Shortage Methodology review

February 2023

MAC

MIGRATION ADVISORY COMMITTEE

Contents

Introduction

The Shortage Occupation List (SOL) shows which occupations are considered both in 'shortage' i.e. where employers find it problematic to secure adequate numbers of workers with the required skills to fill their vacancies **and** where the Migration Advisory Committee (MAC) judge that migration is a sensible response to that shortage. These occupations are then subject to different, more favourable, migration arrangements, enabling employers to access a wider pool of suitable workers.

The MAC have reviewed occupations for inclusion on the SOL since 2008. In that time we have reviewed our methodology on several occasions, most recently in 2017. This paper sets out the results of our most recent methodology review.

The MAC SOL methodology, first described in 2008 and revised over subsequent methodology reviews, uses two broad criteria to decide which occupations should go onto the SOL. It asks whether:

1. The occupation is in **shortage** – this is based on indicators, from a range of datasets, which look at wages, vacancies and employment, combined with evidence from stakeholders
2. It is **sensible** to fill this shortage with migrant workers – this considers whether putting the job on the SOL is likely to be the most effective and appropriate response to shortage. Evidence from stakeholders contributes to this decision.

In this methodology review we have primarily focussed on strengthening our shortage evidence base through the creation of a data dashboard for stakeholders and have reviewed our Call for Evidence (CfE) questionnaires, which form an integral part of the sensible criterion.

Skilled

The MAC previously included 'skilled' as a third criterion for SOL eligibility, as occupations were required to meet the skill level necessary for inclusion in the Skilled Worker Route to be considered eligible for the SOL. This is no longer the case.

Skill levels are set by the Government using national datasets. These place occupations into groupings depending on their Regulated Qualifications Framework (RQF) level. The occupations themselves are defined by the Standard Occupational Classification (SOC) groupings.

When the MAC are commissioned to review the SOL, the Government states which occupations are considered in scope. In general, occupations must be classified at RQF3 (broadly equivalent to A-Level qualifications) or above to be eligible for the Skilled Worker Route, and thus the SOL. In very rare cases, such as Care Workers and Home Carers (SOC 6145), the MAC have recommended that occupations below RQF3 are added to the SOL. This is based on a very high bar of evidence, including the important social value of the occupation.

Shortage

Historically the MAC has assessed shortage by examining various indicators taken from national datasets. We have assessed our previous shortage methodology and streamlined these indicators. In addition, our CfE, which has generally been focussed on assessing our 'sensible' criterion, will be expanded to seek further qualitative evidence in support of shortage. The new indicators will be incorporated in to the CfE, as charts in a dashboard, to allow stakeholders to provide improved insight into how we make our decisions, and what evidence we require to establish whether an occupation is in shortage.

Reviewing our shortage indicators

In our 2020 SOL review we outlined 9 shortage indicators. These were then each individually ranked, with those rankings feeding into an overall shortage ranking. We examined these alongside stakeholder evidence to establish where occupations were in shortage.

Through reviewing our methodology, we re-evaluated the relative importance of the supplementary qualitative evidence we receive through stakeholder engagement and our CfE, and how it connects to the data. Contextualising the trends in the variables has been key in assessing shortage as often there are many other factors influencing what we observe. The data and evidence from stakeholders are used together to assess shortage. It is with this in mind that we have chosen to simplify our quantitative methodology, so as to integrate it within our CfE. This has led to us producing 4 indicators which will be shared alongside the CfE.

The 4 indicators chosen are detailed in Table 1.1 below. The MAC has always maintained a diverse range of shortage indicators, generally falling into the categories of volume-based, employment-based, and price-based, as explained in our 2020 SOL review. We have ensured that these three categories of indicators have been represented in our new methodology. Of the 4 indicators, 3 are taken directly from our previous set of 9 indicators. The remaining indicator, change in total hours worked, is similar to a previous indicator (V3) and looks to summarise the volume-based indicators we have previously observed. We will examine each of the charts individually rather than creating an overall average rank across all indicators. We believe an overall rank can often be misleading as it loses the nuance of individual indicators through aggregation.

