

Current Issues Note 58

Potential impacts of immigration policies based on skills and salary thresholds in London: Threshold analysis

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1 Introduction

To understand the impact of the Government's proposed post-Brexit immigration system on London's labour market, this note looks at:

- The occupations that fall short of the proposed skills threshold (Section 4).
- The occupations that meet the proposed skills threshold but currently rely on wages below the proposed £30,000 minimum salary threshold (Section 5).
- The characteristics of European Economic Area (EEA)¹ workers in the jobs that do not meet the skills and salary threshold proposals (Section 5).
- The impact on occupations of lowering the salary threshold towards £21,000, which is broadly consistent with an annual London Living Wage salary) (Section 6).²

Background

In December 2018, the Government published an [Immigration White Paper](#) setting out its plans for UK immigration post-Brexit. The White Paper makes the case for a single 'skills-based' immigration system for EEA and non-EEA workers once freedom of movement ends. For economic migration, the proposals prioritise migration for medium and high-skilled work but do not include a long-term work visa route for low and unskilled workers.

The prioritisation is to be realised through a combination of skills and salary thresholds under a skilled workers route. Key measures include:

- Extending eligibility for the work visa system to include occupations at medium skill levels (RQF levels 3-5), not just graduate level jobs (RQF levels 6+) as at present.³
- Retaining the current minimum salary threshold for experienced workers at £30,000 per year, subject to engagement with businesses and employers.

This contrasts to the current immigration system where migrants from the EEA at all skill and salary levels can come to the UK to work.

There are concerns about the potential impact of these proposals for employers who are currently reliant on EEA workers, especially given the high share of jobs which currently pay less than £30,000 per year in the UK, including in London.⁴ The White Paper acknowledges that in some circumstances there may be flexibility to allow migration at lower salary levels. For example, where specific skills are in shortage, or for new graduates as in the current Tier 2 system. The Government is also planning discussions with businesses and employers on the appropriate salary thresholds.

¹ EEA refers to the following countries: Austria, Belgium, Bulgaria, Croatia, Republic of Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and it excludes the UK. Non-EEA refers to the countries from the rest of the world that are not part of the list above.

² According to the Living Wage Foundation calculations an annual salary on the London Living Wage would be equivalent to £20,572.50, see: <https://www.livingwage.org.uk/living-wage-foundation-welcomes-rise-but-urges-employers-go-further>

³ RQF is the Regulated Qualifications Framework. The skill categories are designed to reflect how much training and experience is required for someone to do a job.

⁴ 46% of employee jobs in London were paid below this level in 2017. Source: ONS Annual Survey of Hours and Earnings 2017

Scope of this work

This note aims to better understand which occupations in London may face short/medium-term labour supply constraints as a direct result of two proposed immigration rule changes for EEA workers (namely a minimum skills requirement of RQF3+ and a minimum salary requirement of £30,000 per year).

No assessment is made of the impact of this on business or the wider economy. Indeed, the immigration system is complex (with multiple routes and salary thresholds) and the Government has also advocated additional proposals (such as temporary work visas). This note does not incorporate any of these complexities which could facilitate additional labour supply.

It is also likely that businesses or occupations will find ways to adjust to newly restricted labour supply (e.g. by automating certain tasks), thereby limiting any difficulties in adjusting. This is explored in an accompanying GLA Economics note.⁵

In the longer term the labour market will reach a new balance, adjusting to both the changes in supply of migrant workers and the demand for certain skills and occupations (e.g. linked to changes in trade and the growth/composition of the population).

This note addresses the following research questions:

- Which occupations may be most affected by the new immigration proposals? Who works in these occupations?
- How does the list of affected occupations change as the salary threshold is reduced?

⁵ Current Issues Note 59: Potential impacts of immigration policies based on skills and salary thresholds in London: Occupational analysis, GLA Economics

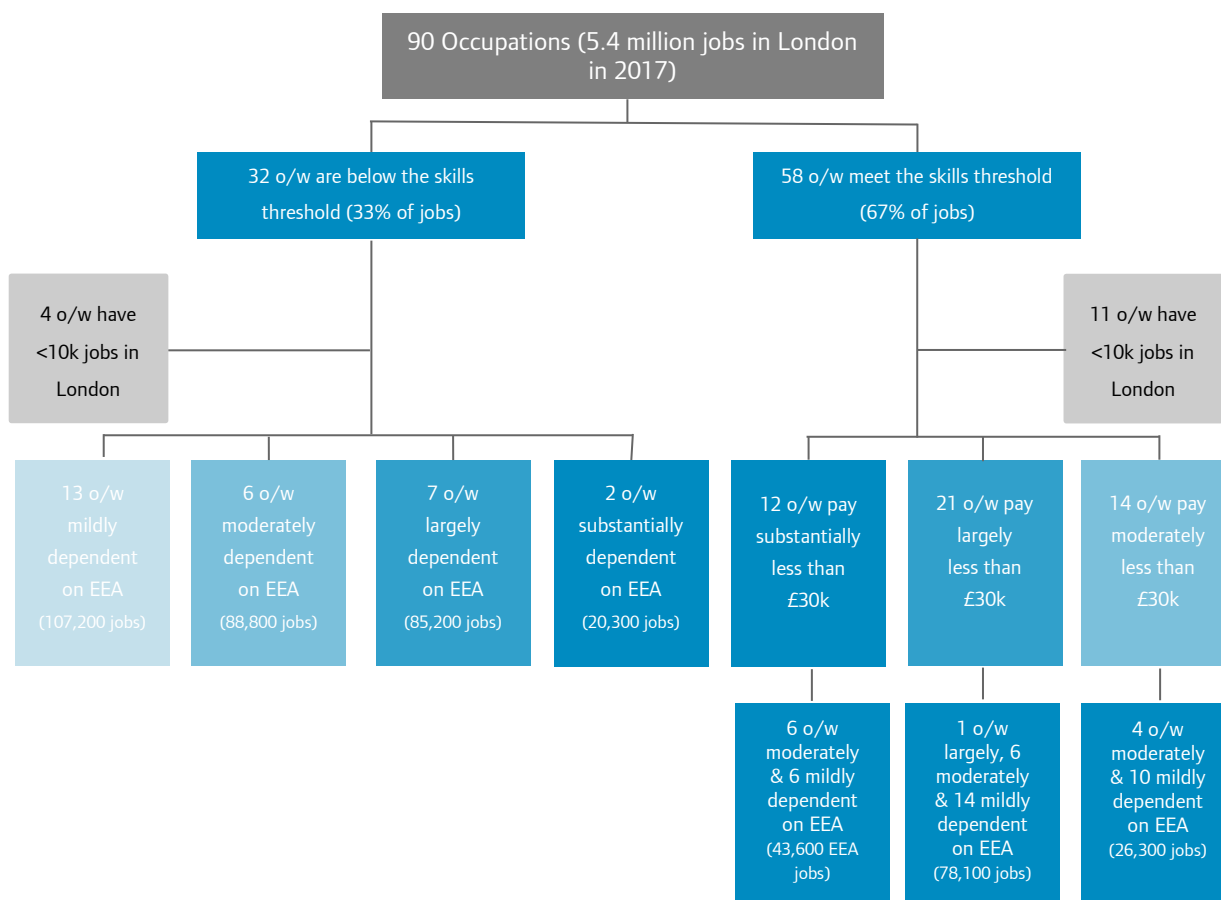
2 Summary of key findings

The analysis in this note shows that:

- **A third of jobs in London are in occupations that fail to meet the proposed qualification threshold** (RQF level 3 and above).
- **London has a higher proportion of lower-skilled (below RQF level 3) jobs filled by EEA workers than the UK as a whole.** Around 301,500 jobs in the capital's lower-skilled occupations were filled by workers born in the rest of the EEA.
- **Thirty-three occupations that meet the skills requirements have at least a quarter of jobs paying below the £30,000 salary threshold**, although London has fewer occupations in which at least half of the jobs pay under the salary threshold (12) compared to the UK (24).
- **Within those occupations that meet the skills threshold an estimated 148,000 jobs in the capital pay below £30,000 and are held by EEA workers.** 'Construction and building trades' has the largest number of EEA-held jobs paying below the £30,000 threshold (24,900) followed by 'Food preparation and hospitality trades' (13,700).
- **Overall, 60% of jobs held by EEA workers in London would not meet the proposed skills and salary criteria.**
- **In London, the largest proportion of EEA workers in jobs under the proposed skills and/or salary threshold are aged 30 to 44.**
- **The majority of EEA workers in jobs that do not meet the thresholds are male, white and working full-time.** However, EEA workers in jobs below the skills threshold are more likely to be female, non-white and working part-time than their counterparts in jobs that meet the skills requirement but not the salary threshold.
- **An alternative £21,000 salary threshold** – broadly equivalent to a full-time job at the London Living wage threshold – **would more than halve the number of jobs held by EEA workers that fail to meet the salary threshold (to 70,200).**
- **And only two occupations would have over half of jobs paying below the alternative £21,000 salary threshold.**
- **'Construction and building trades' would have the largest decline in EEA-held jobs under the lower salary threshold** – from 24,900 to 11,800. This alone accounts for 17% of the overall London reduction in jobs held by EEA workers earning under £21,000 rather than £30,000.

