 2020

As has been documented elsewhere,[4] job vacancy postings across the whole UK economy started to drop around 15 March when social distancing began, and were already down by about 15% when the lockdown was announced on 23 March. By the first week of April, new vacancy postings were down by about 70% overall relative to the same week in 2019.

Figure 1 shows that the fall in vacancies occurred across nearly all occupations, across the wage distribution. The fall was sharpest in some of the low-paid occupations directly affected by social distancing measures – for example, hairdressing, sales, and leisure and travel occupations, where new vacancies had dried up almost entirely. But vacancies also fell higher up the wage distribution – for example, in legal and managerial professions, which saw falls of over 60% relative to the same week last year. Perhaps surprisingly, there was also a decline in vacancy postings for health and social care occupations: vacancies for nurses, medical practitioners and health associates all saw falls of 50–70% compared with a year ago.

Figure 1. Change in new vacancy postings in first week of April, by mean occupation wage
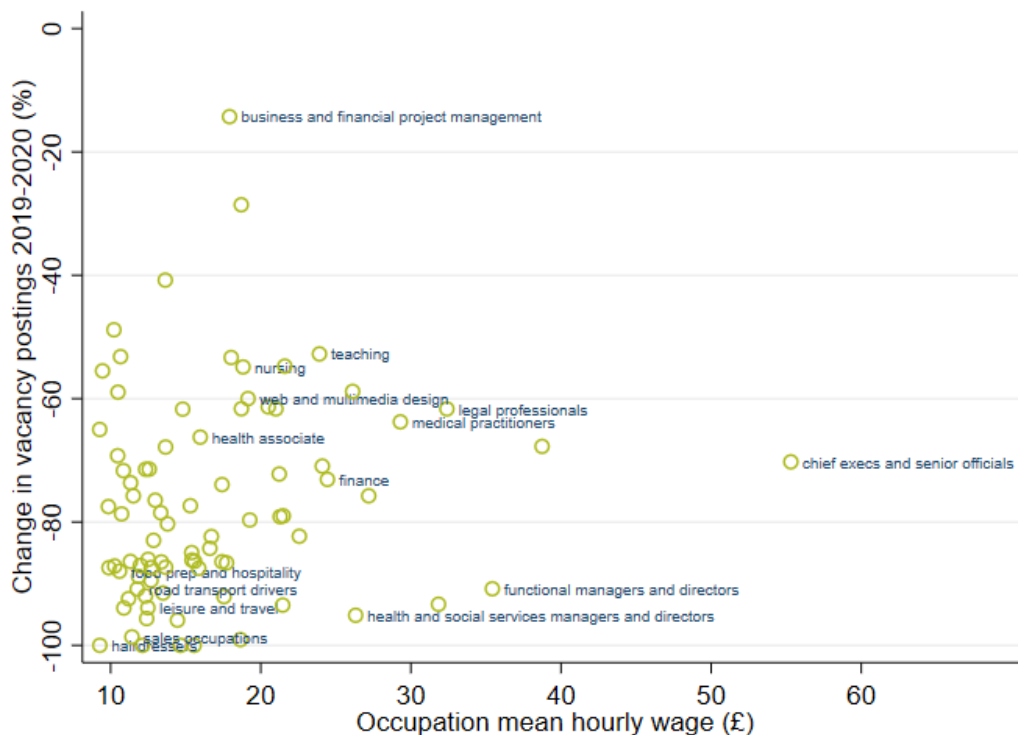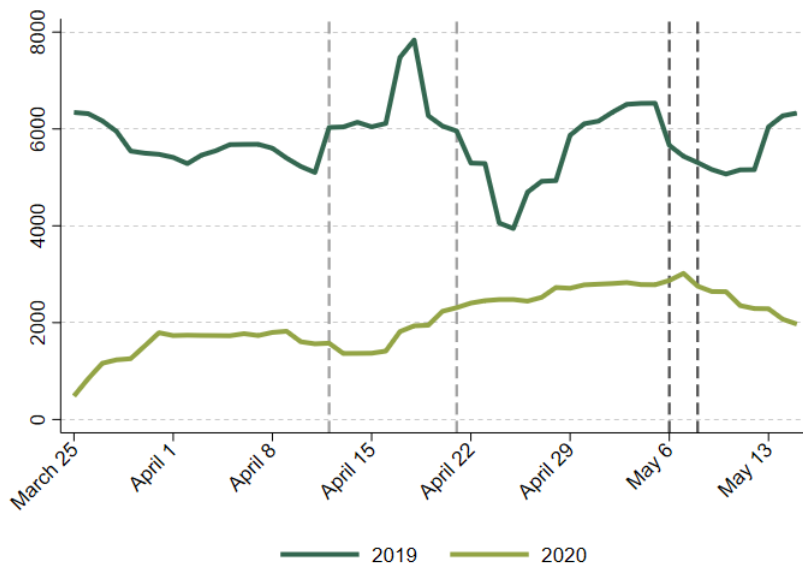

Note: First week of April defined as 1–7 April in 2019 and 30 March–5 April in 2020. Occupations are grouped at the three-digit Standard Occupational Classification (SOC) code level.

Source: DWP FAJ website and the Annual Survey of Hours and Earnings.