We will continue to produce all 9 indicators previously used for internal consistency purposes. The 4 charts present in our dashboard however contain a wide enough selection of indicators and have the significant advantage of being more accessible to stakeholders.

Table 1.1 Chart Indicators

Chart	Description	Dataset(s) used	Corresponding Indicator	Category of indicator
A	Change in the real median hourly pay of the occupation (Indexed)	ASHE and CPIH	P1	Price based
B	Change in the total hours worked by all employees in the occupation (Indexed)	APS	N/A	Volume based
C	Potential workers previously employed in the occupation and now not employed	APS	AV1	Volume based
D	Vacancies posted online per 100 employees	APS and Analyst (formerly known as Burning Glass)	E2	Employment based

Note: Annual Survey of Hours and Earnings (ASHE), Annual Population Survey (APS) and Consumer Price Index including owner occupiers' housing costs (CPIH)

Chart A - Change in median hourly pay

Chart A displays the indexed annual percentage change of the real median weekly salary for each occupation. It is a price-based indicator, an important category as the price of labour, or rather the wage offered, is often reactive to shortage. When an occupation is experiencing shortage, firms may attempt to attract more employees by increasing their pay offer. Increases in wages are often a response to shortage.

Figure 1.2 Example Chart A: Managers and directors in storage and warehousing

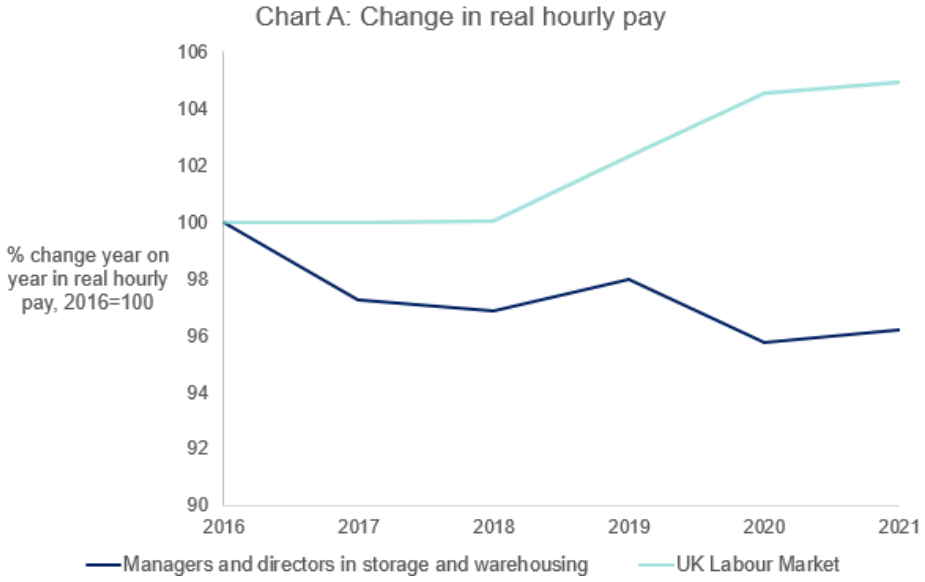


Chart B - Change in total hours worked

Chart B displays the indexed annual percentage change in the total aggregated hours worked by all employment in each occupation. This is a volume-based indicator, meaning it looks to capture the demand for workers in each occupation: when demand is high and growing, there are likely to be pressures on employment. Increases in total hours worked may be the result of additional employment hired and/or additional hours worked by existing employment. Both may be indicative of shortage, as they suggest an increasingly desired occupation with increased demand for those working in it. A positive change in hours worked may however also result from shortages being filled, or conversely a decline may be caused by an ageing workforce. By viewing each indicator individually, across a longer time frame and with additional qualitative evidence we may better discern the driving force of the trend.