A summary of the number of occupations affected by the skills and salary thresholds (as set out in Sections 4 and 5) is presented in Figure 1.

Figure 1: Impact of the proposed new migration system (o/w = of which)



Source: APS; ASHE; GLA Economics' calculations.

Note: total jobs estimates are based on the sum of jobs across three-digit occupations for which data is available. The analysis is based on the impact of a single threshold only, e.g. no adjustment is made where the 25th percentile of earnings is higher. The following definitions are used:

'Substantially dependent' is defined as occupations where more than 50% of jobs are held by people born in the EEA 'largely dependent' is where between 25% and 50% of jobs are held by EEA workers, 'moderately dependent' is where the proportion of jobs held by EEA workers is between 15% and 25% and 'mildly dependent' is where the proportion is below 15%.

'Pay substantially less' than £30,000 is defined as having over 50% of jobs paying under the threshold, 'pay largely less' is where between 25% and 50% of jobs pay under the threshold and 'pay moderately less' is where fewer than 25% of jobs pay below the threshold.

3 Our approach

Data and data uncertainty

The data for this analysis draws on user requested data provided by the Office for National Statistics (ONS), including published data from the [Annual Population Survey](#) (APS) and [Annual Survey of Hours and Earnings](#) (ASHE).

As with all analysis there are a number of data issues and methodological assumptions to be aware of. For example, there are issues related to:

- Data sources – imperfect data (e.g. survey data) means that confidence intervals can be large. This is particularly true for detailed occupations and at a sub-national level. This is likely to be a greater issue for smaller occupations. For this reason, occupations with fewer than 10,000 jobs in London have been excluded from the analysis.⁶
- Assumptions – any labour market modelling requires the use of evidence-based judgements, for example about indicators for labour market adjustment. Where data is missing at a London level we also impute data based on what information is available.
- Behavioural response and change – predicting behaviour change is inherently uncertain, including the ability for employers to respond to changes in the supply of EEA migrants.

Further assumptions

Several specific assumptions have also been necessary in order to carry out the analysis within this note. These should also be borne in mind when interpreting the results.

- In-line with previous GLA Economics reports, the data is mainly presented on a job and not a worker basis. This includes people working but not living in the capital and differs from the number of workers because some people have more than one job.
- The analysis is based on data on current stocks rather than inflows.⁷
 - As such, we assume that the EEA job share, salary and characteristics distribution of the current stock of workers in occupations is the same as the flow of workers to those occupations.⁸
 - Flow proportions are assumed to be uniform across occupations. In reality, occupations with a higher rate of churn (more people entering and leaving the occupation over any given period) may struggle to fill more vacancies than an occupation which has fewer people leaving who need to be replaced. At the same time, the occupation with greater churn may be able to make use of other elements of the system such as the Youth Mobility Scheme.
 - Assuming most EEA citizens already living in the UK would have a right to remain post-Brexit, the stock of jobs held by EEA workers would mainly be affected to the extent that future flows of EEA citizens change.⁹

⁶ Total numbers in this analysis exclude the jobs in these occupations.

⁷ It is important to distinguish between 'stocks' and 'flows' of migrants. The [agreement reached between the UK and the European Union on citizens' rights](#) suggests that most EEA citizens already in the UK would have a right to remain after the UK leaves the EU. And while recent data suggests a reduction in net migration to the UK from the EU, net migration of EU citizens to London remained positive in 2016. For more detail see: ONS (2017) [Migration Statistics Quarterly Report: November 2017](#)

⁸ For example, if occupation X currently has 20% of jobs earning under £30,000 an implicit assumption is made that 20% of workers going into jobs in that occupation will be earning under £30,000. If, however, the occupation is undergoing structural shifts it may be that new jobs pay more/less than those currently filled.

⁹ Note that flows of workers do not necessarily represent a large proportion of the overall stock of jobs. Future inflows of migrants will also be affected by a range of factors, and not changes to UK government policy alone.

- Data on salary levels comes from the ONS Annual Survey of Hours and Earnings (ASHE) and only covers employee jobs paid held for at least one year. It does not cover the self-employed, nor does it cover employees not paid during the reference period.
- Conversely, data on jobs from the ONS Annual Population Survey (APS) covers both employees and self-employed. Our analysis does not differentiate between the two and assumes, in effect, that self-employed EEA workers would be subject to the same rules as other skilled workers post-Brexit. In reality, the impact may vary depending on the routes used.¹⁰
- Within the salary estimates:
 - Where earnings data was missing GLA Economics have imputed data at the London level based on available data about the earnings distribution in that occupation (further details are available in Appendix A).
 - A breakdown by country of birth is not available and therefore the figures reported assume that people from a different country of birth have the same wage distributions.
- The profile analysis (Box 1) further assumes that the split across the characteristics assessed, for example male/female, is the same for EEA job holders as it is for all those in the occupation. As such, we simply apply the proportion of jobs held by EEA workers in each occupation (or, in the case of occupations at RQF3+, the estimated proportion of jobs held by EEA workers paying under £30,000) to the estimated numbers within each characteristic of that occupation.
- This analysis does not consider the impact of these proposed changes on non-EEA workers. As the proposed changes expand the list of occupations that meet the skills requirements, non-EEA workers looking for work in the UK would qualify for job opportunities in a wider range of occupations.

Definitions

Occupations are defined according to the Standard Occupation Classification (SOC) based on the tasks carried out in the role. Due to sample size limitations our analysis only disaggregates as far as three-digit SOC groups. Occupational skill level is, however, determined at a four-digit level, with multiple four-digits making up each three-digit group. Where there are multiple four-digit occupations with different skill levels we assume the overall skill level for the three-digit group is equal to the skill level in which most UK workers (from all countries) are based.¹¹

Consistent with recent MAC reports, country-of-birth is used to define migrants as those not born in the UK. There are, however, several ways of defining migration – none of which are perfect.¹² The choice of measure largely depends on the purpose for which the data is being used. One main benefit of using country-of-birth is that it offers a consistent measure, suitable for analysing stocks of workers in the labour market over time.¹³ Our focus is on the role of workers born in the rest of the European Economic Area ('EEA workers').

¹⁰ 69% of the jobs held by EEA workers in London were permanent roles in 2016, 27% were self-employed and 4% were temporary roles. Going forward, EEA citizens would be able to come to the UK as self-employed through the entrepreneur and exceptional talent routes, providing they meet the relevant (demanding) eligibility requirements, or may be able to come to the UK through the new skilled worker route, temporary work routes, or as service suppliers through Mode 4 arrangements. There may also be behavioural changes as those who have previously come to the UK as self-employed may switch to employee jobs.

¹¹ ONS (2019) Annual Population Survey [Nomis 27 Feb 2019]

¹² For example, see: House of Commons Library (2017) [Migration Statistics. Briefing Paper: number SN06077](#)

¹³ Whereas an individual's nationality can change over time and there is a risk that self-reported answers on nationality can reflect cultural affiliation rather than legal status. At the same time, country-of-birth classifies as 'migrants' people who were born abroad but who are nationals of the country in which they live (e.g. children born to armed forces personnel overseas).

Skills levels are categorised into three groups:

- Higher-skilled – requiring RQF levels 6-8
- Medium-skilled – requiring RQF levels 3-5
- Lower-skilled – below RQF level 3

Finally, the following wording is used to categorise shares:

- ‘Substantially’ equates to 50% or more
- ‘Largely’ equates to between 25% and 50%
- ‘Moderately’ equates to under 25%

For shares of jobs held by EEA workers an additional category ‘mildly’ is included for shares less than 15%.

4 Which occupations will not meet the minimum skills level?

A third of all jobs in London do not meet the proposed RQF level 3 skills requirements

One of the most important changes proposed by the new immigration system relates to the introduction of a skills selective approach for EEA migrants - bringing them in-line with non-EEA workers to the UK. Under the current system, EEA migrants of all skill levels can settle permanently in the country. The proposed changes would put an end to this. But the Immigration White paper also proposes to extend the eligibility for the work visa system to include occupations at intermediate skill levels (RQF levels 3-5), not just graduate level jobs (RQF levels 6+). This section looks at the occupations that do not meet these requirements (below RQF level 3) and their current reliance on EEA workers.

