

# Skills strategy for Londoners: Evidence base

June 2018



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## Executive summary

### Mayor's vision

The Mayor is determined that London becomes a city where all residents benefit from the capital's opportunities and success, and where London's employers and businesses can access the skills they need to succeed and compete, nationally and internationally. To achieve this, London must have a system for post-16 adult education and skills that delivers for all Londoners and employers. This system should be the envy of cities around the world for its outcomes and ambitious standards. It must be responsive to the demands of the capital's local labour markets, both now and in the future. The Mayor's vision is for:

*'A City for all Londoners – making sure Londoners, employers and business get the skills they need to succeed in a fair, inclusive society, and thriving economy'*

### Skills Strategy

To deliver on his vision, the Mayor has produced Skills for Londoners – a skills and adult education strategy for London (The strategy) which sets out the priorities and measures to improve education and skills provision for Londoners aged 16+, with a focus on technical (vocational) skills and adult education.

The Skills for Londoners' Strategy Evidence Base ('The evidence base') has been prepared by GLA Economics using desk-based research. The data within the evidence base has been used to inform the three priority areas of the strategy, specifically to:

- 1. Empower all Londoners to access the education and skills to participate in society and progress in education and in work**
- 2. Meet the needs of London's economy and employers, now and in the future**
- 3. Deliver a strategic city-wide technical skills and adult education offer**

While the strategy has a broad focus, with a view to developing a whole system approach to skills, these priorities also inform preparations for devolution of the Adult Education Budget (AEB) (devolved to London from 2019/20). The strategy therefore refers to both the levers that the Mayor has direct control over and those that he would like to control in order to create a more coherent skills system. Further detail on how AEB and other available skills and employment support funding through the GLA will be committed is included within the Skills for Londoners Framework.

In addition to the evidence base, the GLA has conducted wider research, the findings of which underpin the strategy. Notably, the GLA has conducted research to explore Londoners' experience of the skills and education system. Furthermore, the GLA has consulted employers, colleges and other skills stakeholders in the policy-making process. Finally, the four borough sub-regional partnerships<sup>1</sup> in London were invited to contribute their own evidence to help inform the strategy's development.

This executive summary highlights the key findings of the research within the evidence base to allow the reader to readily identify how the research has been used to inform the strategy.

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<sup>1</sup> London's Sub-Regional Partnerships: Central London Forward, Local London (including south east and north east London), South London Partnership, West London Alliance.

## Strategy priority 1 – Empower all Londoners to access the education and skills to participate in society and progress in education and in work

Not all Londoners have the education or skills to access the opportunities that the capital has to offer. Whilst the employment rate in London is only slightly lower than the UK average, (the overall 16-64 employment rate in London in Jan-Dec 2016 was 73.8% compared to 74% UK wide [See Evidence Base: Chapter 2.1]), there is significant variation in the employment rates amongst different groups of Londoners [See Evidence Base: Chapter 2.3].

Notably, employment rates are lower among women (67%) and people with low qualifications (42% for those with no qualifications, compared to 85% for those qualified to degree level). ‘Black’, ‘Other’, ‘Mixed’ and ‘Pakistani / Bangladeshi’ ethnic groups all have below average employment rates. The employment rate for disabled Londoners was 52% in 2016, 22 percentage points below the rate for all Londoners (age 16 to 64). Furthermore, two million Londoners live below the poverty line, more than half of whom are in working families<sup>2</sup>, and many Londoners are stuck in, or moving in and out of, low-paid, insecure employment with few chances to progress into better-paid and more stable jobs<sup>3</sup>.

Inequalities also manifest geographically; both unemployment levels and income show similar spatial patterns, with relative disadvantage seen in large parts of East London (including much of Tower Hamlets, Newham, and Barking and Dagenham), inner-South-East London, parts of North London (including eastern parts of Enfield and Haringey), and several parts of outer-West and outer-South London.

The relationship between skills and positive labour market outcomes is well established [see Evidence Base: Introduction]. People with higher skill levels are more likely to be in work, and those in work are more likely to earn higher wages, work in higher level occupations, and enjoy greater job security. For example, in London the employment rate for working age people with degree level qualifications (NVQ 4+) is twice the level for people with no qualifications (85 vs 42%). Enabling Londoners to develop higher level skills may therefore contribute to improved labour market outcomes.

However, such associations alone may overstate the importance of skills. For example, socio-economic background is likely to affect both educational attainment and employment outcomes. To get a truer picture of the impact of skill level on employment and other outcomes, such factors should be accounted for. Two such studies conducted in 2011, found that there are still positive labour market returns to both degrees and vocational qualifications even when using these controls<sup>4</sup>. For example, degrees have been estimated to increase earnings by a quarter (compared to having A-levels) and vocational qualifications at NVQ Level 3 were estimated to increase earnings by between 10 and 20% (compared to having an NVQ Level 2 qualification).

Skills also have positive social outcomes. There are strong associations with a number of social outcomes, including health, wellbeing, civic engagement, and propensity for crime [see Evidence Base: Chapter 1.2]. Some skills, such as digital skills, can directly contribute to social outcomes by making it easier for people to communicate and access services. However, the evidence on the relationship between skills and social outcomes is relatively weak when it comes to demonstrating a causal relationship, as opposed to merely an association between the two.

One implication of the link between skills and employment and social outcomes is that inequalities in skills are likely to feed through into wider inequalities. Inequalities relating to individuals’ backgrounds are

<sup>2</sup> Trust for London (2017) ‘[London Poverty Profile 2017](#)’.

<sup>3</sup> Social Mobility Commission (2017) [The Great Escape? Low pay and progression in the UK’s labour market](#)

<sup>4</sup> BIS (2011) ‘[The returns to higher education qualifications](#)’ and, BIS (2011) ‘[Returns to intermediate and low level vocational qualifications](#)’

evident throughout the education and skills system – from GCSEs, through to access to university, and employers’ investment in their staff [see Evidence Base: Chapter 7]. For example, in 2015/16, 66% of London pupils gained 5 or more A\*-C GCSEs (including English and Maths), but attainment was lower among those on free school meals (51%), and among Black pupils (61%). London pupils are more likely to go on to university than elsewhere in the country, but within London, pupils eligible for free school meals are less likely to do so (41%, compared to 52% of non-free school meal students). Employers are more likely to invest in training staff with higher level qualifications.

This results in an adult population where there are significant inequalities in skills and qualifications according to people’s background [see Evidence Base: Chapter 6]. For example, the OECD’s skills survey suggests that in England, Black and Asian adults have lower proficiency in numeracy, literacy and problem solving. And although Londoners overall are more highly qualified than the rest of the UK, within London adults from ‘Mixed’, ‘Black’ and ‘Other’ ethnic backgrounds, and disabled adults, are less likely to have a degree level qualification than the wider London population.

Skills inequalities are also evident across London boroughs (e.g. in Wandsworth 72% of 25-64-year olds had degree level qualifications at the 2011 census, compared to 22% in Havering).

## **Strategy priority 2 – Meet the needs of London’s economy and employers, now and in the future**

The second strategy priority relates to meeting employer demand for skills. The last two decades have been a period of rapid growth for London [see Evidence Base: Chapter 3]. There are currently 5.8 million jobs in London, up from 4.1 million 20 years ago, an increase of 84,000 jobs per year on average, although this growth has accelerated in recent years. Recent jobs growth has been dominated by growth in business and professional services. Jobs growth has also been primarily in the ‘higher’ occupation levels. Between 1994 and 2014, London saw 1.5 million additional jobs in the top three occupation groups (managers, directors and senior officials, and professional and ‘associate professional’ occupations), compared to 130,000 in all other occupation groups. GLA Economics’ employment projections suggest these trends are likely to continue into the future [see Evidence Base: Chapter 3].

These trends have implications for skills demand, particularly as higher occupations require staff with higher level skills. Between 2004 and 2014, London saw additional demand for 1.1 million people with degree level qualifications, including 338,000 with higher degrees. By contrast, over this period demand fell for people with qualifications at GCSE level or below [see Evidence Base: Chapter 3].

The last 10-20 years have therefore seen significant growth in demand for people with higher level skills in London. Alongside this, the number of people with higher level skills has also increased [see Evidence Base: Chapter 4]. Not only has London’s population been growing (by 1.2 million between 2007 and 2017), but since 2004 the proportion of London adults age 25 to 64 with degree level qualifications (NVQ 4+) has increased from 36 to 57%.

These trends have culminated in a London population that is overall more highly qualified than the rest of the UK (where 40% of 25 to 64 year olds have degree level qualifications, 17 percentage points lower than London), but also more highly qualified than the rest of Europe [see Evidence Base: Chapter 4].

Therefore, London is a place where both the demand for and supply of skills (at least, as measured by qualifications) are ‘high’. London has been described as being in a ‘high skills equilibrium’ [see Evidence Base: Chapter 5]. Employer surveys provide estimates of unmet demand, either in the form of ‘skills shortage vacancies’ (where an employer cannot recruit the right skills) and ‘skill gaps’ (where a staff member is deemed to lack the right skills). Together these amounted to 238,000 in London in 2015. This implies a significant problem with skill supply. However, this amounts to 5% of total labour demand in

London, implying the vast majority of demand for labour is met by workers with adequate skills [see Evidence Base: Chapter 5].

Furthermore, to the extent that there are supply and demand imbalances, in London the greater problem may be a lack of demand (or an 'over' supply). In 2015, 8% of people working in London were considered by their employers to be 'under-utilised' (where an individual's skill is not fully deployed in the workplace), compared to 4% who were considered to lack proficiency [see Evidence Base: Chapter 5].

However, these aggregate level statistics hide more troubling data for particular sectors and occupations [see Evidence Base: Chapter 5]. These may be compounded if Brexit results in a shortage of available labour. For example, construction and hospitality (hotels and restaurants) have been two of London's fastest growing sectors in the last few years in terms of jobs, but a third of their workers are from outside the UK in the EU. At England level (for which data is available) skill shortages and gaps are most prevalent, as a proportion of employment, in hospitality (hotels and restaurants), public administration, and manufacturing.

There is a question about how employers will respond to skill shortages after Britain leaves the EU. There is little evidence from recent years that employers are willing to increase wages in those sectors and occupations where skill shortages are highest, but this could happen if Brexit caused a more serious supply shock. There is also the possibility that these forces could see an intensification of automation, with employers responding to higher labour costs by substituting in technology.

Another response would be for employers, faced with skill gaps and shortages, to train their staff in the skills they deem lacking. However, the recent record of employer training in London and the UK is poor [see Evidence Base: Chapter 8]. Employer training in London is similar to the rest of the UK, both in terms of the proportion of employers that are offering training (two thirds) and in terms of the number of hours of training offered, but by international standards, investment in training by UK employers is low, about half the level per employee as in the EU overall.

As well as being 'low' by international standards, training in London and the rest of the UK has fallen over the last two decades, from 1.36 training hours per person employed per week in 1997 to 0.38 in 2017 [see Evidence Base: Chapter 8]. This implies a reduction in training volume of 61% (similar to a 65% reduction in the rest of the UK).

Training levels vary between industries, but the evidence is mixed on which are the best- and worst-performing sectors [see Evidence Base: Chapter 8]. In terms of staff receiving training, staff are more likely to receive training in public sectors (public administration, education and health), and less likely in manufacturing, transport and communication and construction. However, at the UK level (for which data is available) the sectors that spend the most on training per employee are the utilities, construction, business services and arts and other services. As outlined above, there is also an inequality dimension to training, because employers are more likely to offer training to people with high qualifications, suggesting that any existing inequalities in skills are likely to be reinforced in work by employers.

The number of apprentices in London age 19+ increased by 19% between 2011/12 and 2015/16 (from 57,000 to 68,000) [see Evidence Base: Chapter 7.5]. However, despite increasing apprenticeship numbers in recent years, London still does less well than the rest of the country. In 2015/16, despite its size, London had the second lowest number of apprenticeship starts across all English regions (44,000, compared to 80,000 in the North West for example). When normalised by population London is firmly in last place, with 7 apprenticeship starts per 1,000 population (compared to 20 in the North East, for example). In 2015/16, in London, apprenticeship starts amounted to 2% for the 19 to 24 age group, compared to 4% in England as a whole. London's lower apprenticeship numbers are partly explained by its sectoral composition (it has

a relatively large share of employment in sectors that employ few apprentices), but even when comparing individual sectors against other parts of the country London offers fewer apprenticeships.

### **Strategy priority 3 – Deliver a strategic city-wide technical skills and adult education offer**

The third priority in the draft strategy is to ‘deliver a strategic city-wide technical skills and adult education offer’. There are a number of challenges facing the skill system [see Evidence Base: Chapter 9], in addition to the apprenticeships take up issue in London discussed above. The most significant of these is funding, which is particularly affecting adult further education. The amount of money allocated to adult further education and skills in England fell by 14% in real terms between 2010/11 and 2015/16 (from £3.18 billion to £2.94 billion). This includes funding for apprenticeships, and funding for Advanced Learner Loans, which increased over this period,<sup>5</sup> meaning that other areas of the budget fell even more steeply. Spending from the non-apprenticeships part of the adult skills budget (which does not include Advanced Learner Loans) fell by 54% between 2010/11 and 2015/16, from £2.50 billion to £1.14 billion.

These reductions in funding have coincided with a fall in participation in adult education, both in London and in the rest of England [see Evidence Base: Chapter 7]. In London, 19+ participation in overall ‘Education and Training’ (which is the Education and Skills Funding Agency’s (ESFA) umbrella term for further education delivered mainly in a classroom – i.e. excludes apprenticeships and community learning) fell by 28% between 2011/12 and 2015/16 (from 309,000 to 224,000).

Within this overall group, the decline in participation in basic skills courses (English, Maths, and English for Speakers of Other Languages, ESOL) mirrored the overall decline [see Evidence Base: Chapter 7]. For example, in London 19+ participation in English fell by 32% between 2011/12 and 2016/17 (from 116,000 to 78,000), participation in Maths fell by 28% (from 100,000 to 72,000) and participation in ESOL fell by 17% (from 52,000 to 43,000). Participation in community learning (designed to help people to reconnect with learning, develop a new skill and prepare to progress to formal courses - not necessarily accredited training) - for which age data is unavailable) fell by 10% from 2011/12 to 2015/16.

Alongside the reductions in funding to adult further education, there have also been important policy changes which will also pose challenges in terms of implementation [see Evidence Base: Chapter 9]. The most significant of these is the Apprenticeship Levy, introduced in April 2017. Under this system, large employers pay a levy and may then draw down from a training budget. Small employers must pay 10% of training costs. Initial data suggests the policy may have had a negative impact on apprenticeship numbers. Apprenticeship starts in the first academic quarter of 2017/18 (the three months to October 2017) were 21% lower in London than the same quarter in the previous year (and 27% lower in the rest of England). However, more data is needed before we can confidently assess the impact of the new policy.

Higher education has also been subject to policy changes, but has not seen the same decline in funding. Increases in tuition fees have taken up the slack from a fall in teaching grants, meaning that expenditure in universities has continued to increase while further education spending has fallen, and the proportion of young people going to university has expanded steadily in recent years. London students consistently do well in terms of university participation, with 48% going to university by age 19, compared to 38% in England overall. However, there are still challenges in the HE sector. For London, foremost among these is the relatively high non-continuation rate at London universities. 10% of London students dropped out in 2016/17, compared to 8% in the UK as a whole.<sup>6</sup> This is particularly the case for Black students in London, who had a 14% non-continuation rate.

<sup>5</sup> Advanced Learner Loans were introduced in 2013.

<sup>6</sup> HEFCE Teaching Excellence Framework Year 2

Other challenges in the skills system relate to ‘market failures’ in those parts of the system expected to operate on a competitive basis. A 2016 report for the government noted that, while providers are generally responsive to learners and employers, and learners can exercise choice, there are several barriers to entry and exit in the provider market that prevent effective competition.

Another set of challenges within the skills system can be grouped together as ‘information failures’. Individuals, providers and employers, as well as policy makers, need high quality information on skills demand to make informed decisions about what skills to learn, provide and fund. However, this is often lacking. ‘Patchy’ and ‘inadequate’ careers advice services (in the words of the government in 2014) combined with a huge array of qualifications and learning options mean it is hard for people to make confident learning decisions, particularly those pursuing non-academic pathways. Finally, many potential learners face additional barriers to learning. Surveys suggest that financial and time constraints are foremost among these. In London, the cost and availability of childcare may be a particular barrier for parents, with childcare costing more in Inner and Outer London than in all other parts of the UK [see Evidence Base: Chapter 9].