Figure 1.3 Example Chart B: Managers and directors in storage and warehousing

Chart C - Potential workers previously employed in the occupation and now not employed

Chart C displays the number of potential workers relative to actual workers in each occupation. A potential worker is classified as someone who previously worked in the occupation and is now unemployed or out of the workforce. The figures are calculated using weightings to account for different groups' likelihood for starting employment. For example, it is much less likely that a retired person will restart employment than a parent with caring responsibilities, or an unemployed person. The weightings are based on the proportion of people over a 12-month period who were unemployed or inactive and start a new job. This creates an indicator for those likely to have the required skills and that are not currently employed but could be employed. The figures are then divided by the sum of the number of individuals still employed in the occupation as well as themselves to create a proportion of all those with recent/current experience who are not working. This is another volume-based indicator, and highlights where demand for the occupation may be lower than the supply of workers. A low number of potential workers may suggest skill shortages

and structural unemployment. A high number however may suggest firms could fill their employment gaps domestically and without significant training delays, and there may be a reason they are not, perhaps low demand.

Figure 1.4 Example Chart C: Managers and directors in storage and warehousing

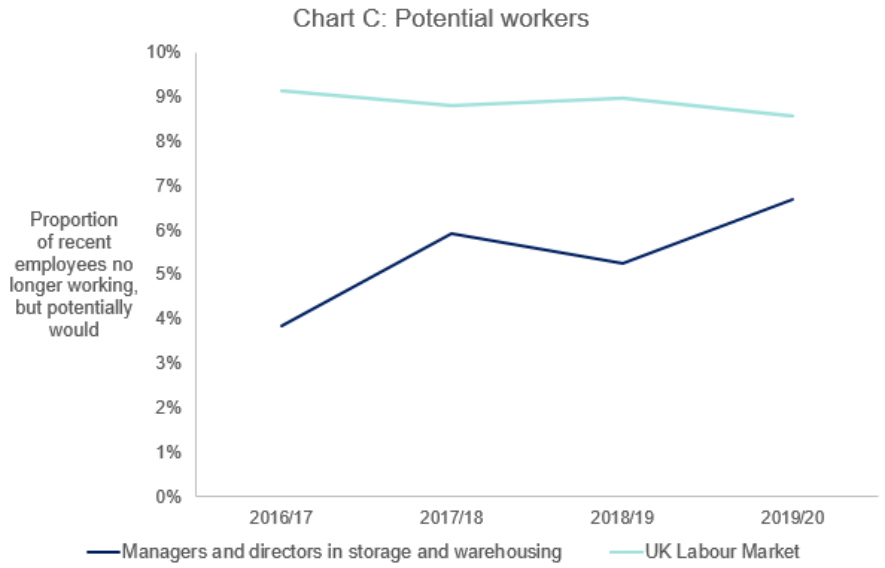
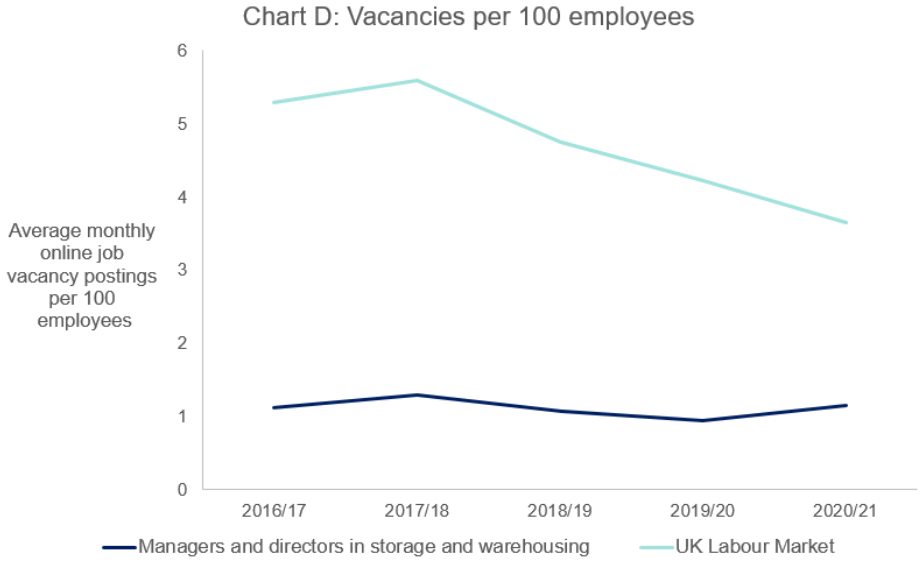


Chart D - Vacancies posted online per 100 employees

Chart D displays the monthly average number of online job vacancy postings per 100 workers already employed in that occupation. This is an employment-based indicator as it looks directly at those looking to hire workers. A large number of vacancies may suggest high demand and/or insufficient supply, which are both symptoms of shortage.