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[4] https://www.hiringlab.org/uk/blog/2020/05/18/uk-postings-through-may-15/.

Figure 2. New daily vacancy postings, 2019 and 2020

Note: Trend lines show seven-day backward-looking moving averages. Light grey dashed lines indicate Easter Sunday (21 April 2019 and 12 April 2020) and dark grey dashed lines indicate the first May Bank Holiday (6 May 2019 and 8 May 2020).

Source: DWP FAJ website.

There have been some signs of a very limited recovery in recent weeks, as shown in Figure 2, which plots daily new vacancy postings in 2019 and 2020. The gap in vacancies relative to 2019 started to narrow over the course of April, so that by the last week of April, new vacancy postings stood at around half their 2019 levels. The fluctuations in mid April and at the start of May can be explained by the fall in postings that occurs each year in the days following Easter Sunday (marked by the dashed light grey lines) and the first May Bank Holiday (marked by the dashed dark grey lines).

New vacancy postings started to fall again on 7 May 2020, and have now been falling for a week. It remains to be seen whether this is indicative of a new trend, or whether it simply reflects fluctuations around the bank holiday – vacancy postings also fell continuously for six days after the 2019 May Bank Holiday. Notably, we have not seen a rise in vacancy postings following the Prime Minister's update on the conditional plans to reopen the economy on Sunday 10 May.

Whilst the early signs of recovery are encouraging – if very modest – job advert postings are not picking up evenly across the UK economy. In the rest of this note, we look at how trends in vacancy postings vary across occupations, job characteristics and geographic areas.

Occupations

The modest recovery in vacancies seen in the second half of April was almost entirely driven by labour demand in health and social care. This is clear in Figure 3, which shows the change in new daily vacancy postings between 2019 and 2020, split by occupations in

health and social care and other occupations.[5] Health and social care accounted for 30% of new vacancy postings on *Find a Job* between March and May 2019, and 12% of all employee jobs in 2019 Q2 based on the Labour Force Survey.[6] Whilst new health and social care vacancies rebounded from less than a fifth of their 2019 levels in late March to just under their 2019 levels around the May Bank Holiday, the recovery in other occupations was much more modest. At the start of May, new vacancy postings in other occupations were still more than 60% below their 2019 levels.

We can see this in more detail by looking at changes in vacancy postings across occupation groups. The top panel of Figure 4 shows the five occupations with the largest vacancy gap in the first week of April between 2019 and 2020, as well as the five occupations with the smallest 2019-to-2020 vacancy gap. The bottom panel does the same for the first week of May. The first week of May is defined as the week from Monday 29 April to Sunday 5 May in 2019, and from Monday 27 April to Sunday 3 May in 2020, to avoid capturing fluctuations following the first May Bank Holiday.[7]

Figure 3. Change in new daily vacancy postings, 2019 to 2020, for health and social care and for other occupations
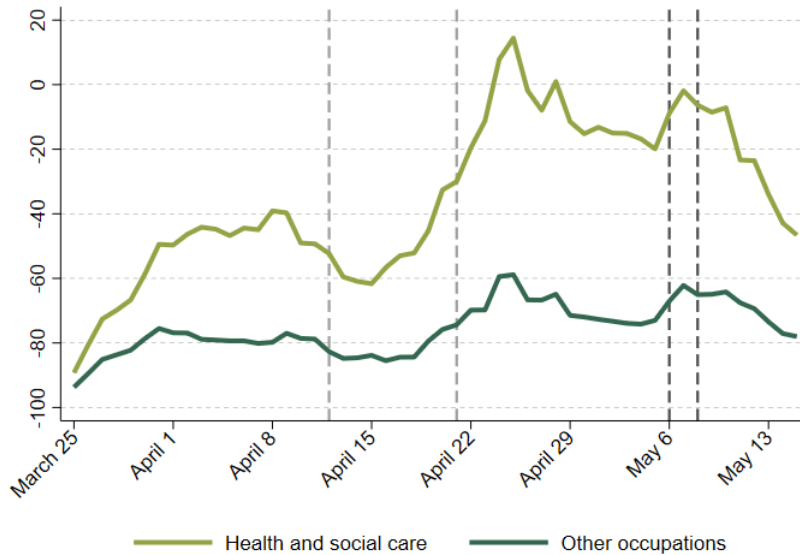
Note: Trend lines show seven-day backward-looking moving averages. Light grey dashed lines indicate Easter Sunday (21 April 2019 and 12 April 2020) and dark grey dashed lines indicate the first May Bank Holiday (6 May 2019 and 8 May 2020). Health and social care workers are defined at the four-digit SOC code level based on the ONS classification.

Source: DWP FAJ website.

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[5]   This is based on the Office for National Statistics (ONS) classification of health and social care occupations: https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/causesofdeath/bulletins/coro naviruscovid19relateddeathsbyoccupationenglandandwales/deathsregistereduptoandincluding20april2020#o ccupation-exposure-for-covid-19.

[6]   As explained in the appendix, DWP's *Find a Job* website is likely to over-represent public sector vacancies.

[7]   The first week of April is similarly defined to capture the first week (Monday to Sunday) that falls in April: Monday 1 April to Sunday 7 April in 2019 and Monday 30 March to Sunday 5 April in 2020.

