

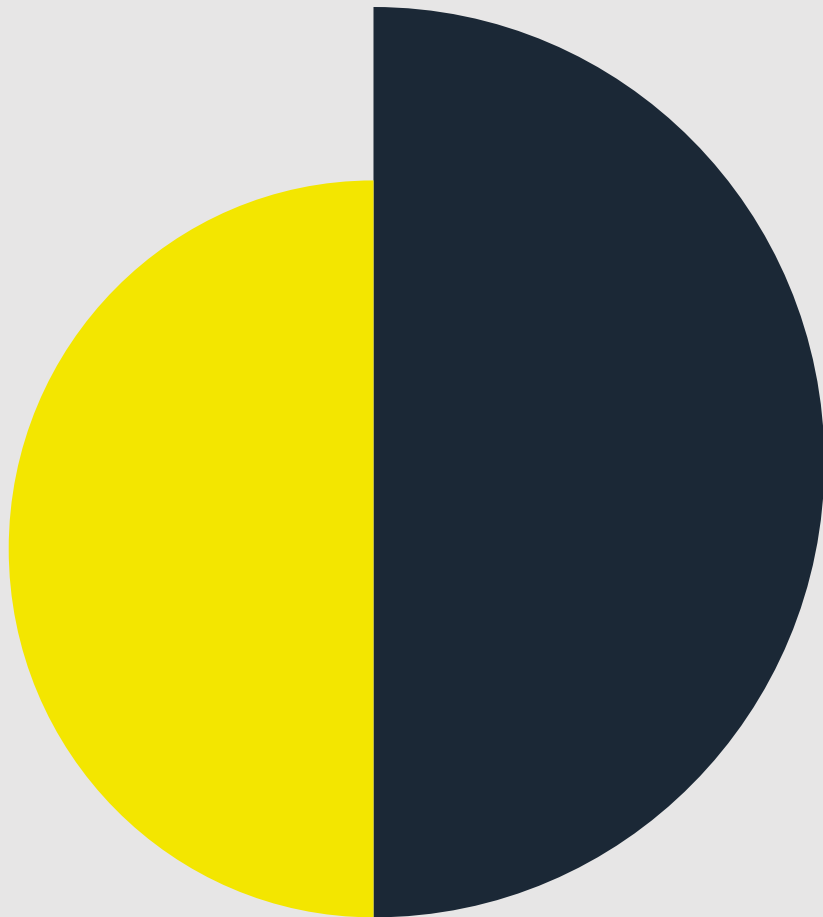
April 24, 2020

Who can work from home?

Disaggregated UK labour force estimates by wage level, sector, occupation, industry and region

Nick Spyropoulos

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Summary

To our knowledge, this study provides the first detailed estimates of the share of UK jobs that can be done from home by sector, occupation, industry, wage quintile and region.

Using UK Labour Force Survey data, it is estimated that 17.3 million UK workers are unable to work from home, equivalent to just over half (54%) of UK workers. This is lower for jobs in the public sector (50%) and higher amongst the self-employed (60%).

Only 1 in 4 workers in the bottom 20% of wage earners can carry out their work duties remotely, but 3 out of 4 workers in the top 20% can work from home.

There are large differences between UK countries and English regions. 60% of Londoners and a majority of workers in the South East can work from home, but in the North East and Northern Ireland fewer than 40% of workers can.

There is also very wide variation between occupations. The vast majority in finance and IT can work from home, but for many sectors (food and accommodation, agriculture, health and social work) working from home is impossible for the majority of workers.

Background

The question of which jobs can be done from home had received limited attention until the lockdowns imposed in several countries following the Coronavirus outbreak.

Answering this question has several important implications. Firstly, it helps us understand the health risks facing different groups of workers, as well as the economic impact of lockdowns. Secondly, it is critical to inform policy design both regarding the application of social distancing measures and in terms of administering economic aid to affected workers and companies.

Arriving at accurate estimates of the number of jobs that can be performed from home is difficult, as the number of jobs that can be done from home differs substantially from the number of jobs that were *actually* performed at home prior to the current crisis. A mere 5% of UK workers reported mainly working from home in 2019 (Office of National Statistics, 2020), while only 15% of working hours in the US were conducted from home prior to the pandemic (Hensvik et al., 2020).