## Document outline

This document provides material relating to the GLA's Skills for Londoners strategy, and reflects the strategy's themes of people, business, and the skill system. The document is structured as follows:

- **Chapter 1: Introduction** – defines the term 'skill', discusses measurement issues, and suggests that skills are important for the labour market and social impacts on individuals.
- **Chapter 2: Economic context** – sets out some relevant economic trends (including employment, wages, and productivity) and compares London to the rest of the UK in terms of sectors and occupations.
- **Chapter 3: Skill demand** – sets out historic and projected trends in labour demand, and shows an increase in demand for higher level skills.
- **Chapter 4: Skill supply** – sets out trends in the supply of labour in London. There has been an increase in the proportion of Londoners with degree level qualifications, and Londoners are more highly qualified than elsewhere in the UK and Europe. However, direct skill measures suggest proficiency in basic skills is, on average, lower in England than in other OECD countries, and that average proficiency in London is slightly below the England average.
- **Chapter 5: Does supply match demand?** – Discusses whether skill demand and supply are in balance in London, both overall, and by sector. Raises weak demand as a potential issue. Note that this takes the perspective of the employer, asking whether London employers are able to access the right skills, regardless of whether they are hiring residents or commuters.
- **Chapter 6: Inequalities in skills and qualifications.** Sets out inequalities in skill and qualification levels in London between population groups. Maps show spatial inequalities.
- **Chapter 7: Participation and attainment in education and skills.** Sets out data on participation and attainment in the education and skill system, comparing London to the rest of England, and comparing areas and groups within London. Starts with GCSE level and goes through to further and higher education.
- **Chapter 8: Employer training.** Suggests that the amount of employer training in London and the UK has fallen in the past 20 years, and that employers in the UK invest less in employer training than European employers. Discusses potential reasons for this.
- **Chapter 9: Challenges facing the skills system.** Discusses some challenges facing the education and training system, including funding cuts, poor information and advice for prospective learners, barriers to learning, and some issues relating to market failure.

## Data sources

This document uses a variety of data sources, mostly data that is publicly available and produced by the Office for National Statistics, and UK governmental departments and agencies. In most cases when London is being compared to other areas, comparisons are made with the rest of the UK, or with the UK as a whole. However, because England has a separate education system to the rest of the UK, with education-related data many comparisons are with the rest of England, or with England as a whole.

**Employer Skills Survey.** This is the UK's main data on employers' views of the skill system, the availability of skills, their training activity, among other topics. The Department for Education has taken over this survey from the UKCES, who have been wound down. The survey is biennial, and the latest data available at the time of writing this report was for 2015. New data, for 2017, is expected to be published in summer 2018. Data and reports are available on the Government website<sup>7</sup>.

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<sup>7</sup> Employer Skills Survey, 2015 <https://www.gov.uk/government/publications/ukces-employer-skills-survey-2015-uk-report>

**OECD 2012 Survey of Adult Skills.** The OECD’s ‘Adult Skills Survey’, while somewhat old, is useful as it provides data on adult’s actual skill level, as opposed to skill level as proxied by educational attainment. The survey covers over 40 countries, allowing international comparisons. Adults are assessed on their literacy, numeracy and problem solving proficiency. In 2013 the UK’s Department for Business, Innovation and Skills published a report and data from this survey, which is the data source used in this report<sup>8</sup>. The OECD conducted additional surveys in 2014/15 but the UK did not participate in this round.

**Labour Force Survey (LFS) / Annual Population Survey (APS) and other ONS labour market datasets.** The LFS (and the APS in its expanded, annual form) provide timely labour market data. The survey size is large enough to provide robust data at London level, even when looking at population sub-groups. This data source is used on many occasions in this report, including to measure people’s educational attainment and to measure employees’ recent training activity. LFS and APS data can be accessed via the ‘Nomis’ website<sup>9</sup>, or by undertaking analysis of raw data files from the UK Data Service.

**2011 Census.** The 2011 census is now somewhat out of date, but it remains essential for analysis of small geographies, or of small population groups. It is used to map qualification levels across London, and to compare the ‘in need’ groups for the sub-regional partnerships (see Appendix A). Census data is primarily accessed via the ‘Nomis’ website.

**FE data library / ESFA data cube / ESFA online tool.** These datasets ultimately all stem from the ‘Individual Learner Record’, an administrative dataset used by the Education and Skills Funding Agency. A range of data is published publicly on the Department for Education’s ‘FE data library’ page, including on apprenticeships and other types of further education. The GLA also has access to a ‘data cube’ and an online tool which provide some breakdowns not available on the FE data library<sup>10</sup>.

**Teaching excellence framework (Office for Students).** As explained in chapter 9, this dataset is used to compare teaching quality across higher education institutions. It provides a range of data, including students’ views on their teaching, as well as some data on student outcomes and student characteristics<sup>11</sup>.

**2014 London business survey.** Conducted in 2014, this was a survey of 10,000 London businesses, designed by the ONS, that asked about a range of topics, including whether businesses are positively or negatively affected by the availability of skilled labour. Data is available on the London Datastore.<sup>12</sup>

## Glossary

**Skill.** Defined here as ‘the ability to complete a task’, and vary by type (what kind of task is completed) and level (how difficult the task is, or how competently the person can complete the task). Various categorisations are available.

**Basic skills.** A specific set of general skills assessed in the OECD’s Adult Skills Survey – literacy, numeracy and problem solving.

**Skills system.** The institutions through which and processes by which individuals acquire skills. This is therefore very broad, encompassing the education system (schools, colleges and universities), all types

<sup>8</sup> BIS, OECD Adult Skills International Survey 2012 <https://www.gov.uk/government/publications/international-survey-of-adult-skills-2012>

<sup>9</sup> ‘Nomis’ website: <https://www.nomisweb.co.uk/>

<sup>10</sup> FE data library <https://www.gov.uk/government/collections/fe-data-library>

<sup>11</sup> Office for Students, Teaching Excellence Framework <https://www.officeforstudents.org.uk/advice-and-guidance/teaching/what-is-the-tef/>

<sup>12</sup> 2014 London Business Survey, GLA datastore: <https://data.london.gov.uk/gla-economics/london-business-survey-2014/>

of learning providers, employers, funding bodies, and regulatory and inspection bodies. The term is sometimes used more narrowly, to refer to institutions that deliver vocational training.

**Higher education.** Refers (in this document) to education in universities.

**Further education.** Refers (in this document) to education after age 16 that is *not* 'higher education'. Includes apprenticeships, as well as learning based in classrooms.

**Key stages.** Describe different stages of education in the UK. Key Stage 1 covers ages 5 to 7, Key Stage 2 ages 7 to 11, Key Stage 3 ages 11 to 14, Key Stage 4 ages 14 to 16 (where pupils take GCSEs), and Key State 5 ages 16 to 18.

# 1 Introduction

## Key points

- ‘Skills’ may be defined as the ability to perform a task. Skills vary according to type (relating to the specificity and domain of the task in question), and skill ‘level’.
- Skill and qualifications are not the same thing, although the latter are a common proxy for skill, since it is hard to measure skills directly.
- Skills matter because they are associated with positive labour market and social outcomes for individuals. This, in turn, generates positive outcomes at the economy and society level. The evidence is strongest when it comes to employment outcomes. For example, degrees have been estimated to increase an individual’s earnings by 27%, compared to having A-levels.

## 1.1 Defining and measuring ‘skill’

The term ‘skill’ is often used without a formal definition. For example, Government’s recent Post-16 Skills Plan does not attempt to define the term<sup>13</sup>. Nevertheless, various definitions are available. To take three: the 2006 Leitch Review of Skills defined skills as ‘capabilities and expertise in a particular occupation or activity’.<sup>14</sup> The European Commission define skills as ‘the ability to apply knowledge and use know-how to complete tasks and solve problems’.<sup>15</sup> Finally, Anne Green defined skill from a labour market perspective as ‘the capacity to competently undertake the tasks that comprise a job’.<sup>16</sup> All three definitions have at their centre the idea that **a skill provides the ability to complete a task**.

This will be the basic definition of ‘skill’ used in this document. Skills then vary by type according to the kind of tasks involved, and by level in terms of the difficulty of the task or how well the task is completed.

There are various ways of categorising *types* of skill, for example:

- **General** (or ‘soft’ or ‘employability’) skills versus **domain-specific** (or ‘hard’) skills. This relates to how generally applicable the skill is, that is, to the range of tasks and settings the skill relates to. For example, within digital skills, basic IT skills could be classed as ‘general’ given the widespread use of digital technology in the workplace, whereas specific programming skills would still be classed as ‘domain-specific’.  
Other terms which are used to refer to general skills are ‘soft’, ‘employability’ and ‘transversal’ skills. The multilingual classification of European Skills, Competences, Qualifications and Occupations (ESCO) include in their ‘transversal’ skills group thinking, language, application of knowledge, social interaction, and attitudes and values.  
By contrast, domain-specific skills (sometimes called ‘hard’ skills, in the sense of the opposite to soft) apply to a narrower range of tasks. One example of domain-specific skills are skills specific to a particular employer.
- **‘Core’** or **‘basic’** skills. These skills are a particular set of ‘general’ skills. Following the OECD’s usage, they refer to literacy, numeracy and problem-solving skills.<sup>17</sup>

<sup>13</sup> Department for Business, Innovation and Skills and Department for Education (2016) ‘[Post-16 Skills Plan](#)’

<sup>14</sup> Leitch (2006) ‘[The Leitch Review of Skills](#)’

<sup>15</sup> European Commission (2017) ‘[ESCO Handbook](#)’.

<sup>16</sup> Green (2016) ‘[The UK’s Skill System: Training, Employability and gaps in Provision](#)’ [Government Office for Science]

<sup>17</sup> OECD (2016) ‘[Building Skills for All – A Review of England](#)’

- **Cognitive** versus **practical**. ESCO distinguish between cognitive and practical skills.<sup>18</sup> The former involve ‘the use of logical, intuitive and creative thinking’, whereas the latter involve ‘manual dexterity and the use of methods, materials, tools and instruments’.

Skill *level* cuts across all these *types* of skill. People may have high or low basic skills, for example.

### Measuring skills

Measuring skill is difficult – both in terms of type and level. This is because the surest way of knowing whether a person is able to complete a task – the working definition adopted above – is to test them. This is referred to as a ‘direct’ measure of skills. Because testing is costly there are relatively few data sources which directly measure skill.

The main such source used in this evidence base is the OECD’s ‘Adult Skills Survey’. This involves assessments of adult proficiency in basic skills (literacy, numeracy and problem solving). This data source is useful because it enables cross-country comparisons. Other sources include the OECD’s assessments of 15-year-olds in Reading, Maths and Science, and the surveys undertaken by the ‘International Association for the Evaluation of Educational Achievement’, which also assess young people.<sup>19</sup>

These surveys are good at measuring skill *level*, but they only do so across a narrow range of skill *types*. For example, the OECD’s Adult Skills Survey measures proficiency in basic skills – literacy, numeracy and problem solving. This does not provide information about proficiency in domain-specific skills or in specific subject areas, but also fails to provide information about other important ‘general’ skills such as communication and interpersonal skills. Another limitation is that these surveys do not offer sample sizes big enough to get detailed breakdowns of skills across demographic groups, certainly not at the London level. Some breakdowns from the OECD Adult Skills Survey are presented in Chapter 3. Finally, these sources are also not very timely. The most recent OECD Adults Skills Survey data for England is from 2012.

Such limitations of ‘direct’ measures of skill mean it is useful to draw on ‘indirect’ measures as well. The main proxy used to indirectly measure skill is educational attainment. A person’s highest qualification level is commonly used as a proxy for their skill level. This resolves some of the issues of the direct measures. We have rich data available on individual’s qualifications from the census and population surveys, meaning we have access to timely data, and also data that can be broken down by demographic group. This helps identify those in skill ‘need’. It is also possible to use qualifications to look at qualifications by field of study.

On the one hand, qualifications make sense as a proxy for skill, because there is a link between the two. Individuals hopefully develop new skills or knowledge through the learning undertaken in order to obtain a qualification. Another link is that employers often use qualifications as a proxy for skill, which creates a link between skills and labour market outcomes via qualifications. Skills are important (in part) because they affect labour market outcomes, and therefore qualifications are themselves a useful measure. Another benefit of qualifications as a measure of skill is that they can provide some information about *type* of skill, since qualifications in different fields of study will likely indicate different types of skill.

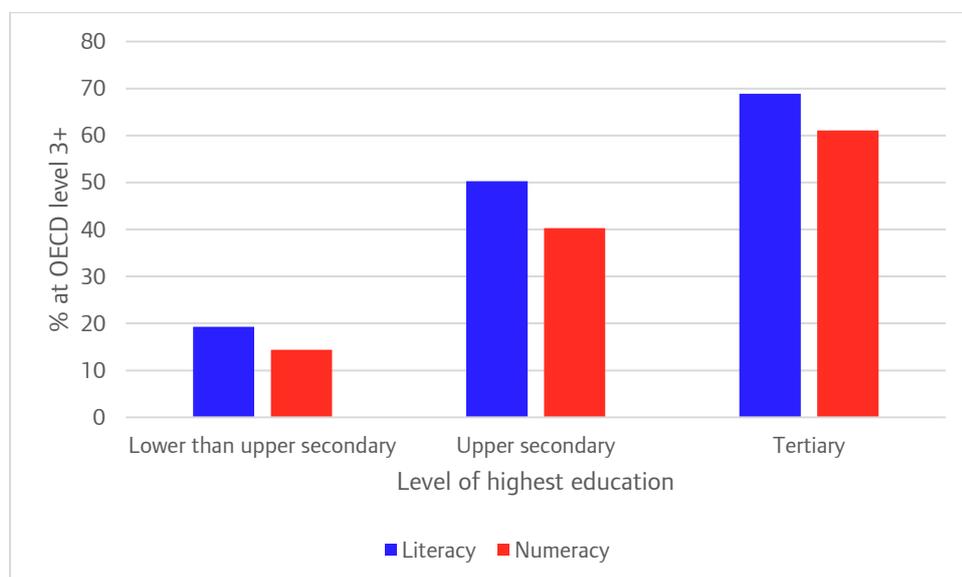
We can see the relationship between qualifications and skills in the OECD’s Adult Skills Survey, which asks respondents about their qualification level as well as assessing basic skill proficiency (see Figure 1.1 below). Adults in England with degree level qualifications have substantially higher proficiency in basic skills (literacy and numeracy) than adults with lower levels of education. In 2012 60% of tertiary-

<sup>18</sup> European Commission (2017) ‘[ESCO Handbook](#)’

<sup>19</sup> TIMSS and PIRLS International Study Centre: <https://timssandpirls.bc.edu/timss2015/international-database/>

educated adults in England had numeracy competence of Level 3 or above on the OECD's scale, compared to fewer than 15% of adults with lower than upper secondary qualifications.

**Fig 1.1: Proficiency in literacy and numeracy by highest education level, England 2012**



Source: OECD Adult Skills Survey, 2012. Via Department for Business, Innovation and Skills.

However, the link between qualifications and skill level is not perfect, and there are some problems with using qualifications as proxies for skill. The main problem is that undertaking formal study (and obtaining qualifications) is only one way of acquiring skill. People can also acquire skills by learning in non-formal settings (not leading to a qualification), and they can learn on the job, and through other types of experience. People can also lose skills. All this means that people with the same highest qualification level, or even with the same qualifications, can have different skill sets and have skills of different levels.

For example, the OECD's data shows that while young people in England are more highly qualified than older generations, their basic skills are not higher level.<sup>20</sup> Alarmingly, one in ten university graduates in England has 'low' level proficiency in literacy and numeracy, which in practice might mean being unable to read the instructions on an aspirin packet, or to read a fuel gauge.<sup>21</sup> Therefore, care is needed when making inferences from qualification level to skill level.

Another potential proxy for skill is occupation. The Office for National Statistics (ONS) classify occupations by their skill level and skill content.<sup>22</sup> Therefore, occupational structure can provide information about the skills of people working in those occupations, with the important caveat that people may not have exactly the level and type of skills required for their occupation. Because of this caveat, occupation data alone is really better used as a measure of skills demand. However, it can be combined with data on 'under' and 'over' skilling to reveal more about skills supply.

Another way of measuring skills is to look at where people *lack* skills, relative to the skill requirements of their job. This measure does not tell us what skills people do have, unless combined with information about the skill requirements in question. However, understanding and quantifying skills that are lacking

<sup>20</sup> OECD (2016) '[Why do we bother with qualifications?](#)'

<sup>21</sup> OECD (2016) '[Why do we bother with qualifications?](#)'

<sup>22</sup> ONS, [SOC 2010](#)

in the workforce, and understanding how these are distributed across occupations and sectors, is an important question for skills policy (reflected in Priority 2 in the Mayor's Skills for Londoners Strategy).