Figure 4. Change in new vacancy postings 2019 to 2020, by week and occupation
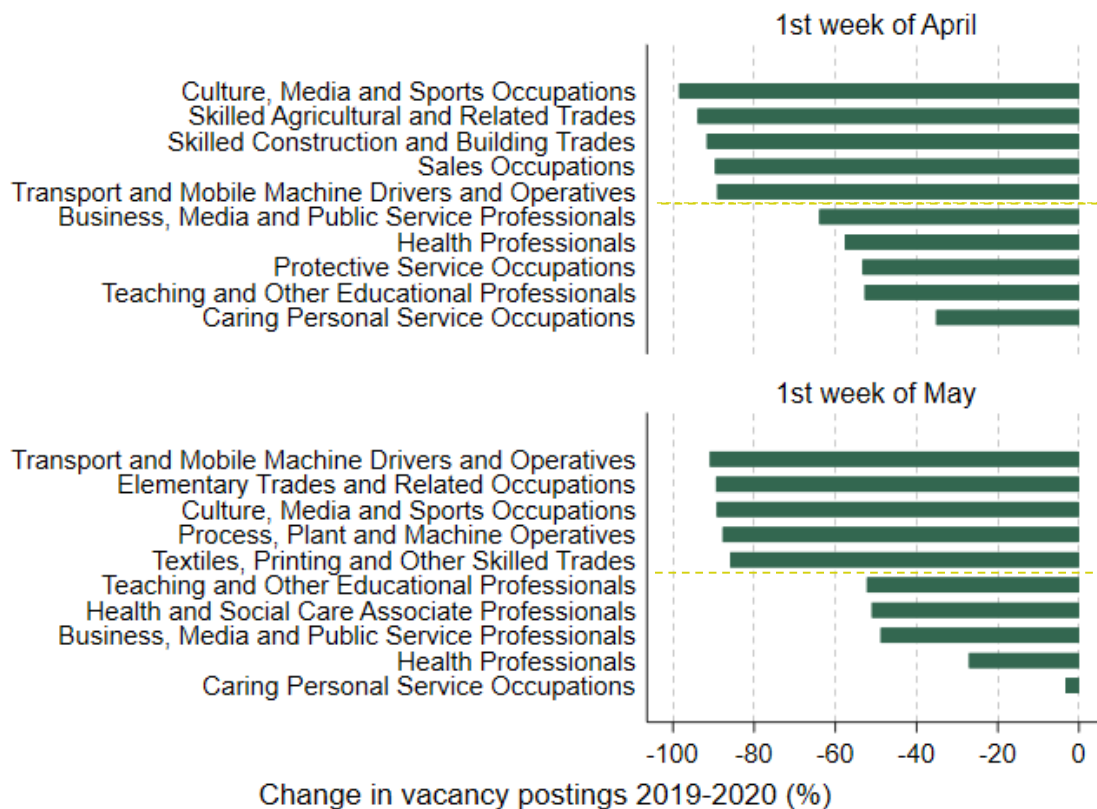
Note: Occupations are grouped at the two-digit SOC code level. First week of April defined as Monday 1 April to Sunday 7 April in 2019 and Monday 30 March to Sunday 5 April in 2020. First week of May defined as Monday 29 April to Sunday 5 May in 2019 and Monday 27 April to Sunday 3 May in 2020.
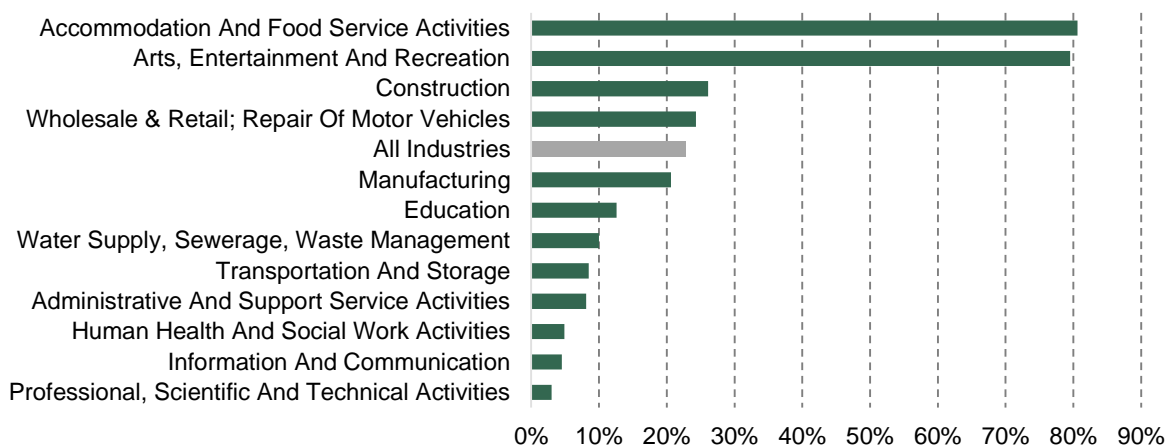
Source: DWP FAJ website.