Table 1: Overview of the literature on jobs that can be done from home

Authors	Approach	Country studied	Main results
Dingel and Neiman	Estimate	USA	<ul style="list-style-type: none"> • 34% of jobs can be done from home • Workers in tele-workable jobs typically earn more • Large variation of tele-workable jobs across cities and industries
Hensvik, Le Barbanchon and Rathelot	Descriptive statistics/ Historical data	USA	<p>Between 2011 and 2018:</p> <ul style="list-style-type: none"> • 15% of working hours were performed at home • 22% of workers spent some hours working from home • High-skilled workers worked more hours from home • Moderate correlation (0.46) between the tele-workability index in Dingel and Neiman and the share of hours worked from home found in that paper
Boeri, Caiumi and Paccagnella	Estimate	Multiple European countries	<ul style="list-style-type: none"> • 31% of UK jobs can be done from home • Tele-workable jobs are concentrated in services
Office of National Statistics	Descriptive statistics/ Historical data	UK	<p>In 2019:</p> <ul style="list-style-type: none"> • 5% of workers worked mainly from home • 27% of workers have previously worked from home at least once • Large variation of tele-workable jobs across industries • High skilled occupations were more likely to work from home • Homeworking was more prevalent in London, the South East and the South West • Workers aged under 30 much less likely to work from home than older workers
Alipour, Falck and Schüller	Estimate	Germany	<ul style="list-style-type: none"> • 56% of jobs can be done from home (upper bound estimate)¹ • Industries' ability to WfH ranges between 37% to almost 90% • Tele-workability of jobs increases with higher education and income • Tele-workability of jobs increases with higher education and income

¹ We note that this is an upper-bound estimate of jobs that can be done from home in Germany. This is because the measure used by the authors does not account for the fact that some jobs can only partially be performed from home.

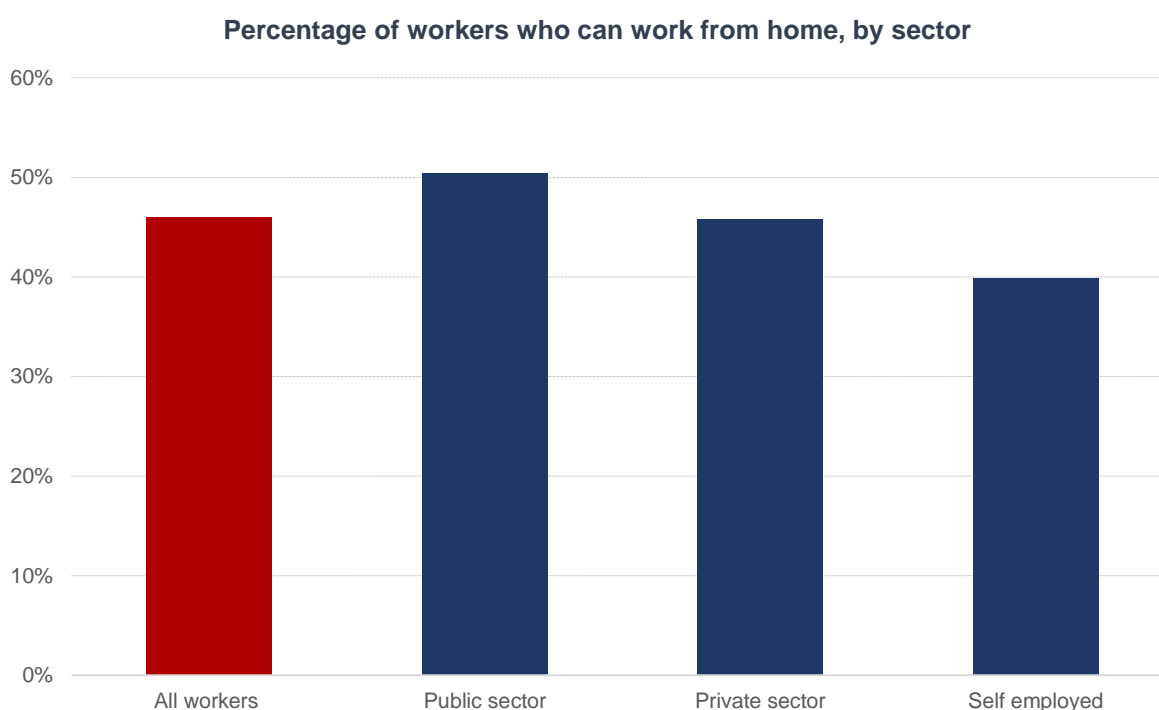
Methodology and results

We estimate the share of UK jobs that can be done from home by sector, occupation, industry, wage level and region.