There are 90 3-digit occupations. Thirty-two of these do not meet the skills requirements set out by the immigration policy proposals (see Table 1).¹⁴ In 2017, these occupations accounted for around a third of all employee jobs in London (similar to the UK as a whole).

Four of these occupations in London account for fewer than 10,000 employee jobs - two of these roles are more likely within manufacturing ('Skilled metal, electrical and electronic trades supervisors'; 'Plant and machine operatives'), one in agriculture ('Elementary agricultural Occupations') and one in construction ('Construction and building trades supervisors'). The low employee jobs count of these occupations is not surprising given that London's economy is services-led.

For the majority of these lower-skilled occupations, London is more reliant on the EEA workforce than the UK as a whole

Given some employers and occupations may have become reliant on lower-skilled workers from the EEA for certain jobs, the introduction of a minimum skills threshold for EEA workers may create significant disruption.

Except for four occupations¹⁵, London has a higher proportion of lower-skilled jobs filled by EEA workers (Table 1). The disruption to the capital from the proposed skills threshold is therefore likely to be greater.

On average, in London, 17% of jobs in lower-skilled occupations were filled by EEA workers, with nine occupations having at least a quarter of jobs filled by EEA workers. For two of these - 'Mobile machine drivers and operatives' and 'Elementary construction occupations' the proportion was above 50. In all, around 301,600 jobs in London's lower-skilled occupations were filled by EEA workers. This accounts for 40% of all jobs held by EEA workers in the capital.

¹⁴ It is the responsibility of the employer to use the correct SOC code in the sponsorship application (see here for more details: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/792725/Tier-2-5-sponsor-guidance_Mar-2019_v1.0_FINAL.PDF) using a code of practice (<https://www.gov.uk/guidance/immigration-rules/immigration-rules-appendix-j-codes-of-practice-for-skilled-work>). Using the wrong SOC code might lead to the application being rejected or delayed.

¹⁵ Cleaning and housekeeping managers and supervisors, Assemblers and routine operatives, Process operatives and Elementary process plant occupations. With the London-UK differences marginal for the former two.

Table 1: Occupations that do not meet the RQF3+ skills requirements

Occupation (3-digit code)	London		UK	
	Share of EEA jobs	Estimated number of EEA jobs	Share of EEA jobs	Estimated number of EEA jobs
Mobile machine drivers and operatives (822)	56%	6,000	22%	26,600
Elementary construction occupations (912)	52%	14,300	19%	25,900
Building finishing trades (532)	46%	11,900	13%	24,300
Elementary cleaning occupations (923)	40%	42,700	27%	142,800
Elementary storage occupations (926)	33%	11,300	31%	95,500
Construction operatives (814)	30%	6,100	11%	16,300
Cleaning and housekeeping managers and supervisors (624)	30%	4,600	33%	17,300
Housekeeping and related services (623)	25%	4,600	14%	13,700
Assemblers and routine operatives (813)	25%	4,000	26%	50,400
Other elementary services occupations (927)	24%	30,400	14%	125,200
Process operatives (811)	23%	2,700	47%	74,500
Hairdressers and related services (622)	22%	6,600	7%	16,200
Childcare and related personal services (612)	17%	20,600	7%	50,600
Road transport drivers (821)	15%	19,900	12%	89,500
Customer service occupations (721)	15%	8,800	7%	27,800
Other administrative occupations (415)	13%	17,700	7%	55,800
Elementary process plant occupations (913)	13%*	2,200	63%	91,300
Sales assistants and retail cashiers (711)	13%	22,800	5%	67,800
Administrative occupations: records (413)	12%	6,800	8%	26,800
Secretarial and related occupations (421)	12%	14,600	6%	36,500
Elementary security occupations (924)	10%	7,100	7%	16,300
Elementary sales occupations (925)	10%**	1,600	6%	7,600
Administrative occupations: finance (412)	10%	13,200	6%	41,000
Caring personal services (614)	10%*	12,800	8%	86,400
Sales related occupations (712)	9%	3,200	8%	12,000
Leisure and travel services (621)	8%	3,400	6%	10,500
Other drivers and transport operatives (823)	7%	1,700	6%	4,100
Elementary administration occupations (921)	3%**	800	5%	8,900
Plant and machine operatives (812)	fewer than 10,000***		21%	24,200
Construction and building trades supervisors (533)	fewer than 10,000***		8%	4,500
Elementary agricultural occupations (911)	fewer than 10,000***		7%	6,000
Skilled metal, electrical and electronic trades supervisors (525)	fewer than 10,000***		7%	2,000

Source: ONS ASHE 2018; APS 2017; GLAE calculations.

* The share of EEA jobs has been imputed using 2016 values

** The share of EEA jobs has been imputed using 2015 values

*** These occupations had fewer than 10,000 jobs in total

5 Which occupations meet the skills requirements but not the salary threshold?

Excluding occupations with fewer than 10,000 jobs¹⁶, 47 occupations meet the RQF3 minimum skills threshold. However, the proposals impose a further constraint - jobs in these occupations must meet a £30,000 salary threshold.

London has fewer occupations, compared to the UK, that depend 'substantially' on pay below the £30,000 salary threshold.

The higher living costs in London are often reflected (at least partially) in higher wages in the capital in like-for-like jobs. As a result, there are fewer occupations in London that may be 'substantially' limited (defined as having at least half of the jobs paying under the salary threshold) by the salary threshold – 12 occupations compared to 24 occupations for the UK (Table 2). These include occupations such as 'Welfare and housing associate professionals', 'Health associate professionals' and 'Administrative occupations: government and related organisations'.

A further 21 occupations in London (15 in the UK) depend 'largely' on pay below the salary threshold (defined as having between 25% and 50% of jobs under the threshold). These again include occupations that play an important role in the delivery of public services such as 'Welfare professionals, nursing and midwifery professionals', 'Teaching and educational professionals', 'Health and social services managers and directors'.

These high and medium skilled occupations are, on average, slightly less reliant on EEA workers.

Compared to the occupations that fall below the skills threshold, the reliance on EEA workers is typically lower – 13% of jobs for London (compared to 17% at RQF below 3) and 6% for the UK (compared to 12% at RQF below 3). In London, the largest proportion of jobs filled by EEA workers is in 'Construction and building trades' (46%), followed by 'Sales supervisors' (25%).

'Construction and building trades' is the occupation with the largest number of jobs paying below £30,000 held by EEA workers

To fully understand the potential impact of the salary threshold it is necessary to consider the proportion of jobs under £30,000 as well as the proportion held by EEA workers together with the total number of jobs in each occupation. Combining all these produces an estimate of the current number of jobs held by EEA workers paying under the proposed £30,000 salary threshold. In 2018, this was equivalent to 148,000 jobs and accounted for around a third of all EEA jobs in occupations at RQF3+. All else equal, those occupations with a large estimated number of jobs held by EEA workers under the salary threshold will likely face the greatest difficulty from the policy. In contrast, the number of jobs held by EEA workers and paying more than this salary threshold in London was 301,000.

In the capital, 'Construction and building trades' has the highest number of jobs held by EEA workers paying below the £30,000 salary threshold – around 24,900 jobs – followed by 'Food preparation and hospitality trades' – approximately 13,700 jobs – and 'Teaching and educational professionals' – around 8,700 jobs. When looking at the UK as a whole, 'Construction and building trades' and 'Food preparation and

¹⁶ These occupations are: Senior officer in protective services (117), Managers and proprietors in agriculture and related services (121), Managers and proprietors in health and care services (124), Conservation and environment professionals (214), Draughtspersons and related architectural technicians (312), Transport Associate professionals (351), Conservation and environmental associate professional (355), Metal forming, welding and related trades (521), Textile and garment trades (541), Printing trades (542), Animal care and control services (613).

hospitality trades' were also the two occupations with the highest estimated number of jobs held by EEA workers paying below the threshold - 64,400 and 61,600 jobs respectively.¹⁷

A summary of the number of occupations affected by the skills and salary thresholds (as set out in Sections 4 and 5) is presented in Figure 1 in Section 2 (Summary of key findings)

Table 2: EEA-held jobs paying below £30,000 for occupations at RQF3+, London and the UK, 2018 (higher-skilled (RQF 6-8) in light blue)