Figure 4 shows that there has been some recovery in vacancies for caring personal service occupations, health professionals and health and social care associate professionals, and to a lesser extent in vacancies for business, media and public service professionals, a group that comprises legal professionals (barristers, judges etc.), administrative professionals (project managers, actuaries, economists, statisticians etc.), welfare professionals (social workers etc.), librarians and journalists.

By contrast, there appears to be very little, if any, rebound in the demand for occupations that have been directly affected by social distancing measures, namely transport, culture and certain parts of manufacturing. Not surprisingly, some of those occupations are among those having experienced some of the highest temporary and permanent job loss rates in early April.[8]

Unsurprisingly, demand is lower for occupations that are concentrated in industries that have seen most closures. Figure 5 uses new data from the Business Impact of COVID-19 Survey (BICS), collected by the Office for National Statistics (ONS), to show the proportion

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[8]   A. Adams-Prassl, T. Boneva, M. Golin and C. Rauh, 'Inequality in the impact of the coronavirus shock: new survey evidence for the UK', 2020, https://filecloud.socsci.ox.ac.uk/ui/core/index.html?mode=single&path=/SHARED/sarah.morrish/ZlcmPEeorjMd2o51.

Figure 5. Proportion of firms that temporarily closed or paused trading, by sector

Note: Shows the proportion of firms in each sector that temporarily closed or paused trading during the period 6–19 April 2020.

Source: ONS, Business Impact of COVID-19 Survey.

of firms that temporarily closed or paused trading by sector during the period 6–19 April 2020. The large majority of the hospitality and arts and entertainment sectors has been closed down, and the same happened to between 20% and 26% of all firms in construction, wholesale and retail, and manufacturing. Firms in sectors that continue to operate regularly either because they supply key services, such as health, or because their activities are compatible with working from home, such as the professional and scientific sector, have been less affected.

Firms that have temporarily ceased trading have furloughed over 80% of their workforce, while the figure for active firms is 26% (ONS, BICS). A key question is whether the skills of these workers are useful for the types of jobs that are slowly becoming available, and whether they live close to these new vacancies. We will explore this in further work once more information on workers who lost their jobs becomes available.
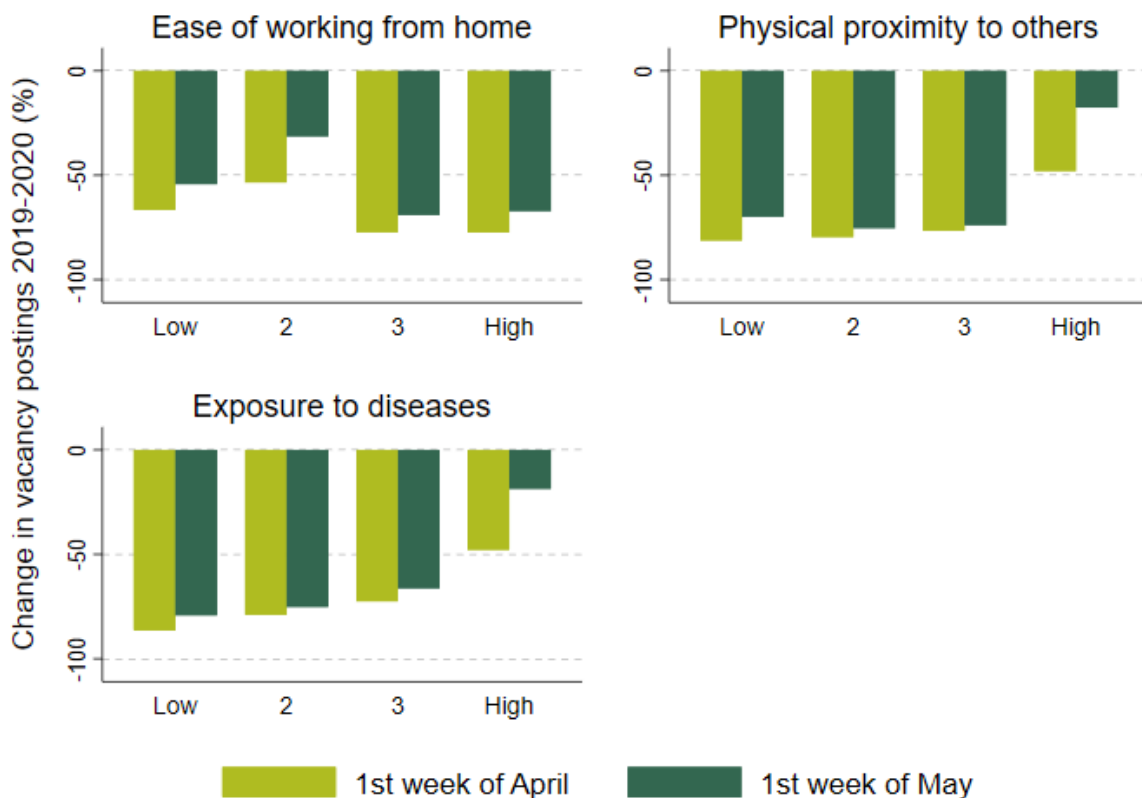
Working from home and exposure to the virus

Figure 6 shows how the recovery in recent weeks varies across occupations with different abilities to observe social distancing measures. This is important both for the risks that new hires will take on and for their potential to spread the virus. We consider three dimensions that are relevant for social distancing: the ease of working from home, the extent to which occupations involve working in physical proximity to others, and the extent to which workers are exposed to diseases in their jobs. These are all based on the task content of jobs in O*NET data; the first uses an index constructed by Dingel and Neiman (2020)[9] and the latter two are based on an ONS classification.[10] We group these indices into four discrete groups based on values for the quartiles of the distribution of vacancy postings in 2019.