Our approach consisted of the following steps:

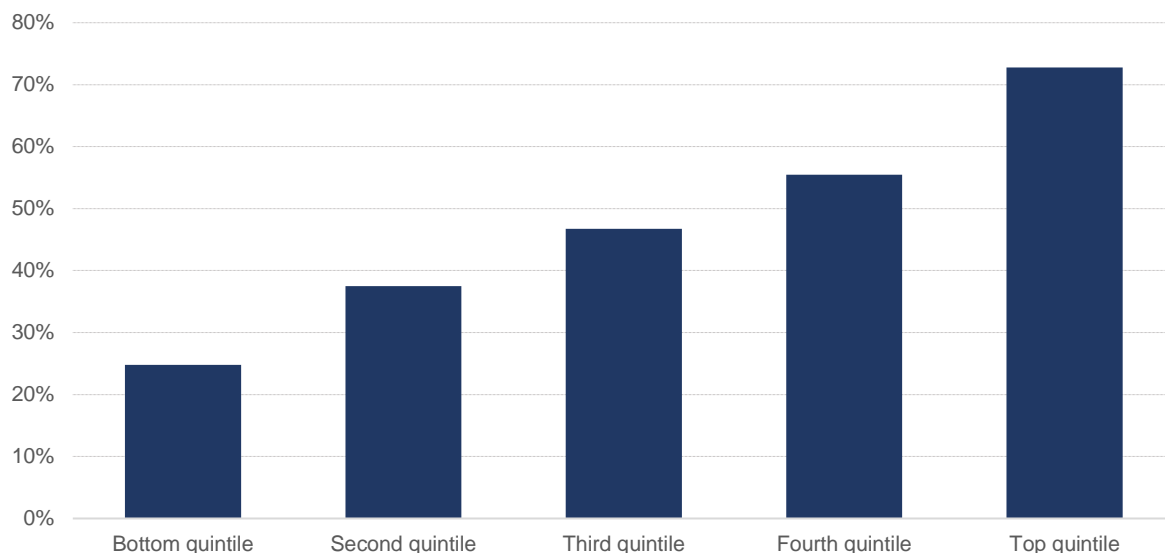
- We constructed a measure of the ability to work from home for a detailed classification of 367 occupations. To do so, we utilised information from the Labour Force Survey on the number of workers *mainly* working from home within each occupation in 2019, and we assumed that an occupation can be fully performed from home if at least some of the respondents in that occupation stated they mainly worked from home. Subsequently, we reviewed the measure and made 76 changes to the resulting classification based on other pieces of information available in the dataset (namely whether respondents work from different places with home as a base, and whether respondents work from the same ground or building **than** home), the wider literature, and our judgement.
- We combined our measure of the ability to work from home with individual-level Labour Force Survey data containing detailed information on workers' industry, occupation, region, and wages. We subsequently utilised the combined dataset to generate estimates of workers that can work from home by sector, industry, occupation, region and wage.
- Our focus is exclusively on workers' main jobs, and we do not attempt to capture the ability to work from home in any additional job they may hold.

Based on this methodology, it is estimated that 46% of UK workers can work from home. **This implies that 17.3 million UK workers are unable to work from home, equivalent to just over half (54%) of UK workers.** The proportion able to work from home is higher in the public sector (50%) than in the private sector (46%) and is lowest among the self-employed (40%).