Occupation	London			UK		
	Share of jobs paying below £30k	EEA workers share	Estimated number of EEA jobs below 30k	Share of jobs paying below £30k	EEA workers share	Estimated number of EEA jobs below 30k
Construction and building trades (531)	46%	46%	24,900	67%	11%	64,400
Food preparation and hospitality trades (543)	84%	21%	13,700	93%	14%	61,600
Teaching and educational professionals (231)	34%	10%	8,700	40%	5%	33,500
Sales, marketing and related associate professionals (354)	25%	15%	7,500	37%	7%	24,100
Business, finance and related associate professionals (353)	19%	9%	4,100	46%	6%	21,300
Artistic, literary and media occupations (341)	40%	12%	7,300	57%	8%	20,900
Nursing and midwifery professionals (223)	38%	7%	2,300	57%	5%	20,600
Managers and proprietors in hospitality and leisure services (122)	50%	20%	4,900	68%	8%	16,400
Science, engineering and production technicians (311)	51%	19%**	2,700	60%	7%	13,900
Sales supervisors (713)	80%	25%	4,400	87%	8%	13,700
Managers and proprietors in other services (125)	39%	9%	4,000	49%	4%	13,300
Health professionals (221)	24%	9%	2,400	28%	8%	13,000
Design occupations (342)	50%	20%	6,000	66%	10%	12,900
Information technology and telecommunications professionals (213)	15%*	12%	4,700	21%	6%	12,900
Business, research and administrative professionals (242)	16%	11%	4,400	26%	7%	12,500
Functional managers and directors (113)	9%*	10%	2,700	18%	6%	11,300
Vehicle trades (523)	43%	15%	1,300	61%	7%	11,000
Electrical and electronic trades (524)	36%	19%	4,200	42%	6%	10,900
Metal machining, fitting and instrument making trades (522)	35%*	12%***	700	48%	7%	10,600
Public services and other associate professionals (356)	32%	9%	2,500	52%	4%	10,100
Welfare and housing associate professionals (323)	75%	8%	2,500	87%	4%	10,100
Agricultural and related trades (511)	82%	23%	3,500	92%	3%	10,000
Natural and social science professionals (211)	30%*	16%	1,900	32%	13%	9,200
Managers and directors in retail and wholesale (119)	45%	9%	1,700	59%	5%	9,100
Sports and fitness occupations (344)	89%	9%	3,000	91%	4%	8,300
Production managers and directors (112)	19%	20%	2,400	25%	6%	7,200
Other skilled trades (544)	55%*	8%****	600	83%	8%	6,600
Administrative occupations: government and related organisations (411)	56%	3%	700	78%	2%	6,400
Managers and directors in transport and logistics (116)	29%	21%	1,300	44%	8%	6,300

¹⁷ These figures include the number of jobs held by EEA workers in London.

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Engineering professionals (212)	18%*	16%	1,400	18%	7%	6,200
Therapy professionals (222)	41%	11%	1,200	61%	5%	6,000
Information technology technicians (313)	32%	8%	1,100	51%	5%	5,700
Customer service managers and supervisors (722)	43%	23%	2,700	60%	6%	5,400
Health associate professionals (321)	72%	8%	1,600	66%	4%	5,000
Administrative occupations: office managers and supervisors (416)	40%	9%	1,300	56%	4%	4,900
Architects, town planners and surveyors (243)	20%*	17%	2,100	25%	7%	4,500
Welfare professionals (244)	49%	8%	1,100	52%	4%	3,600
Media professionals (247)	26%	6%	1,300	38%	4%	3,000
Protective service occupations (331)	10%*	3%	200	26%	3%	2,600
Quality and regulatory professionals (246)	13%	6%****	200	23%	6%	2,000
Legal professionals (241)	13%*	7%	800	20%	4%	1,900
Legal associate professionals (352)	28%*	11%	500	59%	3%	1,600
Health and social services managers and directors (118)	26%*	11%	500	26%	4%	1,000
Chief executives and senior officials (111)	6%*	8%	200	16%	5%	900
Research and development managers (215)	15%*	18%	400	15%	9%	700
Financial institution managers and directors (115)	8%*	12%	300	14%	5%	600
Librarians and related professionals (245)	55%*	1%***	100	71%	1%	500

Source: ONS ASHE 2018; APS 2017; GLAE Calculations.

*The share of jobs paying below the £30,000 salary the threshold has been imputed. See Appendix A for full methodology.

**The share and number of EEA jobs have been imputed using 2016 values.

***The share and number of EEA jobs have been imputed using 2015 values.

****The share and number of EEA jobs have been imputed using UK values.

Box 1: The profile of EEA job holders in occupations at risk

As the impact of the proposed skills and salary thresholds will vary across occupations so too will the impact on different groups of EEA workers.

Unfortunately, detailed data on the characteristics of EEA workers in jobs that may be affected by the proposed policy changes is not available. It is, however, possible to get some information on the profile of jobs-holders in given occupations regardless of country of birth. This is used to explore which groups may be more affected by the proposals - with the caveat that current stock profiles can act as a proxy for future flow profiles and that the characteristics of EEA workers is the same as others in that occupation (see Appendix B for full methodology). Table 3 shows that:

- By age, the largest share of EEA-held jobs in London that do not meet the proposed thresholds are amongst 30 to 44 year olds (38%). In contrast, for the UK those aged 45+ account for the largest share (42%). This raises questions as to whether extending the existing Tier 5 Youth Mobility Scheme (which applies only to those aged 18-30) could provide suitable additional labour.
- Two-thirds of EEA-held jobs that are RQF3+ but under £30,000 are held by men (66% in London, 60% in the UK), whereas women make up a larger share of EEA-held jobs under RQF3+.
- In contrast to all job holders, EEA-held jobs in affected occupations are more likely to be part-time; nearly one in three EEA-held jobs that do not meet the skills and salary thresholds are part-time jobs, compared to one in four across all jobs held by all workers.
- In London, 12% of EEA job holders in affected jobs are 'Disabled'. This is slightly higher than the share of all job holders who have a disability (10%).
- EEA-workers in jobs below the skills threshold are more likely to be female, non-white and working part-time than their counterparts in jobs that meet the skills requirement but not the salary one.

Table 3: Estimated profile of EEA job holders compared to profile of all job holders

(%)	Age			Sex		Ethnicity		Hours		Disability	
	16-29	30-44	45+	Male	Female	White	Non-White	Full-time	Part-time	Disabled	Not Disabled
EEA-held jobs											
Below RQF level 3											
London	29%	36%	35%	49%	51%	60%	40%	60%	40%	13%	86%
UK	29%	29%	42%	49%	51%	87%	13%	59%	41%	14%	85%
RQF3+ under £30,000											
London	23%	43%	34%	66%	34%	74%	26%	83%	17%	9%	90%
UK	21%	36%	42%	61%	39%	89%	11%	79%	21%	11%	88%
Below RQF level 3 & RQF3+ under £30,000											
London	27%	38%	35%	55%	45%	64%	36%	68%	32%	12%	87%
UK	27%	31%	42%	52%	48%	88%	12%	64%	36%	13%	86%
Jobs held by all workers											
Below RQF level 3											
London	29%	35%	36%	45%	55%	57%	43%	61%	39%	12%	87%
UK	30%	29%	41%	41%	59%	87%	13%	56%	44%	14%	85%
RQF3+											
London	21%	44%	35%	60%	40%	75%	25%	83%	16%	9%	90%
UK	19%	37%	45%	59%	41%	89%	11%	80%	20%	11%	88%
All											
London	23%	41%	35%	55%	45%	69%	31%	76%	24%	10%	89%
UK	24%	33%	43%	51%	49%	88%	12%	70%	30%	12%	87%

Source: APS 2015-17 for age, sex, ethnicity, hours and disability data; APS 2017 for EEA shares and job totals; GLA Economics calculations.

Note: Disabled is defined by the Equality Act.

6 What would be the impact of adopting a lower salary threshold?

One way to lower the impact of the proposed changes on London's labour market is to reduce the salary threshold. This section looks at how the picture presented in Section 5 would change if the Government adopted a £21,000 salary threshold for those occupations that meet the skills requirements. This salary threshold is broadly equivalent to a full-time job at the London Living Wage.

There are only two occupations in London that meet the skills threshold where over half of the jobs pay below £21,000.