The key data source that measures skills that are *lacking* is the Employer Skills Survey, which asks employers whether they have employees that lack proficiency, and also whether they struggled to fill vacancies due to a lack of suitably skilled applicants. In this way, the survey aims to identify skills 'gaps' and 'shortages'. This sheds light on the intersection of supply and demand. It is possible to break these gaps down by occupation and industry, which provides some information about the type of skills that are lacking in the workforce. Also, the Employer Skills Survey specifically asks employers what kinds of skills are lacking in their workforce, and although not very detailed, this does list a number of skill types including IT, problem solving, literacy and numeracy, language, knowledge and specialist skills.

Another, relatively new, source of data which provides some information on skills is information extracted from job postings<sup>23</sup>. Since job postings often state what skills an applicant should have, this data source provides information about what skills employers are looking for at a particular point in time, and also what skills are needed for different occupations. However, this data does not say whether the people filling these jobs have the skills sought, so says relatively little about skills supply, and furthermore a vacancy will not tend to state *all* the skills the employer expects. There are also various biases and practical issues associated with using job postings for this purpose.

## 1.2 Why do skills matter?

Skills matter because higher level skills are associated with positive outcomes for individuals, society, employers and the economy.<sup>24</sup> These positive outcomes can be grouped into those relating to the labour market, and to social and other outcomes.

In economic theory, the relationship between skills and labour market outcomes centres on productivity. Individuals with higher level skills are more productive, which is why employers are more likely to employ and will pay more to individuals with higher skills. This is what drives the positive labour market outcomes individuals see from higher skill levels. This relationship also means that, in aggregate, at the economy level, increases in a country's (or city's) skill levels should have a positive impact on productivity. It is also believed that skills also raise productivity and economic growth by facilitating technological diffusion and innovation.<sup>25</sup>

However, the evidence showing the impact on productivity of skills at the firm and economy level is perhaps not as clear as the theory would suggest. Since the financial crisis, productivity in London and the UK has essentially not grown at all (see Chapter 2), whereas workforce skills in London have continued to increase (as proxied by qualification level – see Chapter 3). This does not mean there is not a relationship between skills and productivity, just that skills are one contributor to productivity among many. A 2015 study commissioned by the government estimated that increases in human capital explained 20% of increases in UK productivity in the years running up to the 2007 financial crisis<sup>26</sup>. At the firm level, there is relatively little empirical evidence demonstrating a causal relationship between employee skills and employer performance. This is discussed in more detail in chapter 8.

<sup>23</sup> In one sense, of course, job postings are not a 'new' data source. Job postings have always contained information about skill requirements. However, this data is only readily available with online postings and with the use of language processing tools.

<sup>24</sup> For a review of the academic literature on these various positive effects see: Cedefop (2017) '[Investing in skills pays off](#)'

<sup>25</sup> BIS (2015) '[UK skills and productivity in an international context](#)'

<sup>26</sup> NIESR / BIS (2015) '[UK skills and productivity in an international context](#)'

## Individuals

The rest of this section focuses on the impact that higher skill levels have for individuals, both in terms of labour market and social outcomes. At the individual level, the relationship between higher skills and positive labour market outcomes is well established. Individuals with higher level skills are more likely to be in employment and are likely to earn more in employment. They are likely to work in higher level occupations and enjoy greater job security.<sup>27</sup>

In 2016 working age London residents with degree level qualifications (NVQ 4+) had an employment rate of 85%, compared to 67% for those with NVQ Level 3 qualifications, 60% for those with NVQ Level 1 and 2 qualifications, and 42% for those with no qualifications. In 2016, 12% of working age Londoners with degree level qualifications were economically inactive, compared to 32% of those with NVQ Level 3 qualifications, and 54% of those with no qualifications.<sup>28</sup> Eighty per cent of Londoners with degree level qualifications were working in the highest paying occupation groups (managers, professional and associate professional occupations) compared to 37% of those with Level 3 qualifications, and 13% of those with no qualifications.<sup>29</sup>

One note of caution is that, while there is strong evidence showing an association between skills (as proxied by qualification level) and labour market outcomes, there may be other variables that affect both these variables, such as a person's socio-economic background. The presence of outside factors can lead to overstating the strength of the relationship in question (called 'exogeneity bias' in economics). For example, someone from a poor background may face barriers to accessing higher education, and their background may also present barriers to accessing employment in higher level occupations. Here the association between qualification level and employment outcome would hide the importance of other factors.

There is some research which seeks to account for this, by measuring the 'returns' to individuals from learning and skills acquisition while controlling for other factors. Typically, this research will compare the outcomes (generally employment rates and earnings) of otherwise similar people who did and did not undertake a particular qualification. The Department for Business Innovation and Skills<sup>30</sup> commissioned two such studies in 2011, one looking at the returns to higher education<sup>31</sup> and another at intermediate and low level vocational qualifications<sup>32</sup>. Both of these control for a number of personal characteristics that could affect both education and labour market outcomes, including age, gender, ethnic origin, region of residence, prior qualifications, and whether the individual had dependent children.

These studies estimated that the marginal return of an undergraduate degree (compared to someone with A-levels) is 27%. This varies somewhat between men and women, and between different degree subjects and level of degree attained. In terms of employment, an undergraduate degree was estimated to increase the probability of being in employment by 3.3 percentage points (4.2 percentage points for women). There are still positive returns with higher level qualifications, with the study estimating earnings increases compared to undergraduate degrees of 9% for men and 10% for women.

The study of vocational qualifications also found a 'large and significant wage gain for most vocational qualifications', although there is variation by the type and level of vocational qualification. Level 3

<sup>27</sup> Cedefop (2017) '[Investing in skills pays off](#)'

<sup>28</sup> Data from the Annual Population Survey, Jan-Dec 2016.

<sup>29</sup> Data from the Annual Population Survey, April 2016 to March 2017.

<sup>30</sup> Note this department is now called the Department for Business, Energy, and Industrial Strategy (BEIS), following a merger with another department in 2016. This document refers to the former name when referencing research commissioned by that department.

<sup>31</sup> BIS (2011) '[Higher education qualifications: returns and benefits](#)'

<sup>32</sup> BIS (2011) '[Intermediate and low level vocational qualifications: economic returns](#)'

BTECs were estimated to increase earnings by 20% (compared to similar individuals with Level 2 qualifications), 16% for Level 3 RSAs and 10% for Level 3 NVQs. Wage gains were found to be lower for Level 2 qualifications (compared to similar individuals with Level 1 qualifications), with 12% for BTECs, 16% for RSAs and only 1% for NVQs. All vocational qualifications were found to increase the likelihood of being in employment. Positive earnings and employment returns were also identified for apprenticeships – 22% for Level 3 apprenticeships and 12% for Level 2 apprenticeships.

In terms of implications for London skills policy, these studies suggest that higher level qualifications (qualification levels being our best proxy for skills) would have positive labour market impacts for Londoners, in the shape of a higher likelihood of being in employment and higher earnings in employment. However, one note of warning is that the research cited here looks at individual-level effects, and does not necessarily tell us about effects at the London-level of improvements in qualifications and skills. There may be a ‘positional’ aspect to the individual-level effect, with higher qualifications enabling an individual to ‘out compete’ someone with lower qualifications in the labour market. If skills and qualifications improvements only have a positional effect (i.e. skill supply does not affect skill demand), this would mean that policies to invest in skills and qualifications would change the distribution of employment, but would not in aggregate improve employment outcomes for Londoners. Therefore, if policy aims to change aggregate labour market outcomes it is necessary to consider both the demand and supply side of skills.

### Skills and social outcomes

There is also a range of evidence showing the relationship, at the individual level, between higher level skills and various positive outcomes beyond labour market outcomes. These include health, wellbeing, civic participation, crime, and others. For example, the OECD’s analysis of its Adult Skills Survey found that adults with lower proficiency in basic skills were more likely to have reported poor health, more likely to believe they had little impact on the political process, and less likely to participate in associative or volunteer activities. This is a relationship that holds across the thirty countries in the sample.<sup>33</sup> The result was found to be especially strong in England and Northern Ireland, where individuals with low literacy proficiency were half as likely to trust others.<sup>34</sup> Another study used the British National Child Development Study to show that adult learning led to greater health and social outcomes, including higher voter turnout, membership of voluntary associations and racial tolerance.<sup>35</sup>

Health and crime are areas that have been particularly studied for their association with education and skills. The 2017 Cedefop review cites several studies which show an association between education and health. An earlier Cedefop study from 2011, focusing on vocational education, found an association between participation in Initial Vocational Education and Training (IVET) and better self-rated health, a lower likelihood of chronic health problems, and lower Body Mass Index<sup>36</sup>. Similar associations have been found between participation in higher education and reported health in the UK.<sup>37</sup>

European data shows that in every country, people with tertiary level education report better levels of health than those who left education at an earlier age (see figure 1.2 below). Similarly, in the UK, people

<sup>33</sup> OECD (2016) ‘Skills matter: Further results from the survey of adult skills’.

<sup>34</sup> OECD (2013) Survey of Adult Skills First Results: England and Northern Ireland  
<http://www.oecd.org/skills/piaac/Country%20note%20-%20United%20Kingdom.pdf>

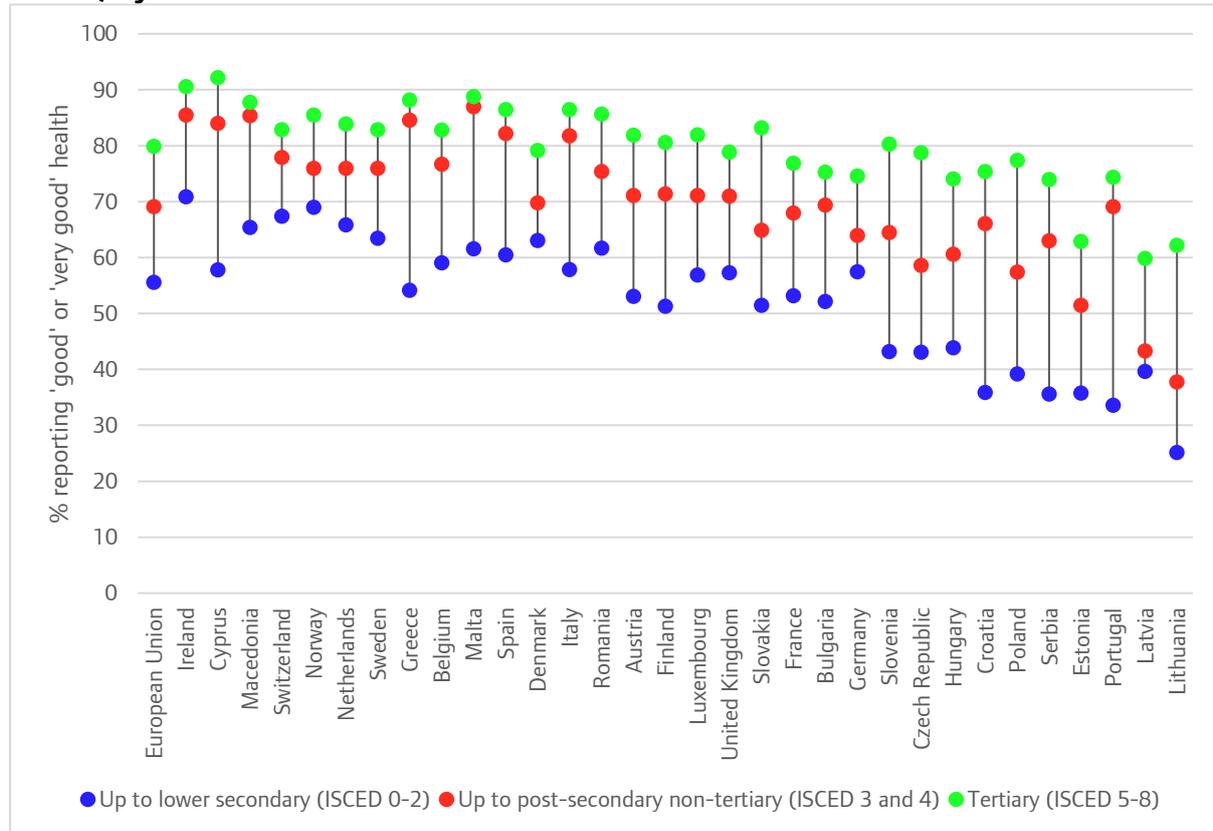
<sup>35</sup> Feinstein, L. and C. Hammond (2004), The Contribution of Adult Learning to Health and Social Capital, Oxford Review of Education, Vol. 30(2), pp. 199-221

<sup>36</sup> Cedefop (2011) ‘Vocational education and training is good for you: The social benefits of VET for individuals’

<sup>37</sup> Conti, G. et al. (2010) ‘The education-health gradient’. American economic review: papers and proceedings, Vol. 100, pp. 234-238

with higher level qualifications on average report higher levels of satisfaction with life, and are more likely to feel life is worth living<sup>38</sup>.

**Fig 1.2: Share of persons aged 16 and over with very good or good self-perceived health, by educational attainment level**



Source: Eurostat, 2016

Similarly, numerous studies associate lower crime and education at the individual level. For example, in 2012 almost half of prisoners in the UK said that they had no qualifications, compared to 15% of the general working age population.<sup>39</sup>

However, as with labour market outcomes, a basic comparison of qualification level with health, wellbeing, crime and other non-labour market outcomes may hide the importance of other factors. There could be factors affecting both qualification level *and* social outcomes, such as an individual’s background. Some studies try to correct for this by using an econometric technique called ‘instrumental variables’, which aims to remove the effect of outside factors.<sup>40</sup> Changes in the age of compulsory education are commonly used for this purpose. Some studies using this approach find that years of education do have an effect. For example, one 2009 paper found that more schooling is causally

<sup>38</sup> In 2011, in the UK, 85% of people qualified to NVQ level 3 or above reported medium/high levels of feeling that life is worthwhile, and 81% reported medium/high levels of life satisfaction, compared to 62% and 64%, respectively, for those with no qualifications. Source: ONS ‘[Measuring National Well-being, Education and Skills](#)’.

<sup>39</sup> Cedefop (2017) ‘[Investing in skills pays off](#)’

<sup>40</sup> Instrumental variables are variables which are correlated with the explanatory variable (e.g. education) and correlated with the variable of interest (e.g. crime, or health) only through the explanatory variable. This allows the researcher to isolate the change in the variable of interest that is caused by change in the explanatory variable from other influencing factors.

associated with better health in the UK<sup>41</sup>, and a 2010 study found a similar result in Sweden<sup>42</sup>. On crime, a 2008 study found that changes in the compulsory age in the UK led to reductions in several types of crime among people born in the early 1980s<sup>43</sup>.

However, the evidence is not conclusive, and other studies using similar approaches have found no causal effect. For example, one study found no relationship in France between school leaving age and mortality rates (a measure of health)<sup>44</sup>. A 2013 UK study found no health effect of educational interventions focused on students at risk of dropping out of school<sup>45</sup>, and a 2011 UK study found no effect on various health measures nor on health-related behaviour.<sup>46</sup>

However, while not as strong as the evidence relating to labour market outcomes, there is nevertheless evidence to suggest that higher level qualifications and skills may have positive impacts on individuals in other areas other than the labour market. Most notably these positive impacts are seen in health, civic engagement, and crime. These non-labour market effects would, in aggregate, translate into positive effects at the society-level. Moreover, in some areas such as health, positive outcomes can mean less demand on public resources.

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<sup>41</sup> Silles, M.A. (2009). The causal effect of education on health: evidence from the United Kingdom. *Economics of education review*, Vol. 28, No 1, pp. 122-128.

<sup>42</sup> Spasojevic, J. (2010). Effects of education on adult health in Sweden: results from a natural experiment. In: Slottje, D.; Tchernis, R. (eds). *Current issues in health economics*. Emerald Group Publishing, pp. 179-199, Chapter 9. *Contributions to economic analysis series*, No 290.

<sup>43</sup> Sabates, R. (2008). Education attainment and juvenile crime. *British journal of criminology*, Vol. 48, pp. 395-409.

<sup>44</sup> Albouy, V.; Lequien, L. (2009). Does compulsory education lower mortality? *Journal of health economics*, Vol. 28; No 1, pp. 155-168.

<sup>45</sup> Clark, D.; Royer, H. (2013). The effect of education on adult mortality and health: evidence from Britain. *American economic review*, Vol. 103, No 6, pp. 2087- 2120.

<sup>46</sup> Braakmann, Nils. (2011). The causal relationship between education, health and health related behaviour: Evidence from a natural experiment in England. *Journal of health economics*. 30. 753-63. 10.1016/j.jhealeco.2011.05.015.