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[9] https://bfi.uchicago.edu/working-paper/how-many-jobs-can-be-done-at-home/.

[10] https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/whichoccupationshavethehighestpotentialexposuretothecoronaviruscovid19/2020-05-11.

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Figure 6. Change in new vacancy postings 2019 to 2020, by week and social distancing ability
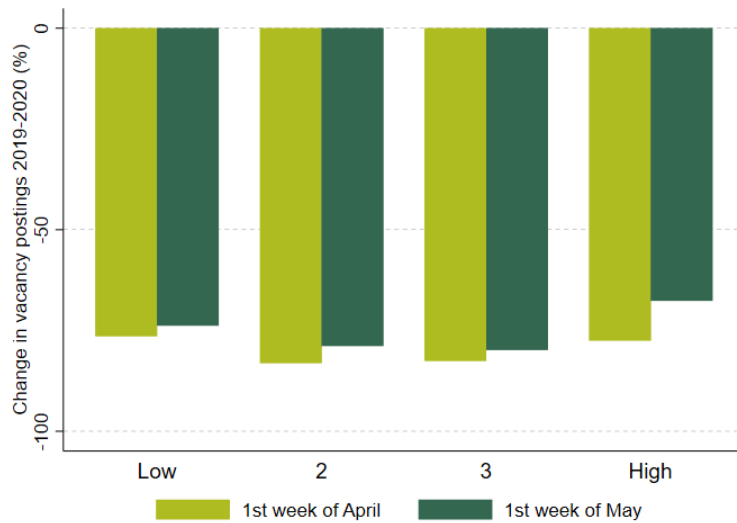

Note: First week of April defined as Monday 1 April to Sunday 7 April in 2019 and Monday 30 March to Sunday 5 April in 2020. First week of May defined as Monday 29 April to Sunday 5 May in 2019 and Monday 27 April to Sunday 3 May in 2020. Ease of working from home based on Dingel and Neiman (2020). Physical proximity and exposure to diseases based on ONS classification. Categories correspond to values for the quartiles of the distribution of vacancy postings in 2019.

Source: DWP FAJ website, Dingel and Neiman (2020; https://bfi.uchicago.edu/working-paper/how-many-jobs-can-be-done-at-home/) and ONS (https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/whichoccupationshavethehighestpotentialexposuretothecoronaviruscovid19/2020-05-11).

As Figure 6 shows, the recovery between the first week of April and the first week of May has been most pronounced in jobs where social distancing is difficult: jobs that are relatively hard to do from home, those that involve working in close proximity to others, and those that are more exposed to diseases. This largely reflects the fact that the recovery has been driven by demand for workers in health and social care, which poses relatively high health risks.

Outside health and social care, the (modest) recovery has been in occupations that can easily be done from home. This is shown in Figure 7, which shows the distribution of new vacancy postings by ease of working from home, *excluding* health and social care occupations. It is worth noting that some of these jobs involve working in close proximity with others in normal times – for example, there has been some recovery in new vacancy postings for teachers, sales and marketing professionals, and market research associates, who normally work face-to-face but are now largely carrying out their work online. To the

Figure 7. Change in new vacancy postings 2019 to 2020, excluding health and social care, by week and ease of working from home

Note: First week of April defined as Monday 1 April to Sunday 7 April in 2019 and Monday 30 March to Sunday 5 April in 2020. First week of May defined as Monday 29 April to Sunday 5 May in 2019 and Monday 27 April to Sunday 3 May in 2020. Health and social care workers are defined at the four-digit SOC code level based on the ONS classification. Ease of working from home based on Dingel and Neiman (2020). Categories correspond to values for the quartiles of the distribution of vacancy postings in 2019.

Source: DWP FAJ website, Dingel and Neiman (2020; https://bfi.uchicago.edu/working-paper/how-many-jobs-can-be-done-at-home/) and ONS (https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/whichoccupationshavethehighestpotentialexposuretothecoronaviruscovid19/2020-05-11).

extent that these jobs can now be done from home, they may not pose substantial health risks to new hires or risk spreading the virus further.

Preparation needed

Figure 8 shows how the change in new vacancy postings since 2019 varies by the amount of preparation needed to do the job. This is based on the O*NET classification of 'job zones', where low values indicate lower levels of required preparation.[11] The level of preparation needed for an occupation can be seen as a proxy for the amount of retraining needed for someone to switch into that occupation from another role. In March–May 2019, 44% of vacancies required 'none to some' preparation (e.g. drivers, cleaners), with the remaining vacancies split roughly equally between jobs requiring 'medium' preparation (e.g. teaching assistants, various administrative occupations), 'considerable' preparation (e.g. teachers, managers, engineers) and 'extensive' preparation (e.g. nurses, medical practitioners, scientists).

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[11] https://www.onetonline.org/help/online/zones.