Figure 1.5 Example Chart D: Managers and directors in storage and warehousing



How we will use our new charts

Our updated methodology is intended to be clearer and easier to interpret. Moving away from ranking is a significant development allowing all the evidence (qualitative and quantitative) to be considered in the round. These include details of how the respondent's experience compares to what the chart shows, the reasons for this, and any other data that would be relevant in assessing their occupation.

Each indicator (in the 4 charts) will continue to be ranked individually for the most recent year available, to allow us to review occupations relatively. All charts will also feature a UK average to give context to how different the occupation's trend may be compared to the UK as a whole. It is not enough that an occupation is in shortage to the same extent as the whole UK labour market; the nature of the SOL is that it prioritises some occupations over others, and so comparison is important.

The MAC are keen for stakeholders to express where they agree or disagree with the data especially if an employer identifies specific issues not covered in the data, it is, therefore, our intention to make this data publicly available at the start of each SOL review so that respondents to the CfE can consider it when responding.

We will then complete a similar process internally, using our charts alongside relevant statistics and qualitative evidence to assess each occupation's candidacy to join the SOL. To retain a link from our previous methodology and ensure occupations who historically fell on the SOL are not missed by our new set of indicators, we will also calculate our ranking of 9 indicators internally, in the method laid out in our 2020 SOL review. We do not intend to aggregate our new set of indicators, rather we will assess each occupation's candidacy for the SOL holistically, and the output of our previous ranking will be an additional piece of evidence.

There is some international precedent for this approach to stakeholder engagement. Australia and New Zealand both present selections of data to nominated occupations in order to gain further evidence, as detailed in our 2020 review. Whereas these countries use 2-stage processes, we are condensing our survey and data presentation in to 1 stage, to allow for as many, and as varied responses as possible.

Data limitations

As with any data analysis there are limitations, though we hope the more holistic approach we have adopted will succeed in mitigating them. There are a number of limitations to the data used in the accompanying published dashboard.

One limitation is where occupations lack data. We have removed all data with sample sizes of less than 25, as is standard practice. This often leads to smaller occupations, who expectedly have smaller sample sizes, consistently having less data available to provide evidence of shortage. We explored methods to impute replacement data but concluded that this was potentially misleading and unhelpful. Instead, we are content that our extensive stakeholder engagement and qualitative research during SOL reviews will capture occupations with less quantitative evidence available.

We have also encountered issues with using the Annual Population Survey (APS) estimates to observe numbers of non-UK born individuals in the UK. These were outlined in our 2021 annual

report. This does not affect any of our charts, however it does affect a supplementary statistic provided in our dashboard (migrant density). We have chosen to report the pre-pandemic figures from 2019 at this current time, though will consider more up to date and reliable data should it become available.

Another limitation is the timing of our sources of data. Our current data sources extend to only 2021. Some datasets, notably APS and LFS, are unavailable at the occupational level beyond 2020. This is a result of data issues with ONS occupational data in these surveys which has been detailed on the ONS website. To mitigate this lag, we will also seek out real time qualitative data; our new more engaging and transparent methodology will hopefully create more opportunities to gather this. We will also look to examine real time quantitative data when available, such as from online job posting aggregator Analyst, who provide insight on postings and salaries.

For analysis using 2020 APS data we have used the 2020 weighting (PWTA20), we are aware of more recent releases of these data with updated weightings and will update ahead of a future SOL review.