Table 4 shows that if the Government adopted £21,000 as a salary threshold only two occupations would have over half their jobs paying less: 'Sports and fitness occupations' and 'Food preparation and hospitality trades'. This compares to 12 when applying the £30,000 salary threshold (for the UK, 4 occupations would be substantially affected at £21,000 compared to 24 at £30,000). Although these occupations would remain substantially affected, lowering the threshold reduces the proportions quite a bit – 'Food preparation and hospitality trades' (where over 1 in 5 jobs are held by EEA workers) falls by 32.3 percentage points and 'Sport and fitness occupations' (where nearly 1 in 10 jobs are held by EEA workers) falls by 15.8 percentage points. In the UK, the £21,000 salary requirement would reduce the proportion of jobs affected in these two occupations by 10.5 and 26.4 percentage points respectively. But the share of jobs held by EEA workers in these two occupations is lower outside London (see Table 4).

Lowering the threshold would also lower the number of occupations that, in the previous section, were identified as likely to suffer largely. The number of occupations in which between 25 and 50% of employee jobs are paid below £21,000 is five (down from 21 at £30,000). One of these occupations ('Sales supervisors') has a quarter of jobs filled by EEA workers and another ('Agricultural and related trades') has 23% of jobs filled by EEA workers.

Public services delivery related occupations are the most sensitive to salary threshold changes

For 16 occupations, moving from a £30,000 to a £21,000 threshold reduces the share of employee jobs paying less by more than 25 percentage points. The three most sensitive occupations to salary threshold changes are 'Welfare and housing associate professionals', 'Health associate professionals', 'Administrative occupations: government and related organisations' and these are all important for the delivery of public services. Moving to a £21,000 threshold reduces the share of jobs below the threshold by 40.8, 39.3 and 37.3 percentage points respectively. However, these occupations do have relatively low proportions of jobs held by EEA workers (see Table 4).

Within 'Construction and building trades' - the occupation that has the highest share of EEA workers – reducing the salary threshold to £21,000 lowers the share of jobs paying below the threshold by 24 percentage points.

For the UK as a whole, 'Design occupations' is the occupation most sensitive to this salary threshold change, followed by 'Construction and building trades' and 'Welfare and housing associate professionals'.

The most sensitive occupations to salary threshold changes are medium-skilled

Looking at the skills profile shows that the ten most sensitive ones to the threshold change in London are all medium-skilled. 'Welfare professionals' is the most sensitive higher-skilled occupation to this salary threshold reduction, followed by 'Librarians and related professionals' and 'Therapy professionals'. The share of the employee jobs paying below the threshold would go down by 28.5, 26.5 and 25.4 percentage points respectively.

An alternative £21,000 salary threshold would more than half the number of EEA - held jobs that do not meet the salary threshold.

Accounting for both the proportion of EEA jobs as well as the size of the occupation, the number of EEA-held jobs under £21,000 is 70,200. This is less than half the number under a £30,000 threshold.

For the UK, the number of jobs held by EEA workers and paying below the threshold would decline by 263,000 to 275,300.

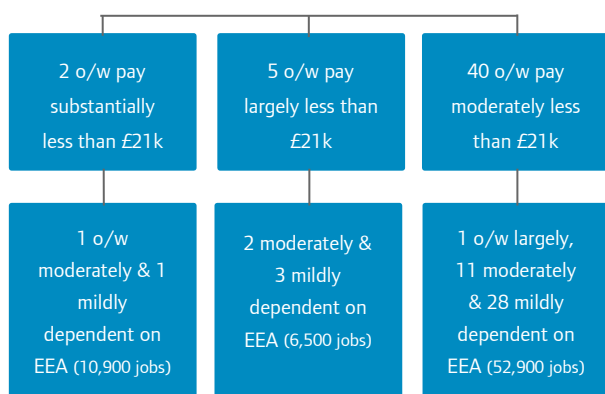
The 'Construction and building trades' occupation would see the greatest reduction in the number of EEA-held jobs paying below the salary threshold.

The number of EEA-held jobs under the salary threshold in the 'Construction and building trades' declines from 24,900 to 11,800 (see Table 4). This alone accounts for 17% of the overall London reduction.

This is followed by 'Artistic, literary and media occupations' (down 5,600), 'Food preparation and hospitality trades' (5,300), 'Sales, marketing and related associate professionals' (4,500), 'Design occupations' (4,000) and 'Teaching and educational professionals' (3,400).

A summary of the number of RQF3+ occupations affected by a £21,000 salary threshold is presented in Figure 2.

Figure 2: Impact of £21,000 minimum salary for occupations that meet the proposed skills threshold (RQF3+), London (2018)



Source: APS; ASHE; GLA Economics' calculations

Note: total jobs estimates are based on the sum of jobs across three-digit occupations for which data is available. The analysis is based on the impact of a single threshold only, e.g. no adjustment is made where the 25th percentile of earnings is higher. The following definitions are used:

'Substantially dependent' is defined as occupations where more than 50% of jobs are held by people born in the EEA 'largely dependent' is where between 25% and 50% of jobs are held by EEA workers, 'moderately dependent' is where the proportion of jobs held by EEA workers is between 15% and 25% and 'mildly dependent' is where the proportion is below 15%.

'Pay substantially less' than £21,000 is defined as having over 50% of jobs paying under the threshold, 'pay largely less' is where between 25% and 50% of jobs pay under the threshold and 'pay moderately less' is where fewer than 25% of jobs pay below the threshold.

Table 4: EEA-held jobs paying below £21,000 for occupations at RQF3+, London and the UK, 2018 (higher-skilled (RQF 6-8) in light blue)

Occupation	London			UK		
	Share of jobs paying below £21k	EEA workers share	Estimated number of EEA jobs below £21k	Share of jobs paying below £21k	EEA workers share	Estimated number of EEA jobs below £21k
Construction and building trades (531)	22%*	46%	11,800	26%	11%	24,900
Food preparation and hospitality trades (543)	52%	21%	8,400	66%	14%	44,000
Teaching and educational professionals (231)	21%	10%	5,400	21%	5%	17,200
Sales, marketing and related associate professionals (354)	10%	15%	3,000	16%	7%	10,300
Information technology and telecommunications professionals (213)	8%*	12%	2,500	8%	6%	4,900
Sports and fitness occupations (344)	73%	9%	2,500	80%	4%	7,300
Sales supervisors (713)	45%	25%	2,400	51%	8%	8,100
Business, research and administrative professionals (242)	8%*	11%	2,200	11%	7%	5,200
Agricultural and related trades (511)	49%*	23%	2,100	60%	3%	6,500
Design occupations (342)	16%*	20%	1,900	24%	10%	4,600
Managers and proprietors in other services (125)	19%*	9%	1,900	26%	4%	6,900
Functional managers and directors (113)	6%*	10%	1,900	11%	6%	6,700
Business, finance and related associate professionals (353)	8%*	9%	1,800	20%	6%	9,300
Managers and proprietors in hospitality and leisure services (122)	18%*	20%	1,700	34%	8%	8,200
Artistic, literary and media occupations (341)	9%*	12%	1,600	29%	8%	10,700
Electrical and electronic trades (524)	12%*	19%	1,400	13%	6%	3,500
Nursing and midwifery professionals (223)	21%	7%	1,300	27%	5%	10,000
Production managers and directors (112)	10%*	20%	1,300	13%	6%	3,900
Health professionals (221)	13%*	9%	1,300	14%	8%	6,500
Customer service managers and supervisors (722)	19%*	23%	1,200	30%	6%	2,700
Welfare and housing associate professionals (323)	34%	8%	1,100	47%	4%	5,500
Science, engineering and production technicians (311)	20%*	19%**	1,000	28%	7%	6,500
Public services and other associate professionals (356)	13%	9%	1,000	22%	4%	4,200
Architects, town planners and surveyors (243)	9%*	17%	900	9%	7%	1,700
Managers and directors in retail and wholesale (119)	20%*	9%	700	32%	5%	4,900
Health associate professionals (321)	33%*	8%	700	33%	4%	2,500
Vehicle trades (523)	21%*	15%	700	21%	7%	3,800
Natural and social science professionals (211)	9%*	16%	600	10%	13%	2,900
Legal professionals (241)	8%*	7%	500	9%	4%	900
Engineering professionals (212)	6%*	16%	500	6%	7%	2,100
Media professionals (247)	10%*	6%	500	18%	4%	1,400
Administrative occupations: office managers and supervisors (416)	14%	9%	500	25%	4%	2,200
Welfare professionals (244)	20%*	8%	500	20%	4%	1,400
Managers and directors in transport and logistics (116)	10%*	21%	500	15%	8%	2,200
Therapy professionals (222)	15%*	11%	400	25%	5%	2,400
Information technology technicians (313)	10%*	8%	300	19%	5%	2,100
Other skilled trades (544)	22%*	8%****	200	48%	8%	3,800
Metal machining, fitting and instrument making trades (522)	11%*	12%***	200	18%	7%	4,000

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Administrative occupations: government and related organisations (411)	19%	3%	200	40%	2%	3,300
Financial institution managers and directors (115)	5%*	12%	200	8%	5%	300
Health and social services managers and directors (118)	10%*	11%	200	10%	4%	400
Research and development managers (215)	8%*	18%	200	8%	9%	400
Legal associate professionals (352)	10%*	11%	200	29%	3%	800
Chief executives and senior officials (111)	5%*	8%	100	12%	5%	700
Protective service occupations (331)	7%*	3%	100	9%	3%	900
Quality and regulatory professionals (246)	7%*	6%****	100	9%	6%	800
Librarians and related professionals (245)	28%*	1%****	-	41%	1%	300

Source: ONS ASHE 2018; APS 2017; GLAE Calculations.