Figure 8. Change in new vacancy postings 2019 to 2020, by week and preparation needed
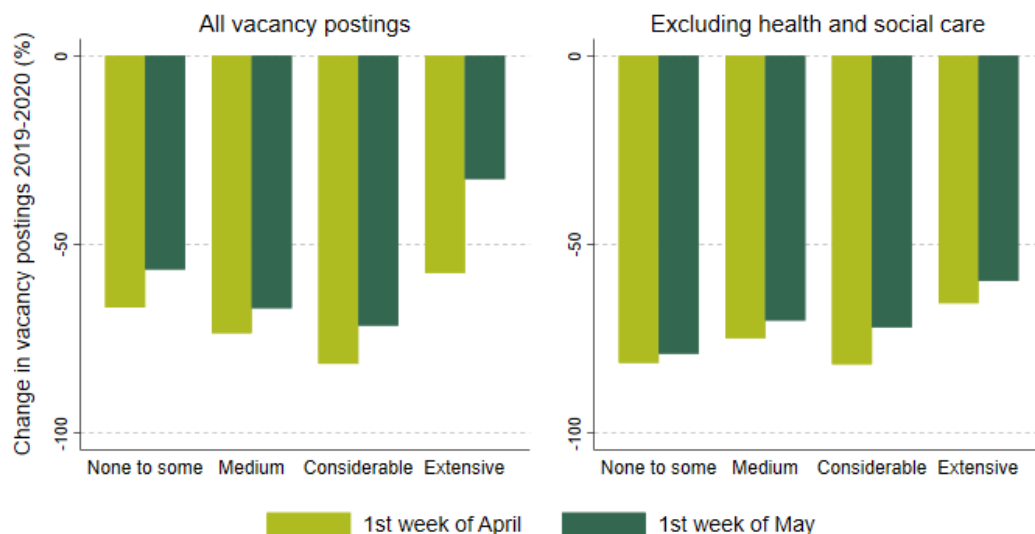
Note: First week of April defined as Monday 1 April to Sunday 7 April in 2019 and Monday 30 March to Sunday 5 April in 2020. First week of May defined as Monday 29 April to Sunday 5 May in 2019 and Monday 27 April to Sunday 3 May in 2020. Health and social care workers defined at the four-digit SOC code level based on the ONS classification. Job zones based on O*NET classification, mapped from US to UK SOC codes and rounded to the nearest integer. We group together job zones 1 ('little or no preparation') and 2 ('some preparation'), as only 1% of vacancy postings in March–May 2019 had a value of 1.
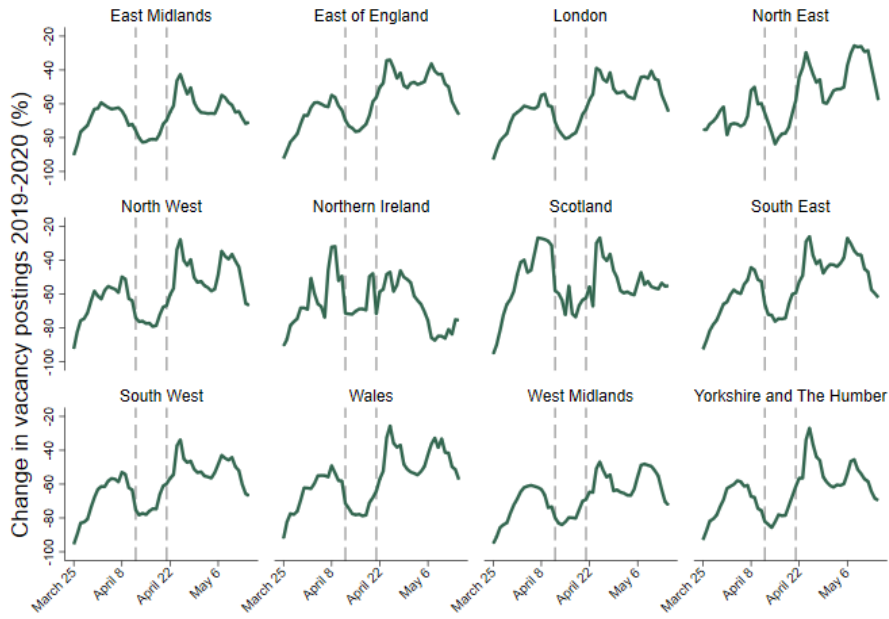
Source: DWP FAJ website and O*NET.

The left-hand panel of Figure 8 shows that across all occupations, the fall in vacancies at the start of the lockdown (relative to 2019) was smallest among occupations that require extensive preparation, and the rebound was by far the largest among this group. In the first week of May, new vacancy postings for jobs requiring extensive preparation were back to about three-quarters of their 2019 levels. This largely reflects recovering demand for healthcare workers. However, the right-hand panel of Figure 8 shows that even excluding health and social care occupations, labour demand has recovered more in occupations that require higher levels of preparation, whereas new vacancies in jobs that require little to some preparation are still nearly 80% lower than in 2019. This indicates that workers who have been furloughed or made unemployed as a result of the pandemic – concentrated in shut-down sectors such as retail and hospitality – are likely to struggle to fill vacancies in areas where labour demand is recovering, due to the extensive training required to do those jobs.