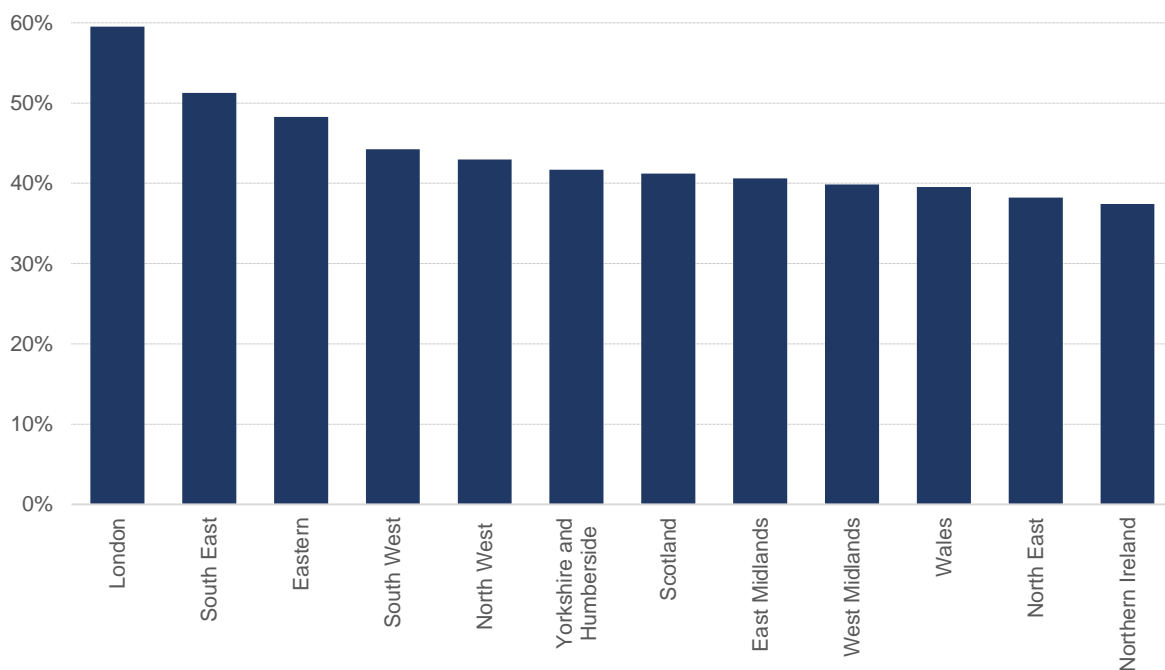
The proportion of workers who can carry out their work duties remotely varies very significantly across the income distribution. Only 1 in 4 workers in the bottom 20% of wage earners can carry out their work duties remotely, but nearly 3 out of 4 workers in the top 20% can work from home.

Percentage of workers who can work from home, by wage quintile



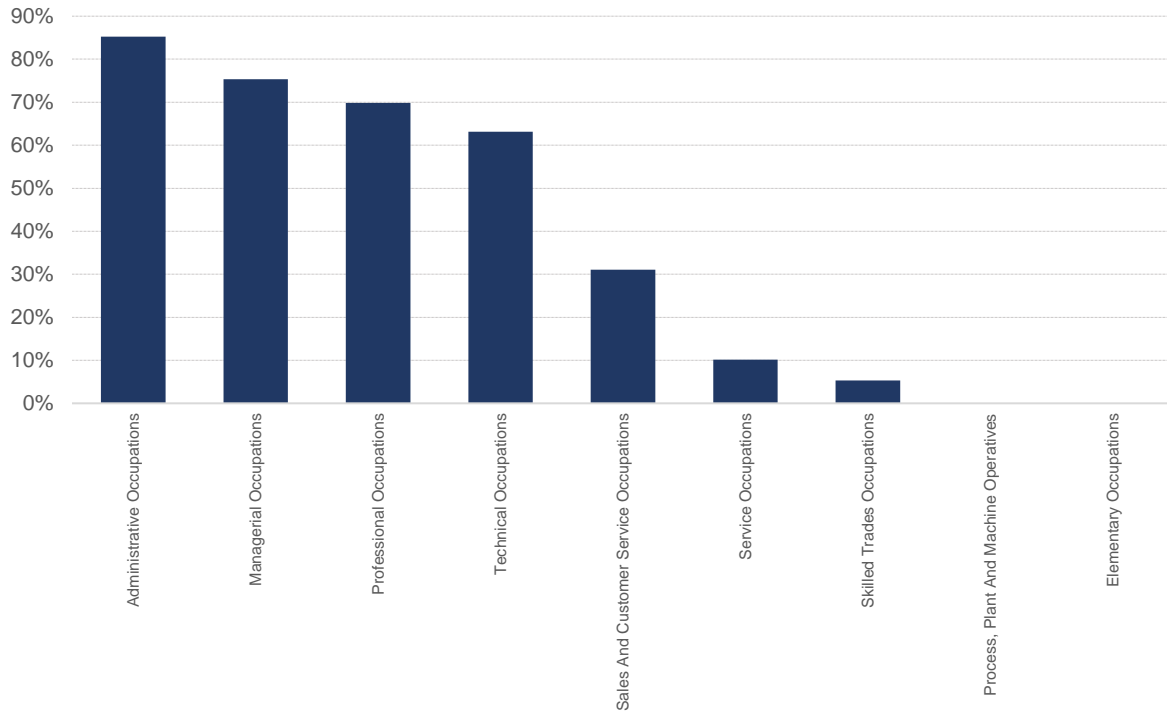
There is considerable variation by region. In London, nearly 60% of workers are able to work remotely but in the West Midlands, North East, Wales and Northern Ireland, the proportion of workers able to work remotely is 40% or lower.