## 2 Economic context

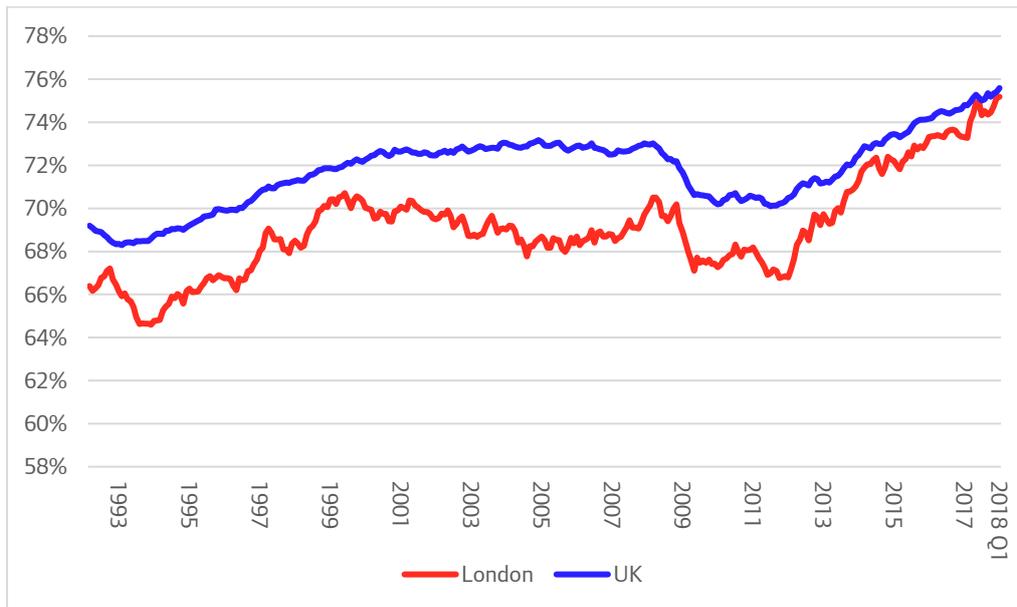
### Key points

- The London and UK labour markets are currently characterised by high employment and low unemployment. However, improvements in productivity and real wage growth have been minimal since the recession. Skills may have some role to play in improving this situation.
- Employment and output in London's are, relative to the wider UK, concentrated in higher level occupations, and in sectors with higher productivity, such as Finance, Information and Communication, and Professional Services.
- There are significant inequalities in London. For example, there are variations in employment and income by ethnic group (in 2016 the employment rate was 24 percentage points lower for Pakistani/Bangladeshi Londoners than for White Londoners) for and by education attainment. These inequalities are also evident spatially, with unemployment higher and income lower in Outer East London, Outer South-East London, along with several other areas.

This section briefly outlines the economic context in which the skills system operates. A key feature of the UK's labour market in the last decade has been stagnant productivity and wage growth, alongside buoyant employment. Skill policy may have a role to play in addressing poor productivity levels. The section also describes London's labour market in terms of sectors and occupations and shows that, compared to the UK overall, employment in London is concentrated in higher level occupations, and in professional and business services. Finally, this section shows that London's economy is characterised by inequality across a number of dimensions, including by individuals' background. Inequalities are also in evidence at the spatial level, with gaps in economic outcomes between poor and rich areas of London. Skill policy may also have a role in reducing these inequalities.

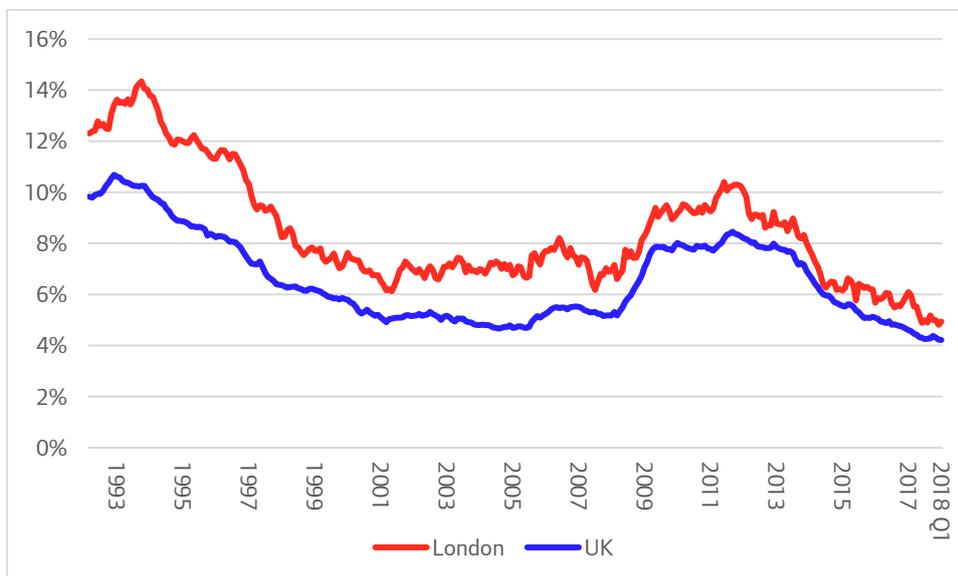
### 2.1 Employment, productivity and wages

In both London and the UK, the employment rate fell following the 2008 recession but subsequently rebounded, and have recently reached record highs. In the first quarter of 2018 the employment rate was 75.2% in London and 75.6% in the UK. Both are record highs since the series began (in 1992 in the case of London, and since 1971 for the UK series). It is also notable that the gap in the employment rate between London and the UK has narrowed over the last decade, from over 5 percentage points in 2004, to 0.3 percentage points in the most recent data.

**Fig 2.1: 16-64 employment rate 1992 to present**

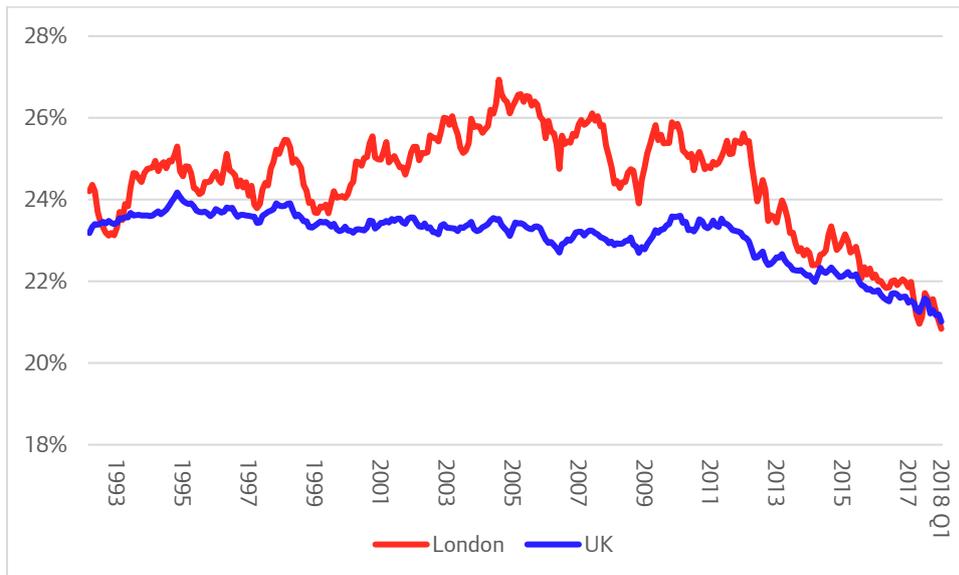
Source: Labour Force Survey

Unemployment rose during the recession, stayed elevated until around 2012, and has since been falling. As with the employment rate, the unemployment rate has recently reached record lows. In the first quarter of 2018, London's unemployment rate was 4.9%, 0.7 percentage points above the UK rate of 4.2%.

**Fig 2.2: 16+ unemployment rate, 1992 to present**

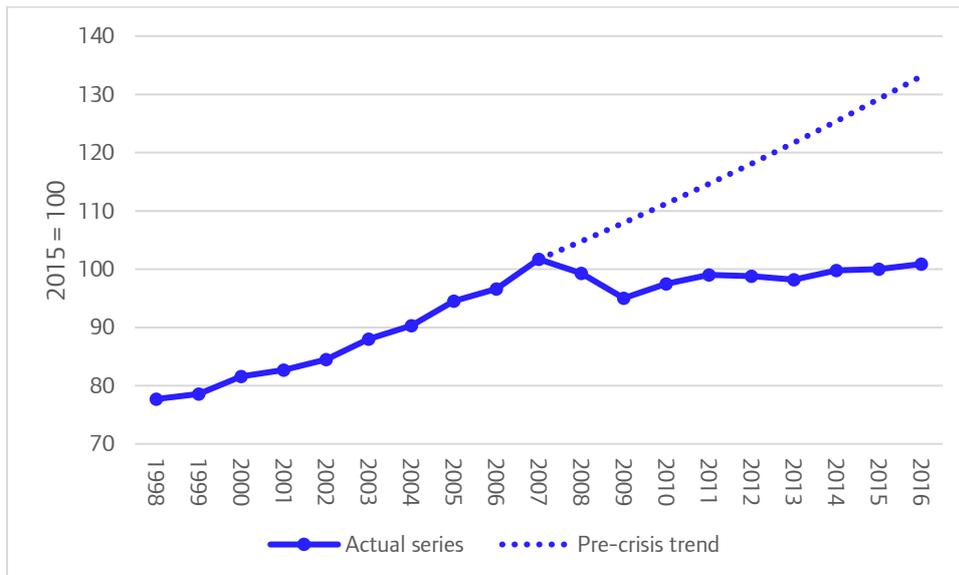
Source: Labour Force Survey

As with the unemployment rate, the rate of economic inactivity has fallen since 2012, markedly so in London. In the first quarter of 2018, the economic inactivity rate (the proportion of working age people not working and not looking for work or not able to work) was 20.8% in London, *lower* than the 21.0% in the UK as a whole. This is historically unusual, with the economic inactivity rate higher in London than in the UK as a whole for most of the past 25 years (see figure 2.3 below).

**Fig 2.3: 16-64 inactivity rate, 1992 to present**

Source: Labour Force Survey

The last few years have therefore seen highly buoyant employment figures in London and the UK. However, alongside positive employment trends, wages and productivity have been stagnant. It is well known that the UK has a productivity problem – the UK's weak productivity growth since the recession is often referred to as a 'productivity paradox'. There have been similar trends in London. Figure 2.4 below shows London's productivity performance over the past 20 years. In the years running up to the financial crisis (1998 to 2007) productivity, measured as output per hour worked, was growing at an average rate of 3.0% a year in London (compared to 1.8% in the UK as a whole). In the years since (2007 to 2016 – the latest data available) productivity has not grown at all, and in fact in 2016 London's productivity was slightly lower than productivity in 2007.

**Fig 2.4: Productivity in London, 1998 to 2016**

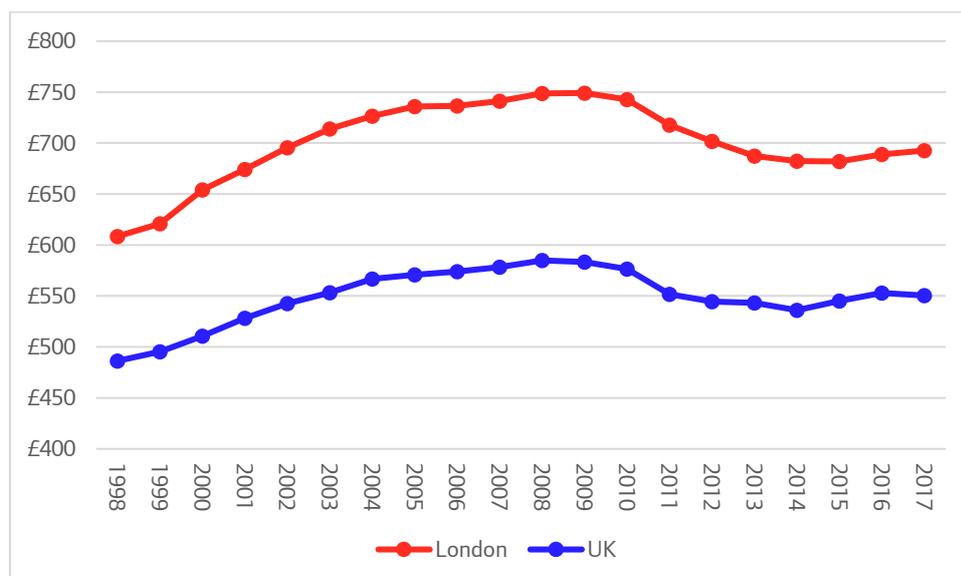
Source: GVA per hour from ONS<sup>47</sup>. Note: data indexed to 2015. Data uses chained volume measure (i.e. accounts for price changes between years). Dotted line shows continuation of growth rate from 1998 to 2007.

There is a strong link between productivity and wages. In theory, increases in productivity means staff are able to produce more, other things being equal, increasing their value to employers.<sup>48</sup> It is not surprising, therefore, that since the financial crisis wages have stagnated and even fallen, along with productivity. In 2017 the median gross weekly pay for full time workers in London was £693, which in real terms is 7% lower than pay 2007 (£741, in 2017 prices). There has been a similar trend in the UK as a whole, where real wages were 5% below their 2007 level in 2017. This data is shown in figure 2.5 below.

<sup>47</sup> ONS labour productivity by region and industry, April 2018

<https://www.ons.gov.uk/economy/economicoutputandproductivity/productivitymeasures/datasets/industrybyregionlabourproductivity>

<sup>48</sup> Note that this simple account assumes workers have some bargaining power. If employers have all the bargaining power, they may not choose to increase wages, even if they can afford to.

**Fig 2.5: Real wages in London and the UK**

Source: ONS (ASHE – median gross weekly pay, full time workers), GLAE calculations using annual CPI series. Wages shown in 2016 prices. Note: ‘London’ refers to workplaces, not residents.

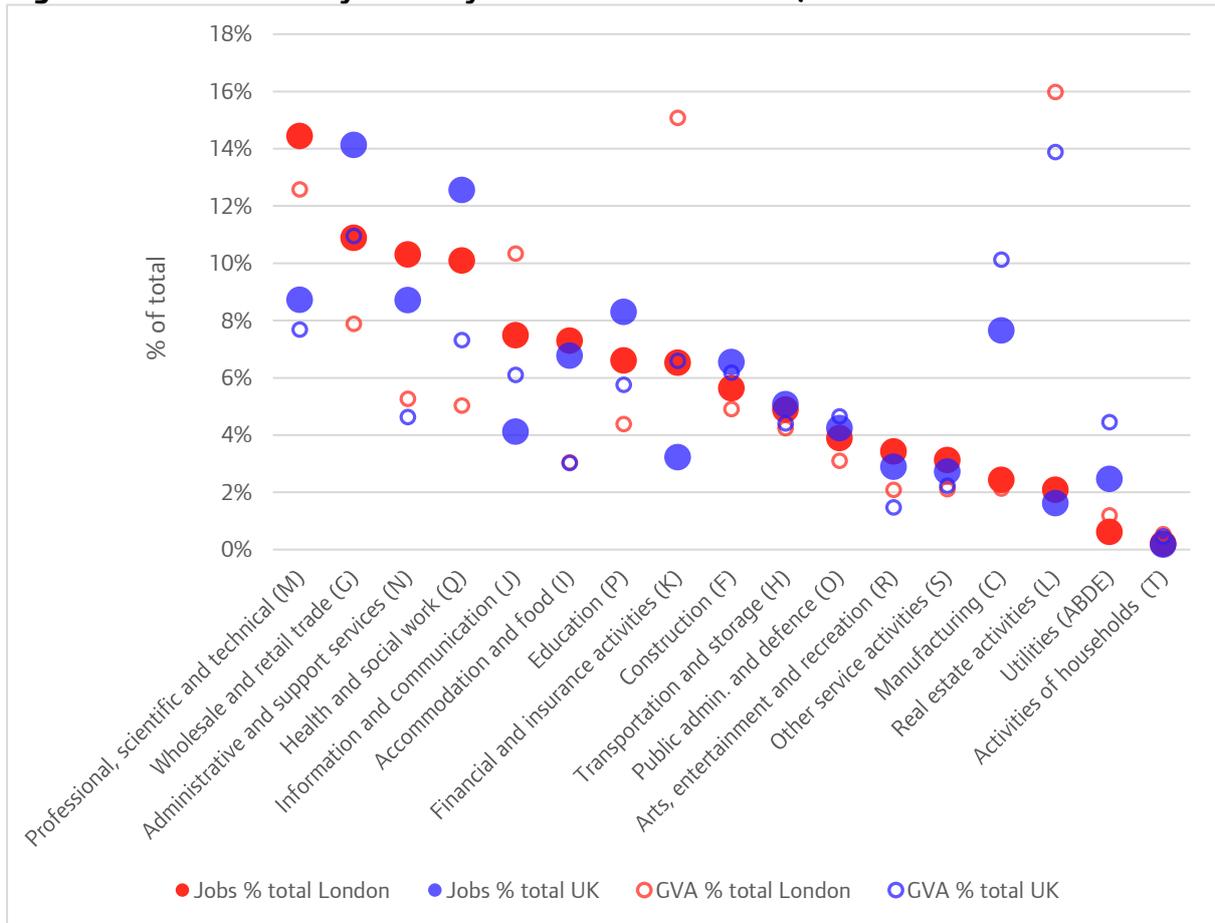
## 2.2 Sectors and occupations

Compared to the UK, London’s economy is relatively specialised in finance and insurance activities, information and communication, professional services, and real estate. These specialisms have been driven in part by globalisation, as the bigger the market that London businesses can sell to, the more economically viable it is to focus on specialised products or services.<sup>49</sup> By contrast, in comparison to the UK, London is relatively less specialised in manufacturing, primary and utilities, and construction.