Geography

Figure 9 shows trends in vacancy postings in each region of the UK. It suggests that there are no substantial differences in the time patterns of job postings across regions. Figure 10 shows the same series, this time broken down by urban category of the location of the job advert, and again suggests that job postings evolved on remarkably similar paths in rural, urban and semi-urban areas.
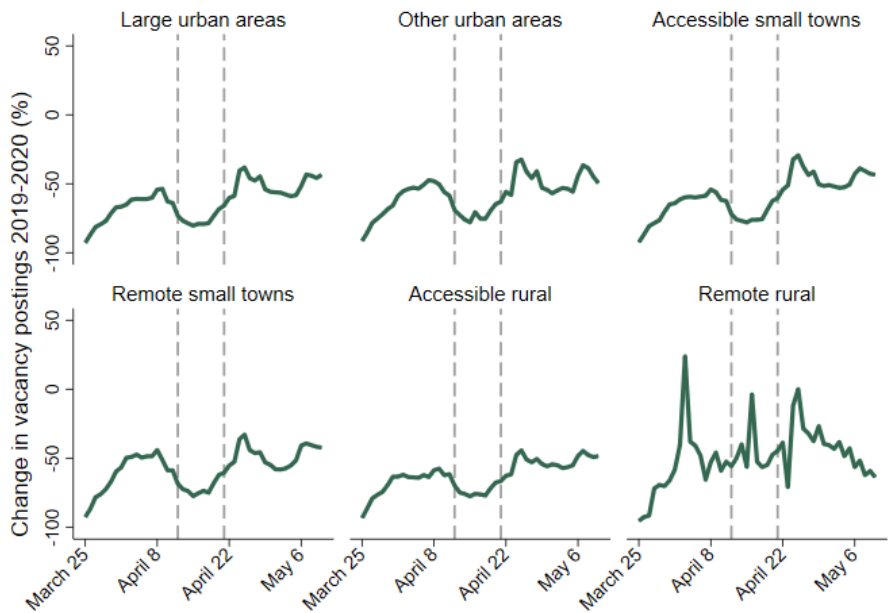
Figure 9. Change in new daily vacancy postings 2019 to 2020, by region

Note: Trend lines show seven-day backward-looking moving averages. Dashed lines indicate Easter Sunday (21 April 2019 and 12 April 2020).

Source: DWP FAJ website.

Figure 10. Change in new daily vacancy postings 2019 to 2020, by rural–urban classification


Note: Trend lines show seven-day backward-looking moving averages. Dashed lines indicate Easter Sunday (21 April 2019 and 12 April 2020). Classification defined at the lower super output area (LSOA) level.

Source: DWP FAJ website.

Small but systematic differences start to appear when looking across deprivation levels. Figure 11 shows the vacancy gap relative to 2019 across different local authorities, grouped by quintiles of the Index of Multiple Deprivation (IMD), in the first week of April
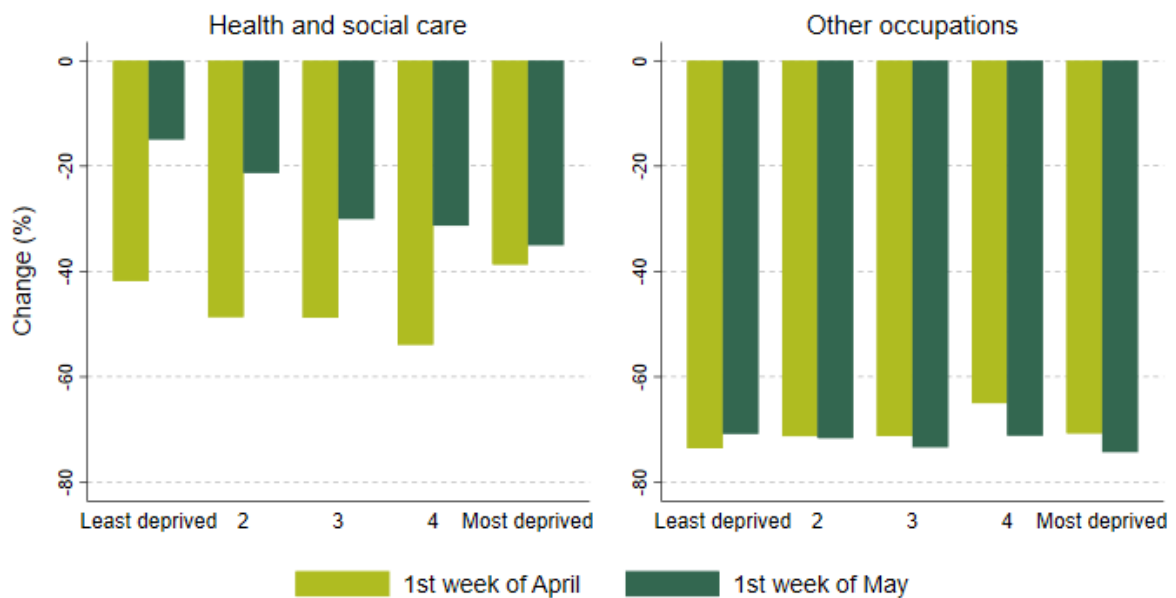
Figure 11. Change in new vacancy postings 2019 to 2020, by week and IMD quintile
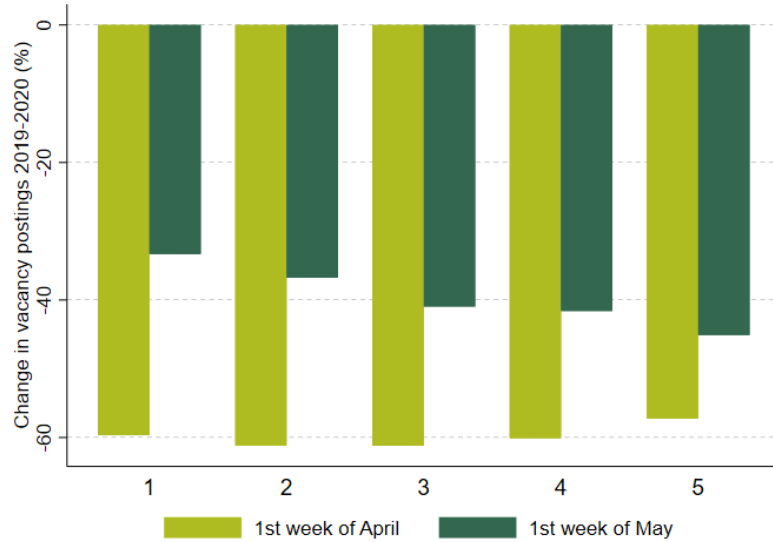
Note: IMD calculated at the local authority level.