Sensible

If an occupation has been identified as being in shortage, the sensible criterion is used to focus on whether placing the occupation on the SOL is the appropriate response. Organisations can solve labour market shortages with a variety of tools: they can improve job offers, for example with better wages or conditions to attract unemployed and out-of-work individuals; they can invest in automation and reduce dependence on labour in their production; they can improve education and training to improve productivity or fill skill shortages. Migration is just one option, frequently not necessarily the best one, and it is important for the MAC to gather evidence that other avenues are being explored, and that hiring migrant workers would be an effective and sensible route to choose. Generalised labour shortage, where all or many occupations face restrictions in their labour markets, should furthermore not be solved with the SOL, as we argued in our 2020 report. With this in mind, we have developed and expanded the questions in the CfE, our main tool for gathering evidence that migration is sensible.

Rationale for developing new CfE questions

The Call for Evidence (CfE) process invites views and evidence from stakeholders about jobs which they think should be considered for the SOL via online questionnaires. We have updated the CfE questions as part of this formal SOL methodology review to focus on questions which will give the MAC the most useful and compelling information to supplement our evidence base. To encourage respondents to provide information that will add value, we have included more guidance within the CfE about how to respond to the questions. It is however, not about making it easier to get an occupation onto the SOL.

The new questions largely focus on the 'sensible' criterion i.e. why migration is a sensible solution to recruitment needs, as this is an area that the MAC often lacks sufficient detail from respondents. To ensure consistency of questioning for future SOL reviews, it is our intention that the CfE questionnaires will be retained until the next formal review of the SOL methodology.

We have also updated the previous guidance which accompanied the CfE. Previously it explained what the MAC considered important when making decisions, but this was not always relevant to the respondent. We have updated it with a focus on the respondent and how they can provide useful information. We have included much more comprehensive guidance within this document as well as in the CfE itself.

How we developed new CfE questions

We reviewed previous questionnaires, and although these incrementally changed over time to reflect changing priorities, the bulk of the content remained highly relevant. Previously there have been 2 questionnaires, one for employers and another for representative organisations such as representative trade bodies, and we have decided to retain this approach given that these 2 groups may respond slightly differently. We also recognise that individuals may wish to provide a personal view which does not reflect the views of their organisation or others and have therefore developed an additional questionnaire for this group.

Alongside reviewing the relevance of the existing questions, we looked back at response rates and removed questions that had limited impact on our previous analysis.

In addition, we reviewed questions from other relevant surveys (for example the Employer Skills Survey), to see if there were additional topic areas we could address.

We have included more open questions as they give the respondent the space to explain why they hold a view and to provide examples. Closed questions have previously had limited value as overall numbers have not permitted quantitative subgroup analysis (for example by sector). Open questions also give us a richness of data that closed questions do not.

We have considered where gaps remained in the previous questionnaires and have addressed these with new questions. We have improved the guidance within the questionnaires themselves by providing detailed examples of how respondents should be providing information and by providing further explanation of terminologies.

The questionnaires have been cognitively tested with stakeholders from a diverse range of sectors, locations and business sizes. We included both individuals who have some awareness of the purpose of the SOL and have recruited for a job which has been on the SOL, and others who have had limited experience and knowledge.

The process of cognitively testing the questionnaires involved sending out the questionnaire to respondents and asking them to record initial thoughts and feedback. This was followed up with a call to discuss their feedback, how they would answer our questions, how they understood the questions and what they felt did and did not work.

Moving forward

For future reviews of the SOL, we intend to implement the new methodology as outlined in this paper.

The MAC remains open to reassessment and changes to the methodology in the future as a result of any changes to the available data, or as a result of any significant change in the UK labour

market. Any significant changes in approach will be highlighted either in an updated methodology document or within a MAC review of labour market shortages.

Corrections

The following corrections have been made to this report in April 2023.

Location in document	Error	Reason for change	Detail of change
Page 5	States the wrong data source used in chart B.	Chart B has been updated to use APS as a data source.	Changes data source in chart B to APS.
Page 6	Text in paragraph under 'Chart B - Change in total hours worked' references employee instead of employment.	Chart B has been amended to use APS total employment.	Corrected text to reference employment.
Page 6	Figure 1.3 has new example chart.	Chart B has been updated to use APS as a data source.	Amended chart to example chart with APS data source.