Percentage of workers who can work from home, by UK country and English region

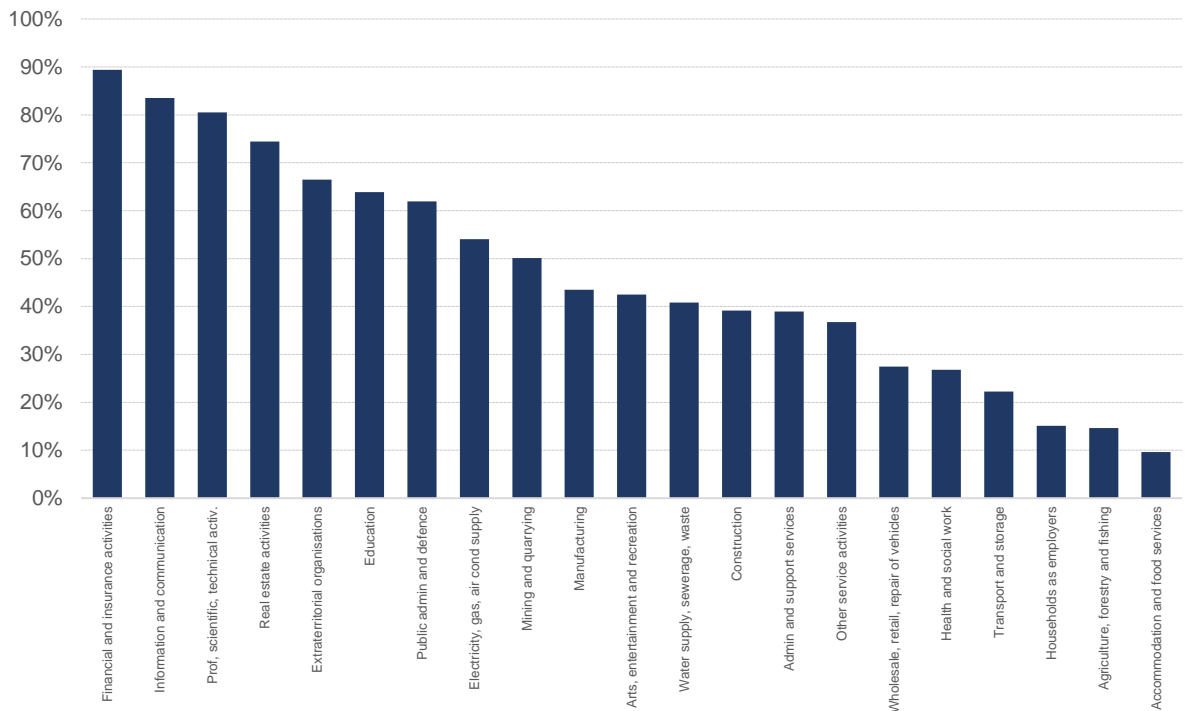


There is very wide variation between occupations. The vast majority in finance and IT can work from home, but for many sectors (food and accommodation, agriculture, health and social work) working from home is impossible for the majority of workers.