Source: DWP FAJ website.

Figure 12. Change in new vacancy postings 2019 to 2020, by week, IMD quintile and occupation group

Note: IMD calculated at the local authority level. Health and social care workers defined at the four-digit SOC code level based on the ONS classification.

Source: DWP FAJ website.

and the first week of May.[12] It suggests that, while the initial drop in job postings was evenly distributed across the IMD distribution (as it was for wages), the start of the recovery seems slightly faster in more affluent areas (those with a lower IMD).

This is mainly driven by the fact that the recovery in health and social care vacancies has been concentrated in more affluent areas. In the first week of May, total new vacancy postings in health and social care were back to 85% of their 2019 levels, but the rebound was not evenly distributed. As shown in the left-hand panel of Figure 12, new vacancy postings for health and social care jobs in the least deprived fifth of local authorities were 15% lower than in the corresponding week in 2019, whilst those in the most deprived fifth remained 35% lower. Vacancies in other occupations have continued to fall in more deprived areas but not in the most affluent areas, as the right-hand panel of Figure 12 shows, though the difference is much less pronounced.

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[12] This graph is based on job postings for which we have reliable postcode information – a little over two-thirds of all vacancies.

Appendix. Data sources

This analysis uses data on job adverts posted on *Find a Job* (FAJ), a recruitment website maintained by the Department for Work and Pensions (DWP). To advertise a job on the website, a firm must create a profile and enter key information on each job opportunity, including job title, location and the closing date. Unlike other recruitment websites, no attempt is made to 'scrape' job adverts from other websites and therefore the FAJ data should be interpreted as a subset of all job opportunities. As of 12 May 2020, there were 60,833 vacancy postings listed on FAJ. This is 18% of the 332,057 vacancy postings listed on Indeed.com, a recruitment website that aggregates vacancies across company websites and job boards and aims to include all jobs listed online. FAJ is likely to over-represent public sector vacancies, as these are required to be listed on FAJ.

Data on job adverts posted during 2019 were made available by the DWP following a Freedom of Information request. These data contain information on all job adverts that were posted on the website between its launch in May 2018 and July 2019. Data on job adverts posted during 2020 were obtained using a web-scraping algorithm that records information on all job adverts that have been posted on the website in the last 24 hours. This algorithm has been run on a daily basis since 23 April 2020 (at approximately 10am each day). This daily time series is combined with data on all job adverts that were 'live' on the website on 23 April 2020, obtained using a modification of the web-scraping algorithm. This means that adverts posted in 2020 before 23 April that were removed from the website before that date are missing from the data. This would affect job adverts with an advertised closing date before 23 April 2020 and those that were manually removed from the website by the firm – for example, because the job position had been filled. Although this risks systematically understating job vacancies in early April 2020 relative to 2019, it appears that the overwhelming majority of job adverts record a closing date that is exactly one month after the date they were posted. This gives us confidence that the 2020 data are representative of adverts posted on the website from 23 March onwards.

Information on when job adverts were removed from the website is missing from both the 2019 and 2020 data. We are therefore unable to construct an accurate measure of the stock of vacancies on the website at any given time and so we confine our analysis to the flow of new postings added to the website on a particular date. Each job advert contains a unique identifier, which we use to identify and remove duplicate job postings.

We have supplemented the information available in the 2019 and 2020 data with occupation codes and various geographic identifiers. Occupation codes are derived from a cleaned version of the job title using the 'SOC search' operation available at http://api.lmiforall.org.uk. Geographic identifiers are derived for the subset of vacancies that contain a complete postcode in the location field (approximately 63% of adverts in 2019 and 68% of adverts in 2020), using the 'postcodes' operation available at https://findthatpostcode.uk/#api.