These patterns are observable in figure 2.6, which shows the proportion of jobs (2017 Q4) and GVA (2015) that each industry comprises, comparing London with the UK as a whole. Where the share is larger in London than the UK, London is said to be relatively specialised in that sector. In terms of jobs, London is relatively specialised in ‘Professional, Scientific and Technical Activities’ (14% of London jobs, compared to 9% of UK jobs), ‘Information and Communication’ (7% of London jobs, compared to 4% of UK jobs), and ‘Finance and Insurance’ (6% of London jobs, compared to 3% in the UK). By contrast, London is relatively un-specialised in Manufacturing (2% of London jobs, compared to 8% in the UK), Wholesale and Retail (11% of London jobs, compared to 14% in the UK), and Health and Social Work (10% of London jobs, compared to 13% in the UK). Looking at the GVA data (indicated in smaller, hollow circles in the figure below) shows a similar pattern to jobs.

<sup>49</sup> GLA Economics (2016) Economic Evidence Base: Executive Summary  
[https://www.london.gov.uk/sites/default/files/economic\\_evidence\\_base\\_2016.compressed.pdf](https://www.london.gov.uk/sites/default/files/economic_evidence_base_2016.compressed.pdf)

**Fig 2.6: Jobs and GVA by industry as a share of the total, in London and the UK**

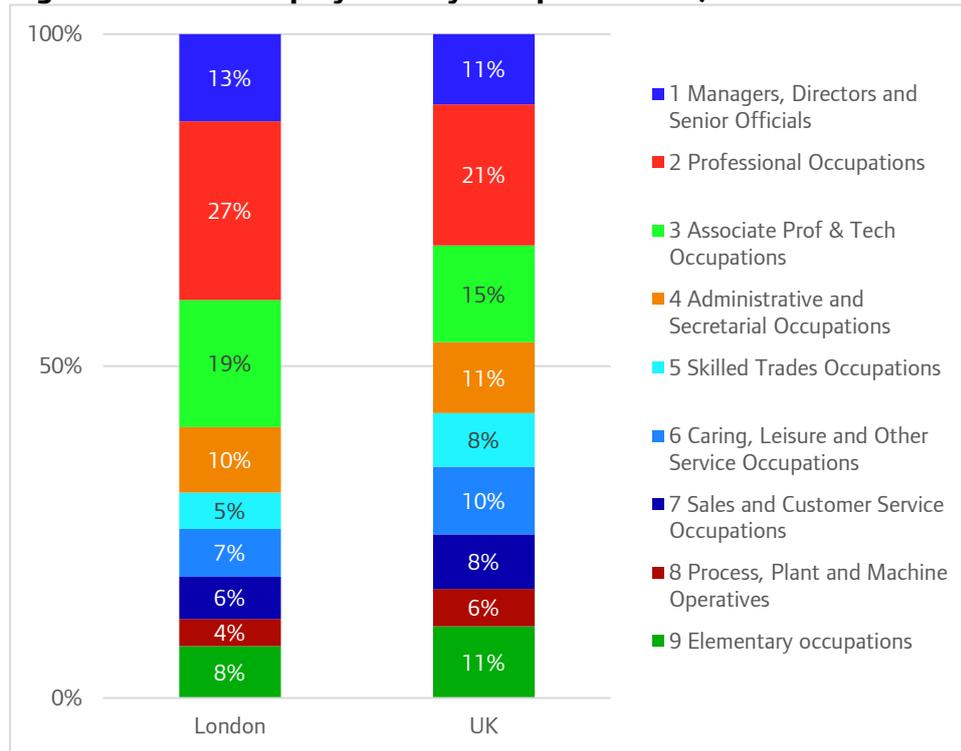


Source: ONS workforce jobs (2017 Q4), and ONS regional GVA, income approach (2015). Note: London is more ‘specialised’, compared to the UK, where the industry comprises a higher percentage of the total in London than the UK. This is where the red circles are above the blue circles, either filled in (jobs) or hollow (GVA).

London’s labour market is also more weighted towards ‘higher’ level occupations than the UK overall<sup>50</sup>. Thirteen per cent of employment in London (people working in London, whether or not resident in London) are the highest major occupation group (‘Managers, Directors and Senior Officials’) compared to 11% in the UK. The second highest level (‘Professional occupations’) accounts for 27% of London employment, compared to 21% in the UK. The third highest level, ‘Associate Professional and Technical Occupations’, accounts for 19% of London employment, compared to 14% in the UK. All lower occupation levels comprise a smaller share of employment in London than in the UK.

<sup>50</sup> Please note that ‘higher’ here refers to occupations’ ordering in ONS’s Standard Occupational Classification. This ranking broadly conforms to pay level, and to the level of the occupation’s skill requirements.

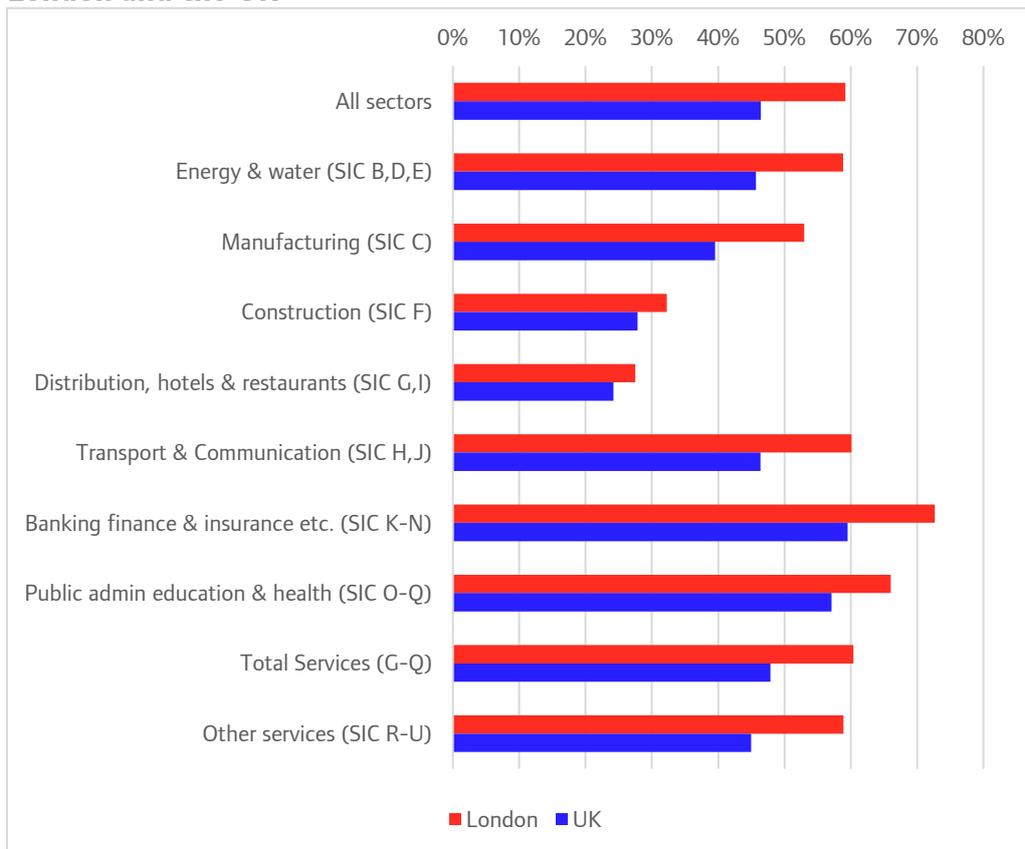
**Fig 2.7: Share of employment by occupation level, London and the UK**



Source: Annual Population Survey (workplace based), July 2016-June 2017.

To some extent London’s ‘higher’ occupational structure is explained by its sectoral composition. Occupational structure varies by sector; for example, in London 73% of jobs in Banking, Finance and Insurance (see Figure 2.8) are in the top three major occupation groups, compared to 28% in Distribution, Hotels and Restaurants. As above, London’s sectoral composition is more weighted towards those sectors themselves weighted towards higher level occupations (such as Banking and Finance and other business services). However, that is only part of the explanation. As Figure 2.8 shows, in every sector, jobs in London are more weighted towards higher level occupations than jobs in the UK as a whole. London has a greater share of employment in sectors which have more jobs at higher-level occupations.

**Fig 2.8: Employment at highest occupation levels (SOC major groups 1-3) by sector, in London and the UK**

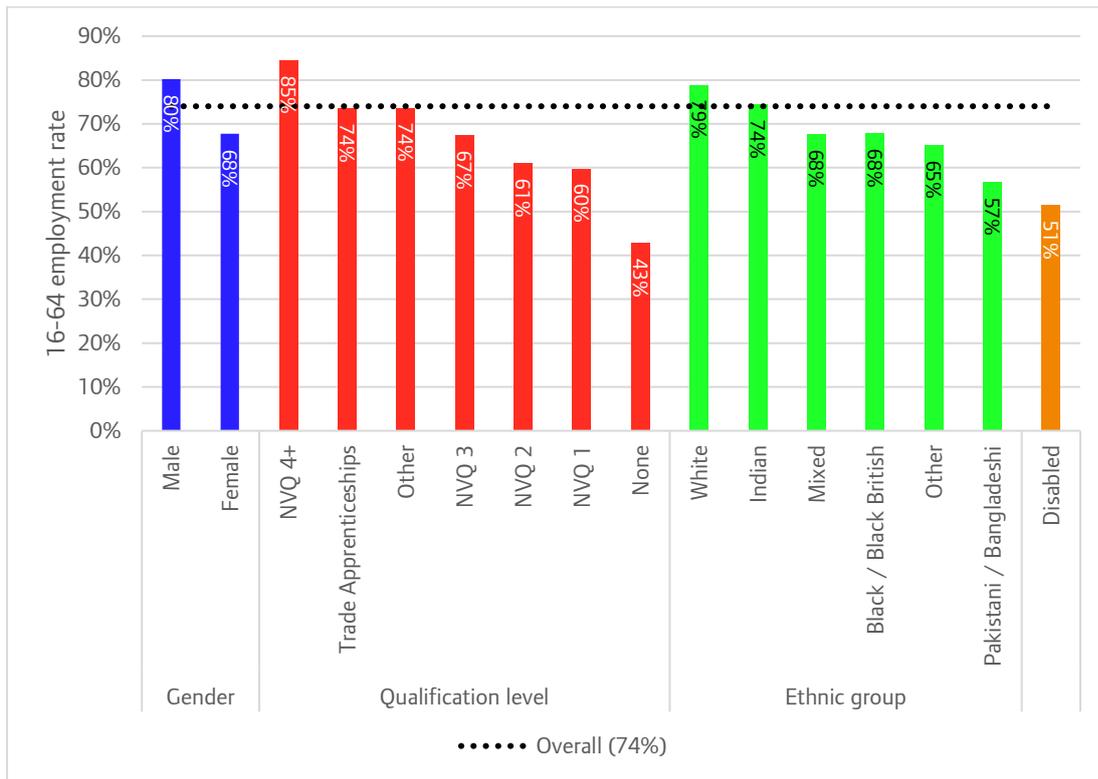


Source: Annual Population Survey, July 2016 to June 2017. Note: refers to jobs in London, not employment of London residents.

### 2.3 Inequality

There are inequalities in London's labour market outcomes, across a number of dimensions. The employment rate is one measure of a positive labour market outcome, and there are substantial differences in the employment rates between groups. Men have higher employment rates than women, but more significant are the gaps between people with different qualification levels, from different ethnic groups, and with and without disabilities, as shown in figure 2.9 below. For example, the employment rate for 16 to 64 year olds with no qualifications in London was 43% in 2017, compared to the overall London employment rate of 74%. 'Black', 'Other', 'Mixed' and 'Pakistani / Bangladeshi' ethnic groups all had below average employment rates. The employment rate for Londoners with disabilities was 51% in 2016, 23 percentage points below the rate for all Londoners.

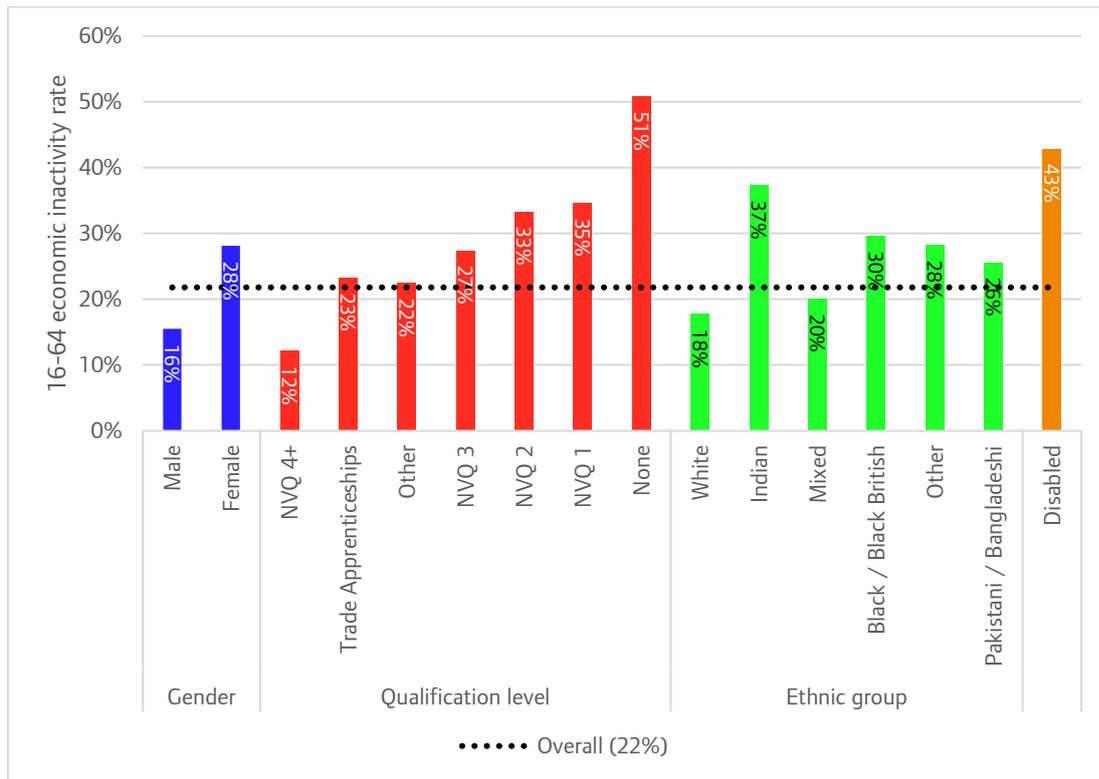
**Fig 2.9: 16-64 employment rate for select groups in London**



Source: Annual Population Survey, Jan-Dec 2017. Note: refers to London residents.

Similar patterns are observable in economic inactivity, with women, the lower qualified, people with disabilities and the same ethnic groups listed above displaying higher rates of economic inactivity than for London as a whole.