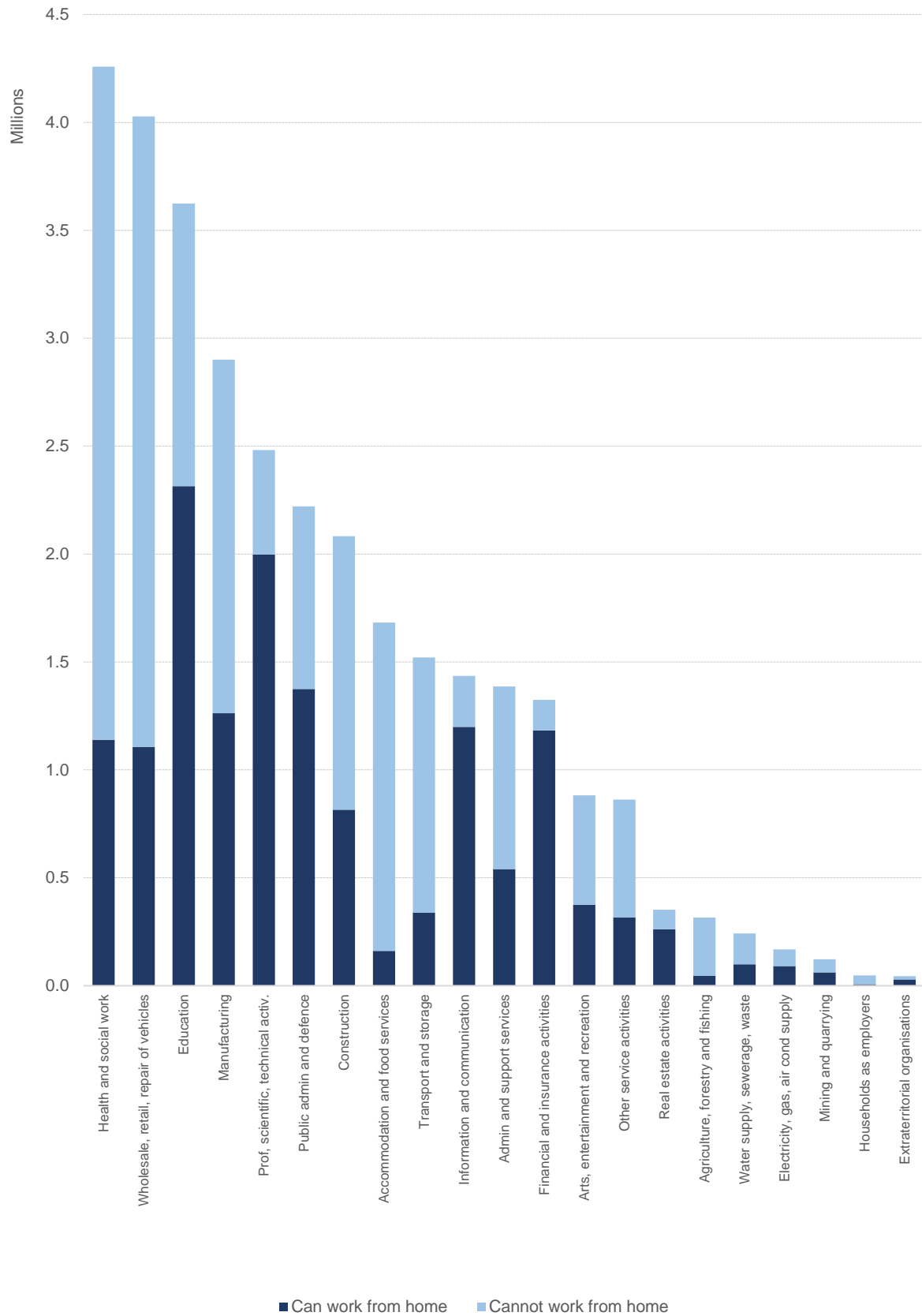
Percentage of workers who can work from home, by occupation