*The share of jobs below the £21,000 salary threshold have been imputed. See Appendix A for full methodology.

**The share of EEA jobs has been imputed using 2016 values.

***The share of EEA jobs has been imputed using 2015 values.

**** The share of EEA jobs has been imputed using UK values.

Box 2: What would be the impact of other thresholds on the most affected occupations?

The analysis in the main document considers in detail the impacts of a £30,000 and £21,000 salary threshold for occupations at RQF3+. This Box considers briefly the impact of two further thresholds – £27,000 and £24,000 (see Appendix C for detailed tables).

£27,000

Figure 3 shows that, if the salary threshold was reduced to £27,000, six occupations would be ‘substantially’ affected – half the number with a £30,000 salary threshold. Similarly, for the UK as a whole, the number of occupations to be ‘substantially’ affected would go down to 14.

In London, ‘Librarians and related professionals’ is the occupation that would see the largest reduction in the share of jobs paying below the threshold – 17 percentage points – followed by ‘Health associate professionals’ and ‘Administrative occupations: government and related organisations’ – both with a 15-percentage points reduction.

An estimated 115,500 EEA-held jobs in occupations RQF3+ pay below £27,000 (compared to 148,000 jobs under £30,000). For the UK as a whole, the equivalent number is 446,000 jobs (down from 538,300 under £30,000).

Looking at specific occupations, ‘Construction and building trades’ would see the largest reduction in the number of EEA-held jobs at RQF3+ under £27,000 (6,900 jobs), followed by ‘Artistic, literary and media occupations’ (1,900 jobs). When looking at the UK as a whole, ‘Construction and building trades’ is also the occupation that would see the largest reduction, followed by ‘Teaching and educational professionals’.

£24,000

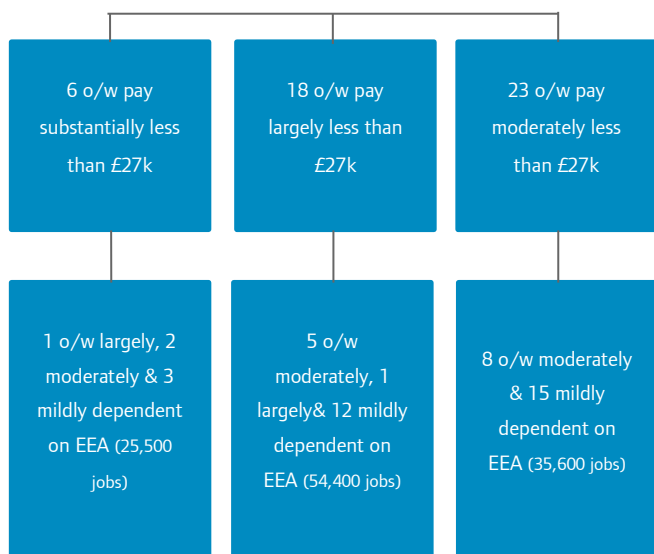
At £24,000 the number of RQF3+ occupations ‘substantially’ affected would fall to four in London and to 14 for the UK as a whole.

In London, ‘Welfare and housing associate professionals’ is the occupation that would see the largest reduction in the share of jobs paying below the salary threshold (a 31.6 percentage points reduction), followed by ‘Design occupations’ (27.6 percentage points). For the UK ‘Vehicle trade’ and ‘Design occupations’ are the occupations that see the largest proportional reductions with 29.6 and 29.5 percentage points declines respectively.

In all, there are an estimated 88,300 EEA-held jobs at RQF3+ paying below £24,000 (see Figure 4), with a total of 349,500 jobs for the UK as a whole.

Again, ‘Construction and building trades’ would have the largest fall in the number of EEA-held jobs below the salary threshold (13,100 jobs) followed by ‘Artistic, literary and media occupations’ (5,600 jobs). For the UK as a whole, ‘Construction and building trades’ also would see the largest fall, followed by ‘Food and hospitality trades’.

Figure 3: Impact of £27,000 minimum salary for occupations that meet the proposed skills threshold (RQF3+), London (2018)



Source: APS; ASHE; GLA Economics' calculations
 Note: See notes in Figure 1 and 2 for definitions.

Figure 4: Impact of £24,000 minimum salary for occupations that meet the proposed skills threshold (RQF3+), London (2018)



Source: APS; ASHE; GLA Economics' calculations
 Note: See notes in Figure 1 and 2 for definitions.

Appendix A

As noted in the main body, this work relies on survey data. When looking at detailed occupations and sub-regional cuts of the data there can often be issues around disclosure and missing data. This was particularly an issue with the data on earnings. GLA Economics have therefore imputed estimates based on other available data.

To do this we used the earning distribution for employee jobs from the Annual Survey of Hours and Earnings (ASHE) 2018 and followed the steps below:

- 1) We assumed that the earning distribution was uniform to impute the missing percentiles. We then calculated the share of jobs below the threshold.
- 2) Whenever the imputed share was lower than the UK value, we used the national figure based on the assumption that earnings in London tend to be higher than in the rest of the country.
- 3) Whenever (1) was not possible, we used the UK share of jobs below the salary threshold for London.

Table 5 (for the £30,000 threshold) and Table 6 (for the £21,000 threshold) provide more details on the imputation used by occupation.

Table 5: Imputation for occupations paying below the £30,000 salary threshold

Occupation	Share of employee jobs paying below £30,000	Methodology
Chief executives and senior officials (111)	6.4%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Functional managers and directors (113)	8.6%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Financial institution managers and directors (115)	7.8%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Health and social services managers and directors (118)	25.6%	No data at the London level. The share below the threshold for the UK was used assuming that these are public sector jobs with not considerable variation across regions.
Managers and proprietors in hospitality and leisure services (122)	50.1%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Natural and social science professionals (211)	29.8%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Engineering professionals (212)	17.6%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Information technology and telecommunications professionals (213)	14.9%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Research and development managers (215)	14.5%	Step 1: Assumed that earnings had a uniform distribution to calculate the share below the threshold; Step 2: This was higher than the UK and the national figure was used instead.
Legal professionals (241)	12.9%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Architects, town planners and surveyors (243)	20.1%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Librarians and related professionals (245)	54.5%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Quality and regulatory professionals (246)	13.1%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.

Protective service occupations (331)	9.9%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Legal associate professionals (352)	28.0%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Metal machining, fitting and instrument making trades (522)	34.7%	Step 1: Imputed all the missing percentiles, using the median/percentile ratio from the UK data; Step 2: Assumed uniform distribution and calculated the share below the threshold.
Construction and building trades (531)	45.5%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Building finishing trades (532)	75.2%	No data at the London level to calculate this. The UK value was used instead.
Other skilled trades (544)	55.4%	Step 1: Assume mean= median as they are very close in the other 54 SOC's; Step 2: Impute missing percentiles, using the median/percentile ratio from the UK Data; Step 3: Assumed uniform distribution to calculate the share below the threshold.
Sales related occupations (712)	54.1%	Step 1: Assume mean= median as they are very close in the other 71 SOC's; Step 2: Impute missing percentiles, using the median/percentile ratio from the UK Data; Step 3: Assumed uniform distribution to calculate the share below the threshold.
Mobile machine drivers and operatives (822)	42.4%	Step 1: Imputed all the missing percentiles, using the median/percentile ratio from the UK data; Step 2: Assumed uniform distribution and calculated the share below the threshold.
Other drivers and transport operatives (823)	30.2%	No data at the London level. The UK value was used instead.
Elementary sales occupations (925)	98.5%	No data at the London level. The UK value was used instead.