**Fig 2.10: 16-64 economic inactivity rate for select groups in London**

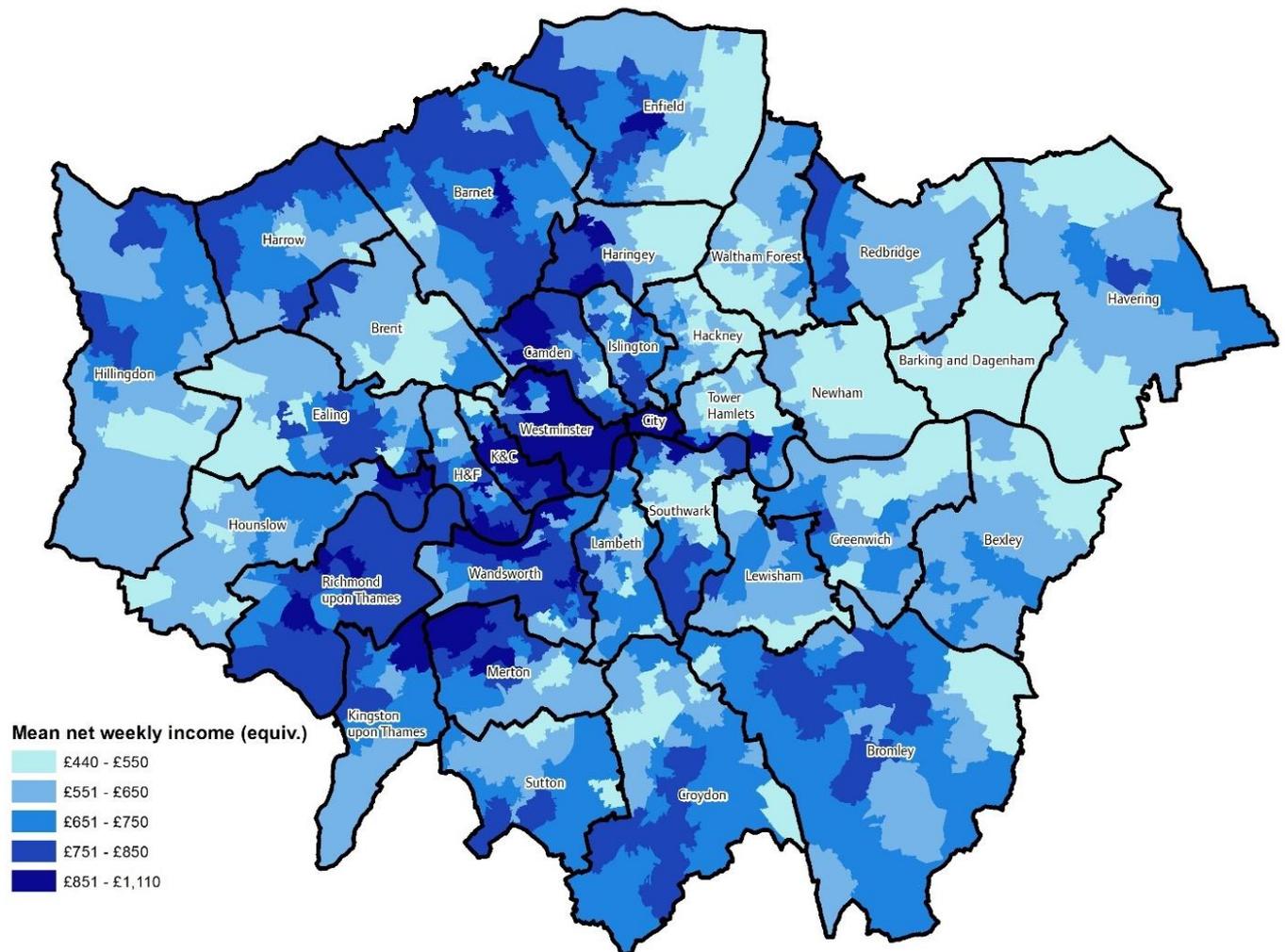


Source: Annual Population Survey, Jan-Dec 2017. Note: refers to London residents.

As well as inequalities between groups of Londoners, there are also inequalities between different places in London. For example, the two maps presented here show how income and unemployment vary across London. Figure 2.11 shows net weekly income data from 2014 for Middle Layer Super Output Areas<sup>51</sup> in London, equalised for household size. This shows that areas in central London, south-west and some pockets of outer London have incomes in the £851 to £1,110 bracket, around twice the income of the poorest bracket of £440 to £550. Areas in the poorest bracket include much of East London (including most of Newham and Barking and Dagenham), as well as further pockets of North London (especially up the Lea Valley in Haringey, Enfield and Waltham Forest), and a number of other pockets in other parts of London.

<sup>51</sup> MSOAs are statistical areas, each of which contain between 5,000 and 15,000 individuals.

**Figure 2.11: Mean net weekly household income (equivalized for household size), 2014**



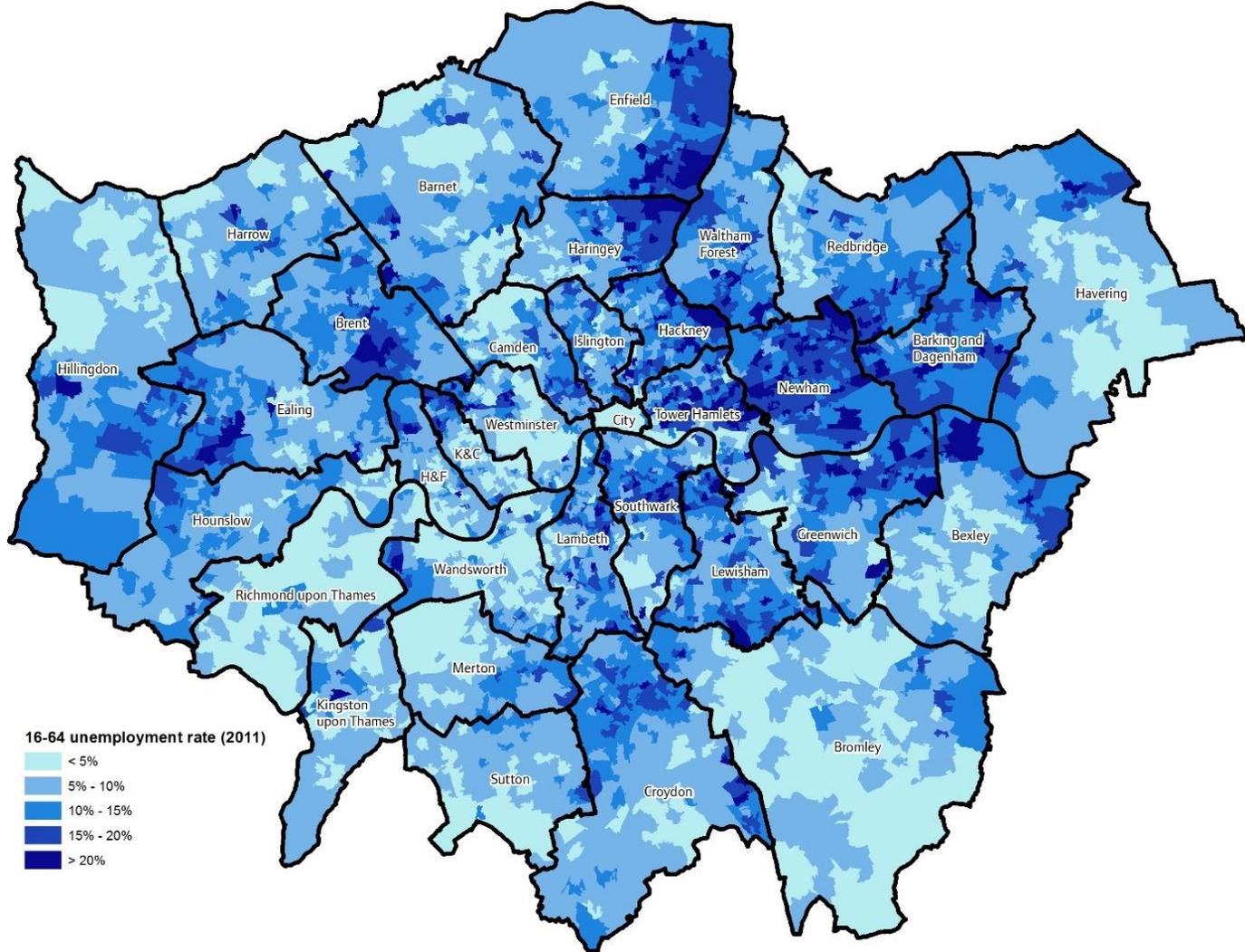
Source: ONS<sup>52</sup>. Areas are Middle Layer Super Output Areas

Figure 2.12 shows the unemployment rate (for 16 to 64 year olds) in the 2011 census for Lower Super Output Areas in London<sup>53</sup>. Roughly speaking, this shows a similar pattern to Figure 2.11 but with the colours inverted (in Figure 2.12, darker blues show higher unemployment which is associated geographically with areas of lighter blue – lower income – in Figure 2.11). Again, higher unemployment rates are found in East London and in North London up the Lea Valley, as well as in various other pockets. Low unemployment is found in many areas of central and South-West London, and also in outer South-East London.

<sup>52</sup> ONS (2016) '[Small Area model based income estimates, England and Wales: financial year ending 2014](#)'

<sup>53</sup> LSOAs are statistical areas, each of which contain between 1,000 and 3,000 individuals.

Fig 2.12: 16-64 unemployment rate by LSOA, 2011 (census)



Source: ONS, 2011 census.

Note that the interaction between person-level and geographic inequalities is not clear. It is possible that geographic inequalities are a manifestation of the people that live there. That is, person-level inequalities are most important and these manifest spatially as people 'sort' into different areas. There may also be geographic effects but this cannot be inferred *just* from the spatial inequalities shown here.

### 3 Skill demand: trends and projections

#### Key points

- Demand for skills in London has increased in recent decades, and is projected to continue doing so. There are currently 5.8 million jobs in London, up from 4.1 million 20 years ago. GLA Economics forecast that there will be 6.8 million jobs in London in 20 years' time (a significant but smaller rate of growth compared to recent decades).
- Jobs growth in London in the last two decades has been concentrated in Business Services, in other services (Health, Education) and in Retail and Accommodation and Food.
- Jobs growth has been highest in higher-skilled occupations, with largest growth in the Professional Services category. This has meant a significant increase in demand for people with degree level qualifications.

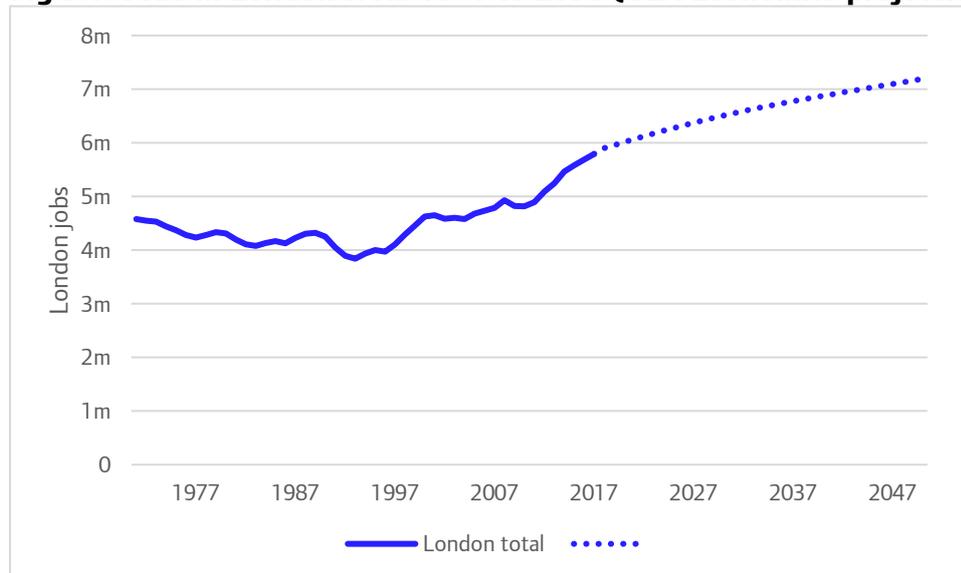
#### 3.1 Overall demand

This section explores trends in demand for skills in London. It covers overall demand for skills (as proxied by the number of jobs), as well as trends in the sectoral and occupational structure of jobs in London, which affect the *type* and *level* of skills demand.

There are currently (in 2017) 5.8 million jobs in London, up from 4.1 million 20 years ago. The last 20 years was a period of rapid growth for London, with an additional 84,000 jobs per year, unlike the previous 20 years, from 1977 to 1997, during which the number of jobs in London fell<sup>54</sup>.

GLA Economics produce annual employment projections. In the 2017 round London jobs are projected to grow to 6.8 million by 2037, an additional 49,000 jobs per year – smaller than over the previous 20 years but still significant growth.<sup>55</sup> This projection is shown in Figure 3.1.

**Fig 3.1: Jobs in London from 1971 to 2050 (GLA Economics projection)**



Source: GLA Economics 2017-round Labour Market Projections

<sup>54</sup> Note that the paragraph discusses 20-year periods. Overall the number of jobs fell between 1977 and 1997, but in fact the fall stopped in the early 1990s.

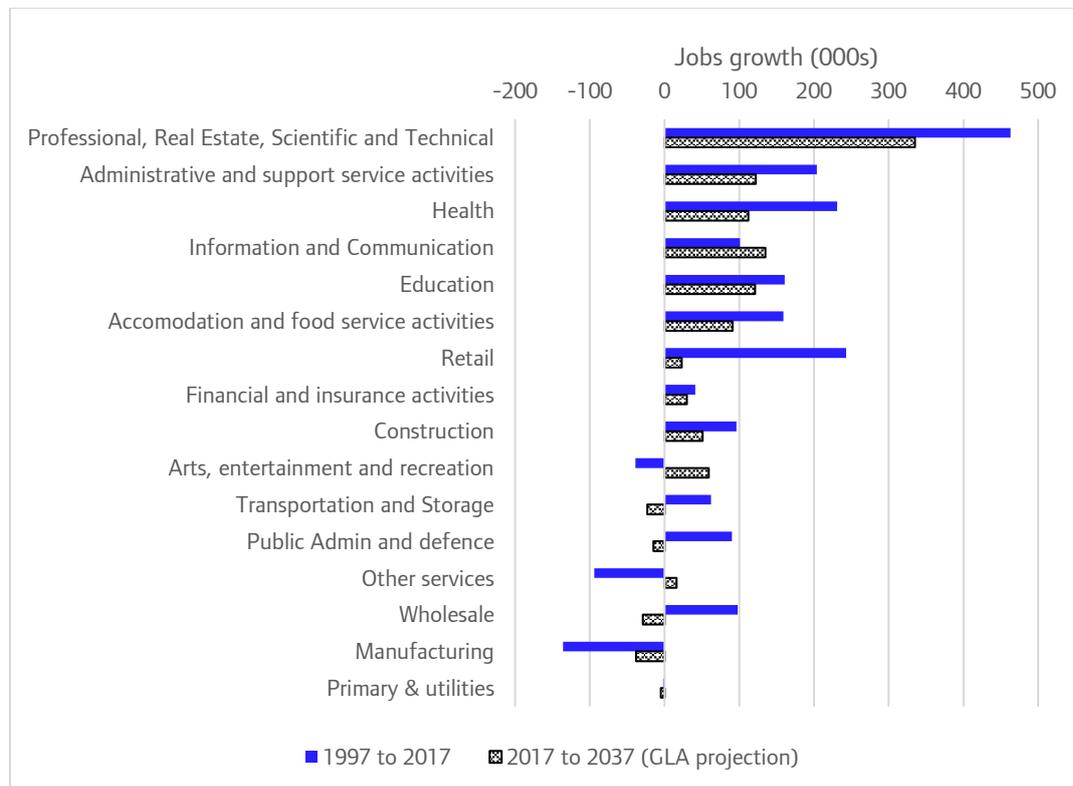
<sup>55</sup> GLA Economics (2017) '[Long Term Labour Market Projections](#)'

### 3.2 Sectors and occupations

Recent jobs growth in London has been driven by a growth in business service sectors and services for London’s population. The former has been driven by the increase in globalisation over the past two decades, which increased access to global markets and allowed London to specialise in many competitive business service sectors.<sup>56</sup> The latter is driven by population growth. The sectors which added most jobs over the last 20 years were Professional, Real Estate, Scientific and Technical Services (an additional 23,000 jobs per year), Health, and Retail (12,000 jobs per year each), and Administrative and Support Services (10,000 jobs per year). See figure 3.2.

Future jobs growth is expected to come from those same sectors – where London is relatively specialised. Over the next 20 years jobs growth is forecast by GLA Economics to be highest in Professional, Real Estate, Scientific and Technical services (17,000 jobs per year), Information and Communication (7,000 jobs per year), and Administrative and Support Services, Education, and Health (6,000 jobs per year each).<sup>57</sup> In the case of Professional services and ICT, these are business service sectors where London is relatively specialised compared to the UK.