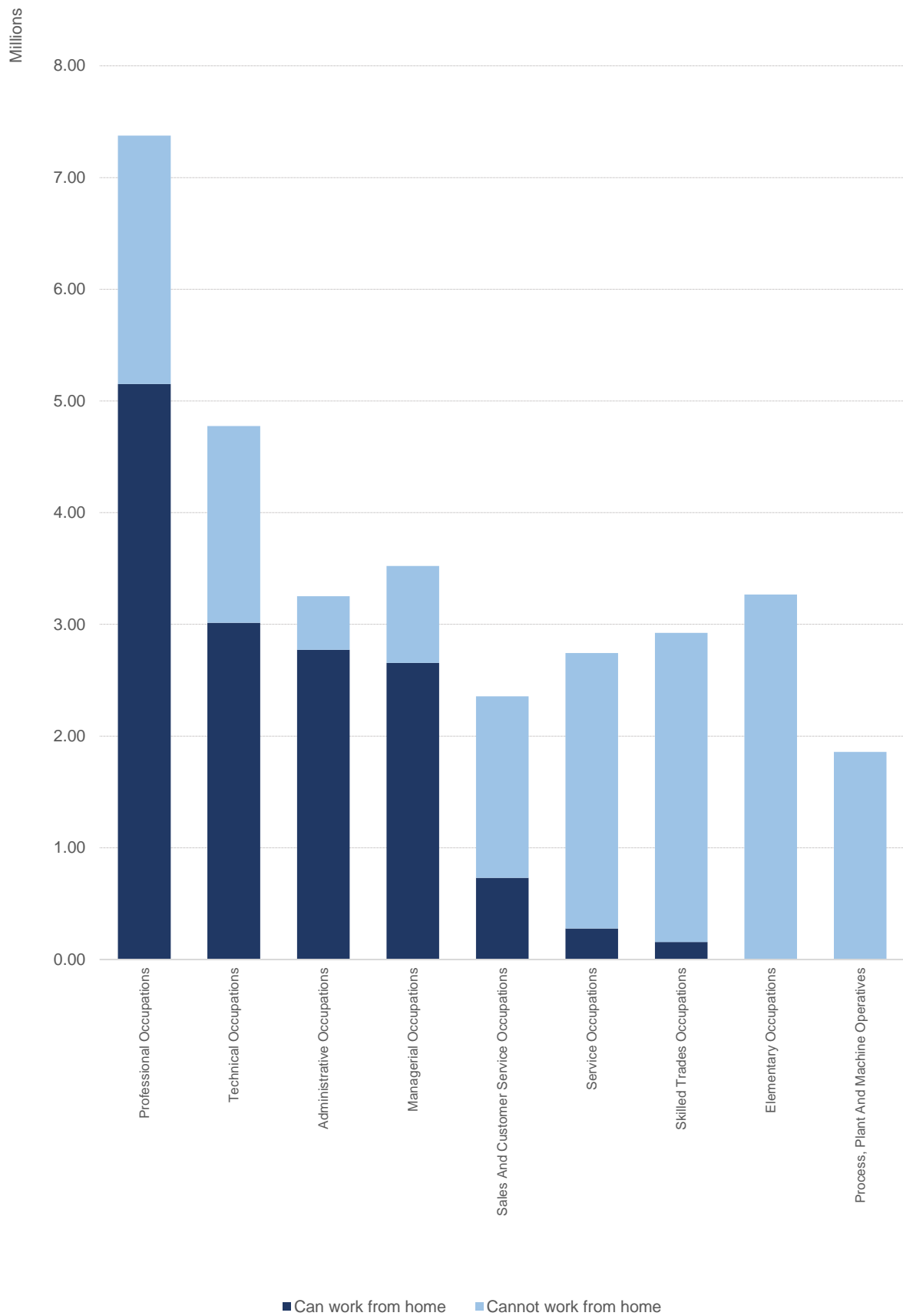
Percentage of workers who can work from home, by industry



Number of workers who can and cannot work from home, by industry



Number of workers who can and cannot work from home, by occupation



References

Dingel, J. I., & Neiman, B. (2020). *How many jobs can be done at home?* (No. w26948). National Bureau of Economic Research.

Hensvik, L., Le Barbanchon, T., & Rathelot, R. (2020). Which jobs are done from home? Evidence from the American Time Use Survey. *Evidence from the American Time Use Survey (April 13, 2020)*.

Boeri, T., Caiumi, A., & Paccagnella, M. (2020). Mitigating the work-security trade-off. *Covid Economics*, 2, 60-66.

Alipour, J. V., Falck, O., & Schüller, S. (2020). *Germany's Capacities to Work from Home* (No. 8227). CESifo Group Munich.

Office for National Statistics (2020). Coronavirus and homeworking in the UK labour market: 2019, Released on 24 March 2020.