Table 6: Imputation for occupations paying below the £21,000 salary threshold

Occupation	Share of employee jobs paying below £21,000	Methodology
Chief executives and senior officials (111)	4.5%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Production managers and directors (112)	9.9%	Step 1: Imputed the 10th percentile, using the median/10th percentile ratio from the UK data; Step 2: Assumed uniform distribution to calculate the share below the threshold.
Functional managers and directors (113)	6.0%	Step 1: Imputed the 10th percentile, using the median/10th percentile ratio from the UK data; Step 2: Assumed uniform distribution to calculate the share below the threshold.
Financial institution managers and directors (115)	5.5%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Managers and directors in transport and logistics (116)	9.8%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Health and social services managers and directors (118)	10.1%	No share below threshold for London or UK. The share below the threshold was calculated using the UK distribution and applied to both UK and London.
Managers and directors in retail and wholesale (119)	19.5%	Step 1: Imputed all the missing percentiles, using the median/percentile ratio from the UK data; Step 2: Assumed uniform distribution to calculate the share below the threshold.
Managers and proprietors in hospitality and leisure services (122)	18.0%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.

Managers and proprietors in other services (125)	18.7%	Step 1: Imputed all the missing percentiles, using the median/percentile ratio from the UK data; Step 2: Assumed uniform distribution to calculate the share below the threshold.
Natural and social science professionals (211)	9.5%	Step 1: Imputed all the missing percentiles, using the median/percentile ratio from the UK data; Step 2: Assumed uniform distribution to calculate the share below the threshold.
Engineering professionals (212)	6.1%	Step 1: Assumed that earnings had a uniform distribution to calculate the share below the threshold; Step 2: This was higher than the UK and we reverted to the national figure.
Information technology and telecommunications professionals (213)	8.0%	Step1: Assumed that earnings had a uniform distribution to calculate the share below the threshold; The value for the 10th percentile lower at London level than UK, used UK instead based on the assumption that wages in London are higher than in the rest of the UK.
Research and development managers (215)	8.0%	Step 1: Assumed that earnings had a uniform distribution to calculate the share below the threshold.; Step 2: This was higher than the UK and we reverted to the national figure. Originally, the value for the UK was also missing and had to be calculated using the uniform distribution assumption.
Health professionals (221)	13.0%	Step 1: Imputed the 10th percentile, using the median/10th percentile ratio from the UK data; Step 2: Assumed uniform distribution to calculate the share below the threshold.
Therapy professionals (222)	15.1%	Step 1: Imputed the 10th percentile, using the median/10th percentile ratio from the UK data; Step 2: Assumed uniform distribution to calculate the share below the threshold.
Legal professionals (241)	8.3%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Business, research and administrative professionals (242)	8.1%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Architects, town planners and surveyors (243)	8.7%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Welfare professionals (244)	20.4%	Step 1: Assumed that earnings had a uniform distribution to calculate the share below the threshold; Step 2: This was higher than the UK and the national figure was used instead.
Librarians and related professionals (245)	28.1%	Step 1: Imputed all the missing percentiles, using the median/percentile ratio from the UK data; Step 2: Assumed uniform distribution to calculate the share below the threshold.
Quality and regulatory professionals (246)	7.4%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Media professionals (247)	9.5%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Science, engineering and production technicians (311)	20.0%	Step 1: Imputed all the missing percentiles, using the median/percentile ratio from the UK data; Step 2: Assumed uniform distribution to calculate the share below the threshold.
Information technology technicians (313)	9.8%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Health associate professionals (321)	32.8%	Step 1: Assumed that earnings had a uniform distribution to calculate the share below the threshold; Step 2: This was higher than the UK and we reverted to the national figure. Based on the assumption that wages in London are higher than in the rest of the country.
Protective service occupations (331)	6.9%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Artistic, literary and media occupations (341)	8.9%	Step 1: Imputed all the missing percentiles, using the median/percentile ratio from the UK data; Step 2: Assumed uniform distribution to calculate the share below the threshold.

Design occupations (342)	16.4%	Step 1: Imputed all the missing percentiles, using the median/percentile ratio from the UK data; Step 2: Assumed uniform distribution to calculate the share below the threshold.
Legal associate professionals (352)	9.5%	Step 1: Imputed all the missing percentiles, using the median/percentile ratio from the UK data; Step 2: Assumed uniform distribution between 0 and 10 to calculate the share below the threshold.
Business, finance and related associate professionals (353)	8.2%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Agricultural and related trades (511)	49.5%	Calculated the average of the difference between UK and London for other thresholds and applied this to the 21,000 threshold.
Metal machining, fitting and instrument making trades (522)	11.3%	Step 1: Imputed all the missing percentiles, using the median/percentile ratio from the UK data; Step 2: Assumed uniform distribution to calculate the share below the threshold.
Vehicle trades (523)	20.9%	Step 1: Imputed all the missing percentiles, using the median/percentile ratio from the UK data; Step 2: Assumed uniform distribution and calculated the share below the threshold; Step 3: This was higher than the UK one and the national figure was used instead.
Electrical and electronic trades (524)	12.3%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Construction and building trades (531)	21.5%	Step 1: Imputed all the missing percentiles, using the median/percentile ratio from the UK data; Step 2: Assumed uniform distribution to calculate the share below the threshold.
Building finishing trades (532)	28.0%	No data at the London level. The UK value was used instead.
Other skilled trades (544)	22.4%	Step 1: Assumed mean equals median as they are very close in the other 54 SOCs; Step 2: Imputed missing percentiles, using the median/percentile ratio from the UK Data; Step 3: Assumed uniform distribution to calculate the share below the threshold.
Cleaning and housekeeping managers and supervisors (624)	68.9%	Calculated the average of the difference between UK and London for other thresholds and applied this to the 21,000 threshold.
Sales related occupations (712)	26.1%	Step 1: Assumed mean equals median as they are very close in the other 71 SOCs; Step 2: Imputed missing percentiles, using the median/percentile ratio from the UK Data; Step 3: Assumed uniform distribution to calculate the share below the threshold.
Customer service managers and supervisors (722)	19.2%	Step 1: Imputed all the missing percentiles, using the median/percentile ratio from the UK data; Step 2: Assumed uniform distribution and calculated the share below the threshold.
Assemblers and routine operatives (813)	41.1%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Construction operatives (814)	24.7%	Assumed that earnings had a uniform distribution to calculate the share below the threshold.
Road transport drivers (821)	19.8%	Step 1: Imputed all the missing percentiles, using the median/percentile ratio from the UK data; Step 2: Assumed uniform distribution between 0 and 10 to calculate the share below the threshold.
Mobile machine drivers and operatives (822)	12.4%	Step 1: Imputed all the missing percentiles, using the median/percentile ratio from the UK data; Step 2: Assumed uniform distribution to calculate the share below the threshold.
Other drivers and transport operatives (823)	17.4%	Assumed uniform distribution to calculate the share below the threshold for both UK and London
Elementary process plant occupations (913)	61.1%	Step 1: Calculated the average of the difference between UK and London for other thresholds to estimate the share of jobs below the threshold; Step 2: This was higher than the UK and reverted to the UK value instead.

Appendix B

Methodology to estimate profile of jobs holders in occupations at risk (Box 2)

To estimate the impact of the £30,000 salary threshold on different demographic groups of EEA job holders we weighted the person characteristics in each occupation by the estimated number of affected EEA-held jobs in the corresponding occupation.

Specifically:

- In order to calculate the profile of EEA job holders in occupation below RQF level 3, we used the share of EEA workers in each occupation from the APS 2017 and the data on the profile of workers regardless of the country of birth from the APS 2015-17.
- In order to calculate the profile of EEA job holders in jobs that meet the skills requirements but not the £30,000 salary threshold, we used the share of jobs paying below the threshold and the share of jobs held by EEA workers along with the information on the profile of all workers in each occupation.
- The data reported in Table 3 excludes 'Skilled metal, electrical & electronic trades supervisors', 'Construction & building trades supervisors', 'Plant & machine operatives' and 'Elementary agricultural occupations' as these occupations account for fewer than 10,000 jobs.
- Due to data disclosure issues the following have also been excluded from the calculations (for both London and the UK):
 - Below RQF3:
 - Age: 'Elementary process plant occupations'.
 - Sex: 'Assemblers and routine operatives', 'Elementary process plant occupations'
 - Ethnicity: 'Elementary process plant occupations'.
 - Hours: 'Building finishing trades', 'Construction operatives', 'Mobile machine drivers and operatives', 'Other drivers and transport operatives', 'Elementary process plant occupations'.
 - Disability: 'Leisure and travel services', 'Cleaning and housekeeping managers and supervisors', 'Elementary construction occupations', 'Elementary process plant occupations'
 - RQF3+:
 - Sex: 'Metal machining, fitting and instrument making trades', 'Vehicle trades'.
 - Ethnicity: 'Research and development managers'.
 - Hours: 'Financial institution managers and directors', 'Legal associate professionals'.
 - Disability: 'Research and development managers', 'managers and directors in transport and logistics', 'Science, engineering and production technicians', 'Legal associate professionals'

Appendix C

Two alternative salary thresholds are explored briefly in Box 2 of this note – £27,000 and £24,000. Table 7 and 8 below provide further information on estimates at these thresholds. Even in this case, GLA Economics have imputed estimates, following a similar approach to the one outlined in Appendix A.