**Fig 3.2: Jobs growth in London by industrial sectors, last two decades and next two decades**



Source: GLA Economics 2017-round Labour Market Projections

In terms of occupation, as set out in the economic context section, jobs in London are weighted towards higher-level occupation groups (Managers and Directors, Professional and Associate Professional occupations). This is true both of London overall but also of each sector separately. Over the past two decades jobs growth in London has been concentrated in these upper occupation groups. Between 1994

<sup>56</sup> GLA Economics (2016) ‘[Economic Evidence Base for London 2016](#)’

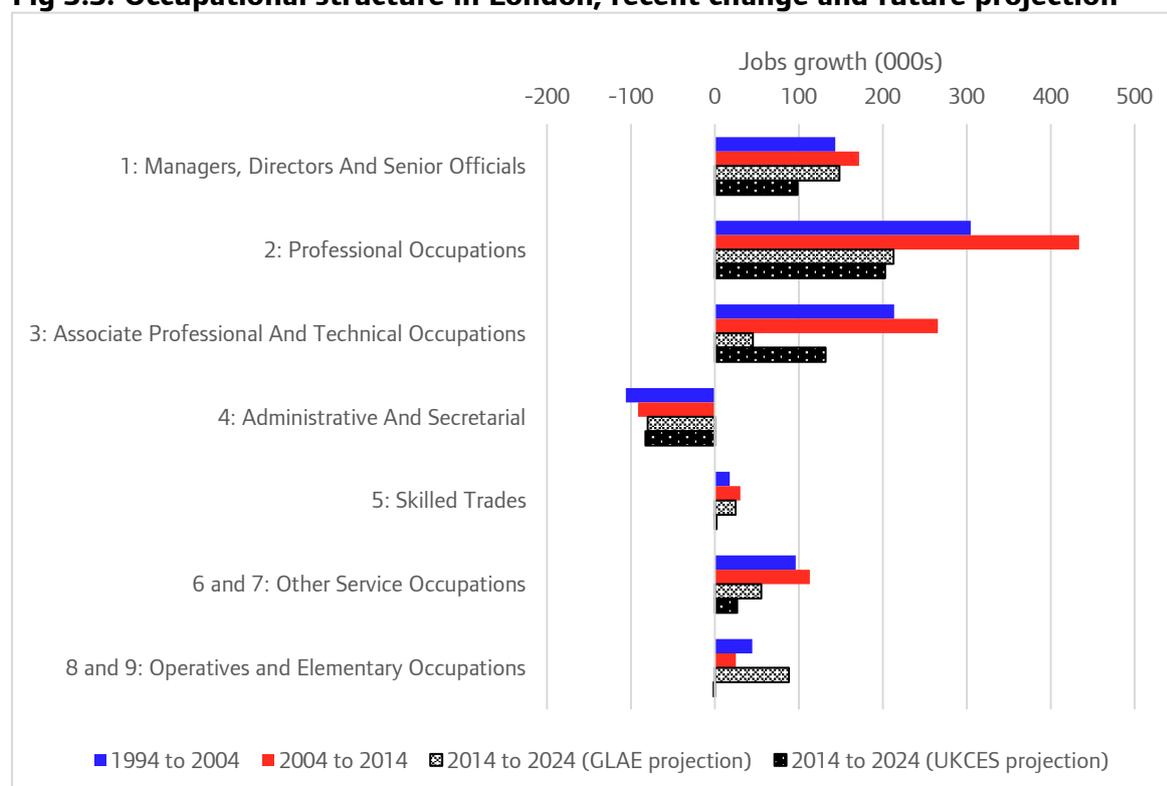
<sup>57</sup> GLA Economics (2017) ‘[Long Term Labour Market Projections](#)’

and 2014 1.5 million jobs were added in the top three occupation groups, compared to 130,000 in all other occupation groups.

In the GLA’s 2016 employment projections (the 2017 round did not include occupation projections) these patterns are expected to continue, with jobs growth concentrated at the top of the occupation distribution, in addition to more limited jobs growth at the lower end and some job losses in the middle. Specifically, the top three occupation groups are forecast to add 406,000 jobs between 2014 and 2024, and the bottom five groups to add 168,000 jobs. The middle group – Administrative and Secretarial Occupations – are expected to see job losses of 80,000.

The UKCES also produced forecasts of jobs growth by occupation, and these are largely consistent with the numbers forecast by the GLA. See Figure 3.3 for comparisons.

**Fig 3.3: Occupational structure in London, recent change and future projection**



Source: GLA Economics 2016 employment projections and UKCES Working Futures database. Note: refers to employment in London, regardless of residence.

This trend of jobs growth at the top of the occupation distribution, jobs decline or limited jobs growth in the middle of the distribution, and some jobs growth at the lower end of the occupation distribution, which is expected to continue, has been referred to as a ‘hollowing out’ of the labour market, or as causing the labour market to take an ‘hourglass shape’.<sup>58</sup> There is a concern that this will mean fewer opportunities for progression for those at the lower end of the labour market (in terms of pay or occupation).<sup>59</sup>

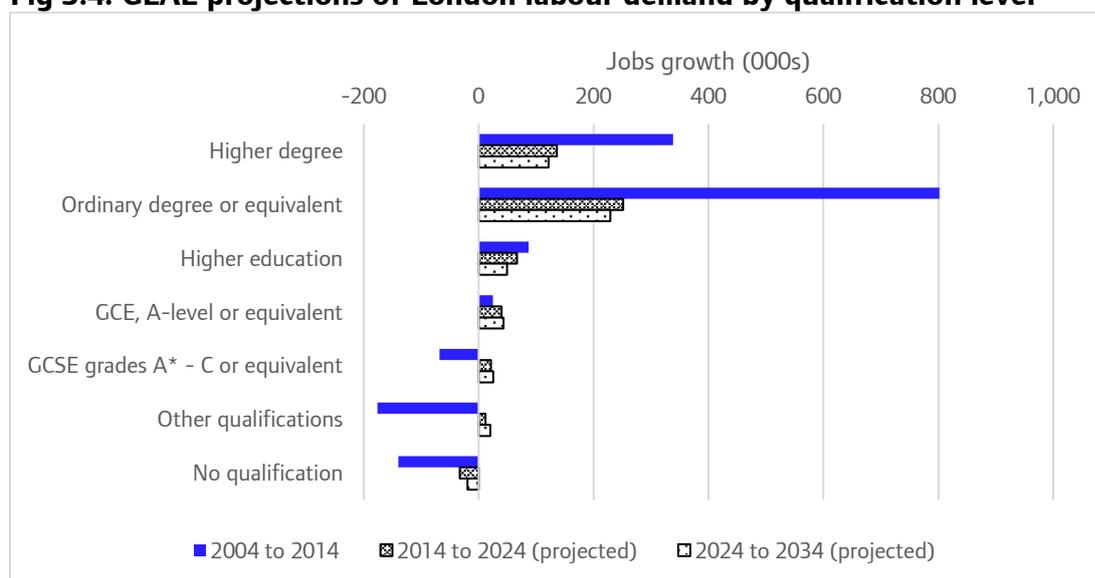
<sup>58</sup> Paul Sissons (2011) ‘[The Hourglass and the Escalator: labour market change and mobility](#)’

<sup>59</sup> However, note that some researchers have described the ‘hollowing out’ thesis as a ‘myth’. The main evidence in favour of the idea is that when jobs or occupations are ranked according to their pay at a particular start date in the last few decades, there has been greatest jobs growth at the top and bottom of the distribution. However, over the same period the relative

As set out above, the sectoral and occupational composition of overall demand will shape the type and level of skills that are in demand. The trends and available forecasts suggest demand for skills in London will continue to shift towards higher level skills, with most job creation expected at the higher occupation levels.

In practice, the supply of labour is highly flexible. People work in occupations and sectors which do not relate directly to their training or qualifications, and especially as they get older they will call more on their experience than on their qualifications. Therefore, occupational and sectoral trends cannot be translated into demand for specific types of qualification. Nevertheless, the GLA’s employment projections do project demand for people of different qualification level, based on breaking down occupation demand by the highest qualification level of those working in those occupations. The 2016 round of projections (qualification analysis was not repeated for the 2017 round) suggest demand for people with degree level qualifications will increase substantially in the coming decades, whereas demand for people with below-degree level qualifications will increase by a small amount, and demand for people with no qualifications will fall.

**Fig 3.4: GLAE projections of London labour demand by qualification level**



Source: GLA Economics 2016-round Employment Projections

### 3.3 Replacement demand

The above projections provide an estimate of changes in the *stock* of jobs. This is one source of demand for additional skills and training. However, there is also demand for skills and training generated by *flows* in the labour market – of people moving out of occupations, or out of the London labour market altogether (either because their economic status changes, such as through retirement, or because they leave the London labour market). Demand for skills that emerge due to these flows is referred to as ‘replacement demand’.

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wages paid to jobs or occupations also changed, which means the overall wage distribution has not changed as much as these figures would suggest. That is, while there may be fewer jobs in the occupations that were middle-paying some time ago (which may have implications for people working in those occupations), there are not fewer middle-paying jobs overall. See, for example: Butcher (2013) [blog: ‘Hollowing out the labour market: new evidence’](#).

Because of this source of demand, even industries (such as Wholesale, and Manufacturing) which are expected to see falls in employment over the coming decades can generate demand for additional skills which will need to be met.

GLA Economics has estimated that in 2015, 700,000 people working in London left their occupation<sup>60</sup>. This includes people moving to work in another occupation, or leaving employment (becoming unemployed or economically inactive). The majority of these moves *out* are met by moves *in* from elsewhere in the labour market – from people working in other occupations, or from people joining the labour force. In 2015, just over 450,000 people moved *into* London occupations from within the labour market (whether or not working in London previously), leaving 250,000 moves out of occupations which needed to be met by moves into the London labour force from education, or from 16-year-olds joining the labour market.

Note that in Table 3.1 ‘new entrants’ does not include additions to the London labour force from outside London, such as migrants from elsewhere in the UK or abroad or people newly commuting into London. The analysis prepared for the 2016 employment projections looked at how people’s employment status changed over a five-quarter period but did not disaggregate by the geographic location of people’s initial status. Therefore, migrants into London who were employed at the start of the survey period, but who worked in a different occupation, will form part of the ‘met by internal supply’ group.

**Table 3.1: Estimated net replacement demand by occupation in London in 2015**

Occupation group	Absolute number leaving the occupation	Met by internal supply	Net requirement from education/new entrants
Managers, Directors And Senior Officials	59,000	22,000	37,000
Professional Occupations	119,000	77,000	42,000
Associate Professional and Technical Occupations	128,000	74,000	55,000
Administrative and Secretarial Occupations	79,000	51,000	28,000
Skilled Trades Occupations	33,000	25,000	8,000
Caring, Leisure And Other Service; and Sales And Customer Service	145,000	105,000	39,000
Process, Plant And Machine Operatives; and Elementary Occupations	137,000	98,000	39,000
<b>TOTAL</b>	<b>699,000</b>	<b>452,000</b>	<b>247,000</b>

Source: GLA Labour Market projections, 2016. Note: ‘Met by internal supply’ means all inflows excluding inflows from education or from 16 year olds entering the labour market

The figures in Table 3.1 are estimates, but they give an indication of the *overall* additional skill demands facing the economy. The GLA’s labour market projections suggest there will be an additional 50,000 jobs per year added to the London economy over the next few decades. The above analysis suggests that, in addition to this increase in the *stock* of jobs (sometimes referred to as ‘expansion demand’), *flows* in the labour market create a demand for additional labour of 250,000 jobs per year which must be filled by people entering the London labour market from education. Together, these amount to annual demand for additional labour of approximately 300,000 jobs per year. This gives a better indication of the scale of the task facing the skills system. Note also that this is likely an underestimate of the skills and training needs in the London workforce since people moving jobs but staying in the same occupation are not

<sup>60</sup> The analysis appears in the 2016 labour market projections report. The proportion of people moving out of and into occupations was stable between 2001 and 2015. For this reason, the proportions over these 15 years was averaged, and applied to 2015 data on employment by occupation to estimate moves out of each occupation group in that year.

captured in the data above, and such moves may create demand for training to enable adjustment to a new employer.

Table 3.1 also shows replacement demand by occupation level. The highest net replacement demand (after taking account of moves from within the labour market) is in the ‘Associate Professional and Technical Occupations’ category. There is also high net demand at the upper two occupation groups (Managers, and Professional Occupations). Interestingly, the analysis shows that there is substantial net replacement demand at the lower occupational groups (the analysis groups SOC 6 and 7, and SOC 8 and 9 into two groups). Together, these lower groups provide net replacement demand of just under 80,000 jobs per year.

The UKCES also produced forecasts of expansion and replacement demand for London, with breakdowns available at both the sector and occupation level. Their overall expansion and replacement demand figures are broadly in line with the GLA’s projections. They suggested annual expansion demand of 38,000, and replacement demand of 220,000. These are slightly lower than the GLA’s estimates, by around 10,000 and 30,000 respectively. But given different methodologies used by the two forecasts, it is reassuring that they are not too dissimilar.

In terms of occupation, the UKCES’s projections also suggest that total demand will be highest in higher-skilled occupational groups, both in terms of expansion and replacement demand. The UKCES data also shows that even sectors which are expected to see fewer jobs overall in the future will generate substantial additional skills demand. For example, the Administrative and Secretarial occupational group is projected to see 8,300 fewer jobs per year, and yet flows out of that occupation group will create a substantial annual replacement demand of 20,100, leading to a total annual requirement of 11,800.

**Table 3.2: UKCES forecast of annual expansion and replacement demand by occupation in London over period 2014 to 2024**

SOC major occupation groups	Expansion demand	Replacement demand	Total requirement
1. Managers, directors and senior officials	9,900	26,900	36,800
2. Professional occupations	20,300	57,600	77,800
3. Associate professional and technical	13,200	41,800	55,000
4. Administrative and secretarial	-8,300	20,100	11,800
5. Skilled trades occupations	200	15,800	16,000
6. Caring, leisure and other service	3,500	15,100	18,600
7. Sales and customer service	-900	12,200	11,400
8. Process, plant and machine operatives	-1,700	8,700	7,000
9. Elementary occupations	1,500	21,200	22,700
All occupations	37,700	219,400	257,100

Source: UKCES Working Futures

The GLA’s replacement demand analysis did not produce sector estimates, but the UKCES projections are available at the sector level.<sup>61</sup> As with occupations, these projections emphasise that even sectors projected to see job losses in the future will have demand for additional skill to replace people leaving the sector. For example, jobs in Manufacturing in London are set to fall by 1,200 per year, but 5,100

<sup>61</sup> Their modelling does not take in detailed sector-level information; it assumes that age structure and flow rates do not vary by sector or geography (which they admit is a ‘heroic’ assumption), and therefore are based on the size and growth of sectors, as well as their occupational composition. Nevertheless, the projections give an indication of demand by sector. See UKCES (2016) [Working Futures 2014 to 2024: Technical Report](#)

staff per year will need replacing, meaning a total requirement of 4,000. Another example is the ‘non-market services’ sector (which includes public services), which is forecast to see very small jobs growth (300 per year) but which is forecast to need to replace 46,600 people per year.

**Table 3.3: UKCES forecast of annual expansion and replacement demand by broad sector in London over period 2014 to 2024**

UKCES Working Futures broad sectors	SIC 2007 sectors	Expansion demand	Replacement demand	Total requirement
Primary sector and utilities	ABDE	400	1,400	1,800
Manufacturing	C	-1,200	5,100	4,000
Construction	F	3,400	10,300	13,700
Trade, accomod. and transport	GHI	7,400	53,400	60,800
Business and other services	KJLMNRS	27,400	102,700	130,100
Non-market services	OPQ	300	46,600	46,900
All industries		37,700	219,400	257,100

Source: UKCES Working Futures. Note: may not sum to total due to rounding.

The GLA’s 2016 projections also provided a breakdown of replacement demand analysis by qualification level. These are weighted towards higher level qualifications, with high net replacement demand for people with higher degrees (36,000 in 2015) and ordinary degrees (86,000).

**Table 3.4: Estimated net replacement demand by qualification level in London in 2015**

Qualification level	Absolute number leaving the occupation	Not met by internal supply (net requirement from education / new entrants)
Higher degree	102,000	36,000
Ordinary degree or equivalent	243,000	86,000
Higher education	56,000	20,000
GCE, A-level or equivalent	116,000	41,000
GCSE grades A* - C or equivalent	88,000	31,000
Other qualifications	63,000	22,000
No qualification	31,000	11,000
TOTAL	699,000	247,000

Source: GLA Labour Market projections, 2016.

### 3.4 Automation

Recent years have seen an increase in concern about the impact of automation on jobs, with the speculation that a large number of jobs will be ‘lost’. The impact of automation can be separated into, first, its effect on overall jobs numbers, and secondly, its effect on the shape of the labour market, the distribution of employment, and implications for skills policy.

#### Overall jobs numbers

Several studies have attempted to estimate the size of this impact, generally by making judgements about how susceptible each occupation is to automation. While sharing similar methodologies, these studies have produced a range of estimates. In 2015, using a methodology developed by Oxford University economists Frey and Osborne, the Bank of England estimated that a third of UK jobs were at

'high' risk of automation in the next two decades.<sup>62</sup> An OECD study in 2016 took a slightly more detailed approach and broke occupations into tasks, arguing that many occupations will not be entirely automated, but some of the tasks within an occupation might be.<sup>63</sup> This study estimated that 10% of UK jobs will be automated in the coming two decades. A third report, by consultants PwC in 2017, claimed to improve on both these studies and estimated that 30% of UK jobs are at 'high risk' of automation in the same two-decade time frame.<sup>64</sup> The OECD's report (which overall estimated low levels of automation risk) provided cross-country comparisons, and suggested that the UK had a similar proportion of at-risk jobs to the OECD overall (10% in the UK, compared to 9% across the OECD)<sup>65</sup>. Recently, the Centre for London applied the estimates of occupational susceptibility to automation developed by Frey and Osborne in 2013 to London jobs data<sup>66</sup>. This work suggested that 33% of London jobs have a high (greater than 70%) chance of being automated in the next 20 years.