Table 7: EEA-held jobs paying below £27,000 for occupations at RQF3+, London and the UK, 2018 (higher-skilled (RQF 6-8) in light blue)

Occupation	London			UK		
	Share of jobs paying below £27k	EEA workers share	Estimated number of EEA jobs below 27k	Share of jobs paying below £27k	EEA workers share	Estimated number of EEA jobs below 27kk
Construction and building trades (531)	33%*	46%	18,000	53%	11%	51,600
Food preparation and hospitality trades (543)	74%	21%	12,200	87%	14%	57,800
Teaching and educational professionals (231)	28%	10%	7,100	34%	5%	27,900
Sales, marketing and related associate professionals (354)	20%	15%	5,900	30%	7%	19,800
Artistic, literary and media occupations (341)	29%	12%	5,300	46%	8%	16,900
Design occupations (342)	35%	20%	4,200	53%	10%	10,400
Sales supervisors (713)	68%	25%	3,700	77%	8%	12,200
Managers and proprietors in hospitality and leisure services (122)	37%*	20%	3,600	59%	8%	14,200
Information technology and telecommunications professionals (213)	11%*	12%	3,500	16%	6%	9,700
Managers and proprietors in other services (125)	31%*	9%	3,200	42%	4%	11,300
Agricultural and related trades (511)	76%	23%	3,200	86%	3%	9,400
Business, research and administrative professionals (242)	12%*	11%	3,200	21%	7%	10,000
Sports and fitness occupations (344)	89%	9%	3,000	89%	4%	8,100
Business, finance and related associate professionals (353)	13%	9%	2,900	37%	6%	17,400
Electrical and electronic trades (524)	25%	19%	2,800	30%	6%	7,700
Functional managers and directors (113)	8%*	10%	2,400	15%	6%	9,700
Science, engineering and production technicians (311)	45%	19%	2,300	50%	7%	11,600
Customer service managers and supervisors (722)	33%	23%	2,100	51%	6%	4,600
Welfare and housing associate professionals (323)	62%	8%	2,100	77%	4%	8,800
Production managers and directors (112)	16%*	20%	2,000	20%	6%	5,900
Health professionals (221)	20%*	9%	1,900	22%	8%	10,400
Nursing and midwifery professionals (223)	31%	7%	1,900	45%	5%	16,400
Public services and other associate professionals (356)	24%	9%	1,900	40%	4%	7,800

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Architects, town planners and surveyors (243)	15%*	17%	1,600	19%	7%	3,400
Managers and directors in retail and wholesale (119)	34%	9%	1,300	51%	5%	7,900
Health associate professionals (321)	57%	8%	1,300	55%	4%	4,200
Natural and social science professionals (211)	19%	16%	1,200	21%	13%	6,100
Vehicle trades (523)	35%*	15%	1,100	48%	7%	8,600
Media professionals (247)	22%*	6%	1,100	30%	4%	2,400
Managers and directors in transport and logistics (116)	22%*	21%	1,000	33%	8%	4,700
Engineering professionals (212)	12%*	16%	1,000	12%	7%	4,200
Welfare professionals (244)	42%	8%	900	43%	4%	3,000
Administrative occupations: office managers and supervisors (416)	28%	9%	900	45%	4%	3,900
Therapy professionals (222)	28%*	11%	800	47%	5%	4,600
Information technology technicians (313)	21%	8%	700	39%	5%	4,300
Legal professionals (241)	11%*	7%	700	16%	4%	1,500
Metal machining, fitting and instrument making trades (522)	26%*	12%	600	38%	7%	8,400
Administrative occupations: government and related organisations (411)	40%	3%	500	68%	2%	5,500
Other skilled trades (544)	42%	8%	500	76%	8%	6,100
Health and social services managers and directors (118)	19%*	11%	400	19%	4%	700
Legal associate professionals (352)	19%*	11%	300	50%	3%	1,300
Research and development managers (215)	11%*	18%	300	11%	9%	500
Financial institution managers and directors (115)	7%*	12%	300	10%	5%	400
Chief executives and senior officials (111)	6%*	8%	200	16%	5%	900
Protective service occupations (331)	9%*	3%	200	19%	3%	1,900
Quality and regulatory professionals (246)	10%*	6%	200	16%	6%	1,400
Librarians and related professionals (245)	38%*	1%	100	60%	1%	400

Source: ONS ASHE 2018; APS 2017; GLAE Calculations.

*The share of jobs paying below the £27,000 salary the threshold has been imputed.

Table 8: EEA-held jobs paying below £24,000 for occupations at RQF3+, London and the UK, 2018 (higher-skilled (RQF 6-8) in light blue)

Occupation	London			UK		
	Share of jobs paying below £24k	EEA workers share	Estimated number of EEA jobs below 24k	Share of jobs paying below £24k	EEA workers share	Estimated number of EEA jobs below 24k
Construction and building trades (531)	24%*	46%	13,300	38%	11%	36,800
Food preparation and hospitality trades (543)	62%	21%	10,200	78%	14%	51,900
Teaching and educational professionals (231)	24%	10%	6,100	27%	5%	22,600
Sales, marketing and related associate professionals (354)	13%	15%	3,900	22%	7%	14,700
Artistic, literary and media occupations (341)	21%*	12%	3,900	36%	8%	13,300
Sales supervisors (713)	22%	20%	3,000	37%	10%	7,200
Information technology and telecommunications professionals (213)	56%*	25%	2,900	66%	8%	10,500
Sports and fitness occupations (344)	24%	20%	2,800	48%	8%	11,700
Agricultural and related trades (511)	9%*	12%	2,800	11%	6%	6,700
Design occupations (342)	24%	9%	2,700	34%	4%	9,100
Business, research and administrative professionals (242)	65%*	23%	2,600	75%	3%	8,200
Managers and proprietors in other services (125)	9%*	11%	2,500	15%	7%	7,200
Managers and proprietors in hospitality and leisure services (122)	82%*	9%	2,400	84%	4%	7,700
Functional managers and directors (113)	8%*	9%	2,200	28%	6%	13,100
Electrical and electronic trades (524)	17%*	19%	2,000	19%	6%	4,900
Science, engineering and production technicians (311)	7%	10%	1,700	13%	6%	8,100
Business, finance and related associate professionals (353)	33%	19%	1,700	39%	7%	9,000
Production managers and directors (112)	24%*	23%	1,700	40%	6%	3,600
Health professionals (221)	43%*	8%	1,600	62%	4%	7,100
Customer service managers and supervisors (722)	13%*	20%	1,600	16%	6%	4,800
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Public services and other associate professionals (356)	25%	7%	1,500	35%	5%	12,900
Welfare and housing associate professionals (323)	19%	9%	1,400	31%	4%	6,000
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Managers and directors in transport and logistics (116)	15%*	21%	700	23%	8%	3,300
Engineering professionals (212)	9%*	16%	700	9%	7%	3,000
Administrative occupations: office managers and supervisors (416)	30%	8%	700	28%	4%	1,900
Welfare professionals (244)	21%	9%	700	34%	4%	3,000
Legal professionals (241)	18%*	11%	600	36%	5%	3,600
Therapy professionals (222)	15%*	8%	500	29%	5%	3,200
Information technology technicians (313)	9%	7%	500	12%	4%	1,100
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Administrative occupations: government and related organisations (411)	28%	3%	400	54%	2%	4,400
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Legal associate professionals (352)	13%*	11%	200	38%	3%	1,000
Financial institution managers and directors (115)	9%*	18%	200	9%	9%	400
Research and development managers (215)	6%*	12%	200	9%	5%	400
Chief executives and senior officials (111)	5%*	8%	200	13%	5%	700
Protective service occupations (331)	8%*	3%	200	12%	3%	1,200
Quality and regulatory professionals (246)	8%*	6%	100	11%	6%	1,000
Librarians and related professionals (245)	34%*	1%	100	51%	1%	300

Source: ONS ASHE 2018; APS 2017; GLAE Calculations.

*The share of jobs paying below the £24,000 salary the threshold has been imputed.

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