It is important to note that, even if these studies are correct, with between 10 and 30% of current jobs automated in the next two decades, that does not mean that there will be 10-30% fewer jobs in two decades time. As some jobs are automated, others are created. Technology has always had this twin effect of job destruction and job creation. Technological improvements make some tasks obsolete, but creates others. The impact on total jobs numbers depends on the balance of these two effects.

Historically, these two forces appear to have been in balance. The number of hours worked per total population (a measure of total labour demand, scaled to the size of the population) has been broadly stable with some fluctuations, despite significant technological advances in those years. A simpler way of showing this is with the employment rate, which in recent years has been at record highs.

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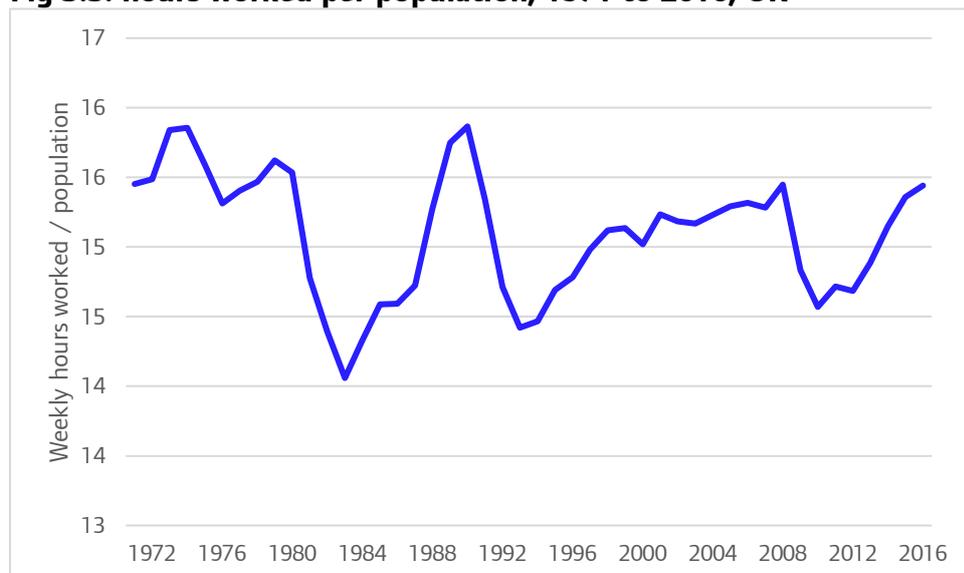
<sup>62</sup> Haldane (2015) Labour's Share, speech to Trades Union Congress November 2015  
<http://www.bankofengland.co.uk/publications/Pages/speeches/2015/864.aspx>

<sup>63</sup> Arntz, Gregory and Zierahn (2016) The Risk of Automation for Jobs in OECD Countries: A Comparative Analysis. OECD.  
<http://www.oecd-ilibrary.org/docserver/download/5jlz9h56dvq7-en.pdf?expires=1493823380&id=id&accname=guest&checksum=8B502861905B699583752A50B793D99F>

<sup>64</sup> PwC (2017) UK Economic Outlook March 2017 <http://www.pwc.co.uk/economic-services/ukey/pwc-uk-economic-outlook-full-report-march-2017-v2.pdf>

<sup>65</sup> Frey and Osborne (2013) The Future of Employment: How susceptible are jobs to computerisation?  
<http://www.oxfordmartin.ox.ac.uk/publications/view/1314>

<sup>66</sup> Centre for London (2018) 'Human Capital: Disruption, opportunity and resilience in London's workforce'

**Fig 3.5: hours worked per population, 1971 to 2016, UK**

Source: ONS (Labour Force Survey and Mid-year population estimates)

The question in terms of overall jobs numbers is therefore whether the processes of job destruction (automation) and creation occurring now are in some way different. Is automation now happening at such a rate that job creation cannot keep up, as it has in the past? Or is there something different about the type of automation happening now which means it is likely to go hand in hand with job creation?

### **Distribution and shape of employment, and skills implications**

In general, tasks are considered susceptible to automation if they are highly routine, and are less susceptible to automation if they involve high levels of creativity (or at least, the kind of creativity computers cannot currently offer), or if they rely on human interaction. Some researchers have concluded that mid-level jobs are at greatest risk because they demand neither the creativity and problem solving of higher level jobs, nor the human interaction important in many lower level jobs (for example: social care)<sup>67</sup>. PwC's report suggested that sectors with the highest proportion of at-risk jobs are transport and storage, manufacturing, and wholesale and retail, while health and social work has a low proportion of at-risk jobs<sup>68</sup>.

In terms of London data, the recent Centre for London analysis suggested that the sectors most susceptible to automation were Transportation and storage, Accommodation and food, and Wholesale and retail<sup>69</sup>. These broadly mirror the sectoral susceptibility to automation in the rest of the UK, however in a couple of instances (notably Arts and entertainment, Professional services, and Finance and insurance) London's sectors are slightly less susceptible, given the different occupational structure in London compared to the rest of the UK (this is shown in figure 2.8 in chapter 2).

There may therefore be a role for skills policy in helping people adjust to the effects of automation. OECD's report argues that automation will take effect at the level of job tasks, not jobs. That is, automation will change the requirements of different jobs to greater and lesser extents. Some jobs may have all their tasks automated. An example of this would be the replacement of checkout staff in

<sup>67</sup> Autor, D., Levy, F. and Murnane, R. (2003) ['The skills content of recent technological change'](#)

<sup>68</sup> PwC (2017) ['UK Economic Outlook March 2017'](#)

<sup>69</sup> Centre for London (2018) ['Human Capital: Disruption, opportunity and resilience in London's workforce'](#)

supermarkets with self-checkout machines<sup>70</sup>. Other jobs will only have some of their tasks automated. For example, some banks are using algorithms to make decisions about mortgages, but these systems may still require human input. The role for skills policy will therefore vary across these cases. In instances of partial displacement, if the skill demands had changed (potentially requiring the worker to use more technology) it may be possible that the worker could remain in the job with some additional training. However, in cases of total displacement, where all of a job's tasks have been automated, a worker may need support to move into a different job, which might involve more substantial retraining.

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<sup>70</sup> Although, even in this case it is not quite the case that every task in this job has been automated. For example, staff are still required to check shoppers' identification for proof of age.

## 4 Skill supply: trends and projections, types of skills, inequality

### Key points

- Just as demand for skills have increased, so has supply. Between 2004 and 2016, the proportion of Londoners age 26 to 64 with a degree level qualification increased from 36 to 57%.
- In terms of qualifications, London's workforce is more highly qualified than the rest of the UK, and even than the rest of Europe. However, direct measures of basic skills, such as the OECD's Adult Skills Survey, suggest Londoners are not more highly skilled than the rest of England, and show that England has worse basic skills than many OECD countries.
- Brexit will likely have an impact on the supply of skills in London. The sectors in London with the greatest reliance on workers from the EU are Construction, and Accommodation and food services.

This section provides information on the skill levels of London adults. This is the current stock of skills supply available to employers. This section starts with some international comparisons, before focusing on the skills and qualifications of London adults. At the end of the section some information is provided on some specific skill areas, including digital skills and 'employability' skills. This section uses direct measures of skills as well as qualifications, a common proxy for skill level.

### 4.1 Current picture

#### International context

In 2012, from a sample of 24 'rich' countries, England ranked 11<sup>th</sup> for literacy proficiency and 17<sup>th</sup> for numeracy proficiency across the adult age range. England's average proficiency in literacy was level with the OECD average, but significantly below the OECD average in numeracy. England performed slightly lower than the OECD average in problem solving. This means there are many countries that have significantly higher scores than England across all three areas measured - literacy, numeracy and problem solving. These include Japan, and several Scandinavian and some Western-European countries.

On the other hand, England did outperform some other countries. For example, average numeracy proficiency in England was higher than the US and France (and three other countries), and average literacy proficiency was higher than Germany, Austria, France, Ireland (and four other countries). Overall, however, the OECD's survey of proficiency in basic skills appears to suggest that skill levels in the UK are low compared to important international comparator countries.

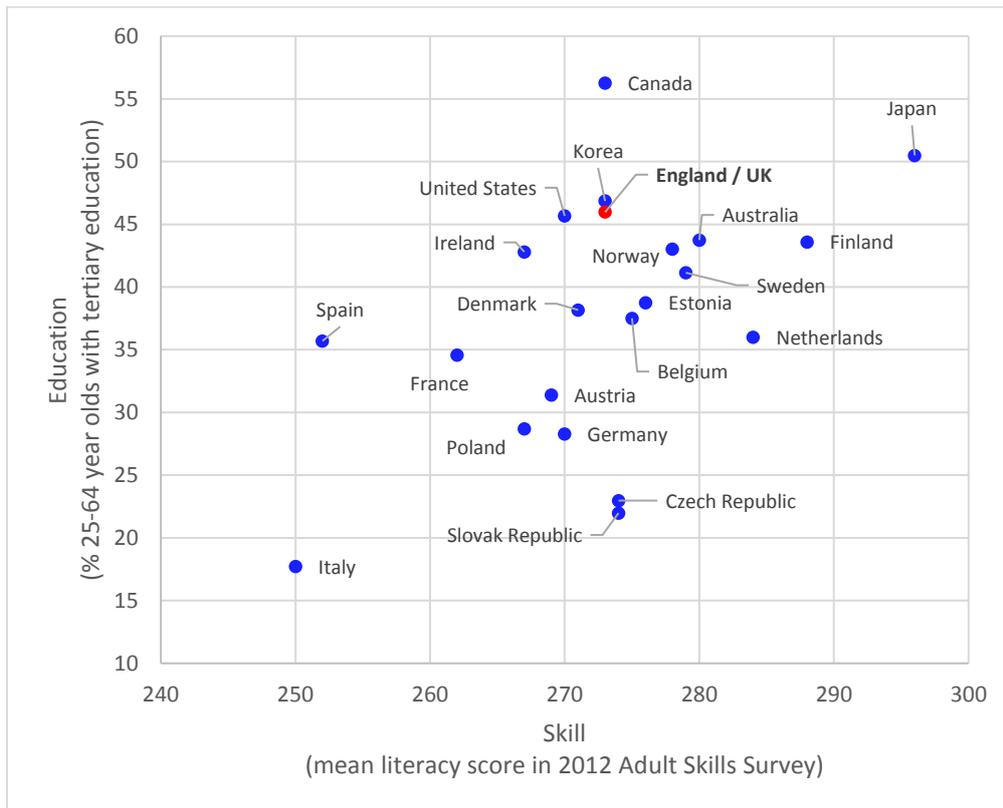
**Table 4.1: England's rank in basic skills in OECD adult skills survey (2012)**

Rank	Literacy		Numeracy		Problem solving	
	Country	Score	Country	Score	Country	Score
	OECD Average	273	OECD Average	269	OECD Average	283
1	Japan	296	Japan	288	Japan	294
2	Finland	288	Finland	282	Finland	289
3	The Netherlands	284	The Netherlands	280	Australia	289
4	Australia	280	Flanders (Belgium)	280	Sweden	288
5	Sweden	279	Sweden	279	Norway	286
6	Norway	278	Norway	278	The Netherlands	286
7	Estonia	276	Denmark	278	Austria	284
8	Flanders (Belgium)	275	Slovak Republic	276	Denmark	283
9	Czech Republic	274	Czech Republic	276	Korea	283
10	Slovak Republic	274	Austria	275	Czech Republic	283
11	Canada	273	Estonia	273	Germany	283
12	<b>England</b>	<b>273</b>	Germany	272	Canada	282
13	Korea	273	Australia	268	Slovak Republic	281
14	Denmark	271	Cyprus	265	Flanders (Belgium)	281
15	United States	270	Canada	265	<b>England</b>	<b>281</b>
16	Germany	270	Korea	263	Estonia	278
17	Northern Ireland	269	<b>England</b>	<b>262</b>	United States	277
18	Austria	269	Poland	260	Republic of Ireland	277
19	Cyprus	269	Northern Ireland	259	Northern Ireland	275
20	Poland	267	Republic of Ireland	256	Poland	275
21	Republic of Ireland	267	France	254		
22	France	262	United States	253		
23	Spain	252	Italy	247		
24	Italy	250	Spain	246		

Source: BIS, OECD Adult Skills Survey, 2012.

This is not the case in educational attainment, which shows that, while qualification level is a good proxy for skill, it has its limitations. Using almost the same set of OECD countries, the figure 4.1 compares countries' education level (as measured by the proportion of adults with tertiary level education) and skill level (as measured by the average literacy score in OECD's 2012 Adult Skills Survey). Note that for skill the unit is England, but the whole UK for education level. Figure 4.1 shows that, unlike skill, England/UK ranks high among these countries when it comes to the proportion of adults with tertiary education, behind only Canada, Japan, and (just) Korea. On the other hand, it is behind 11 countries in this dataset on the basic skills measure, in a few cases significantly so.

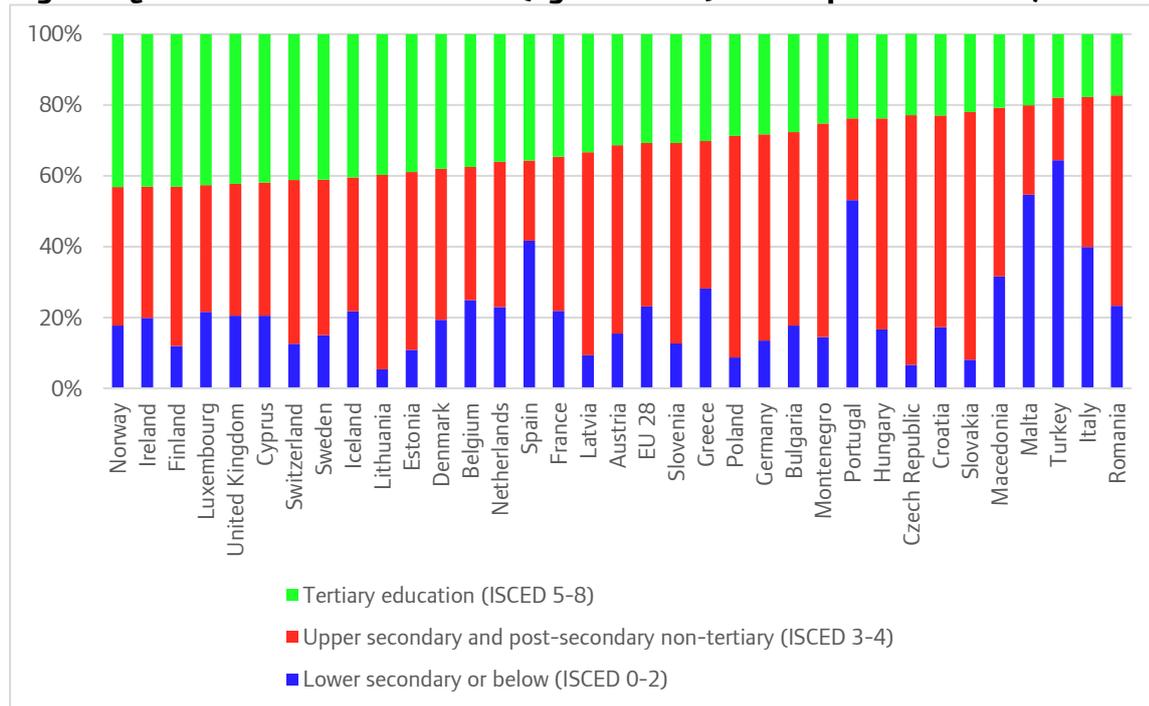
**Fig 4.1: International comparisons of education and skill level (OECD countries)**



Source: 2012 OECD Adult Skills Survey, and OECD 2017 Education At a Glance. Note that for skill (x-axis) the data refers to England, but for education (y-axis) the data refers to the whole UK.

Similarly, the UK has among the highest levels of adults (age 25 to 64) with tertiary education in Europe, only slightly behind Norway, Ireland, Finland and Luxembourg. Note that Figure 4.1 uses OECD data, whereas Figure 4.2 uses Eurostat data. Some countries that appear in both these datasets have slightly different figures.

**Fig 4.2: Qualification level of adults (age 25 to 64) in European countries, 2016**



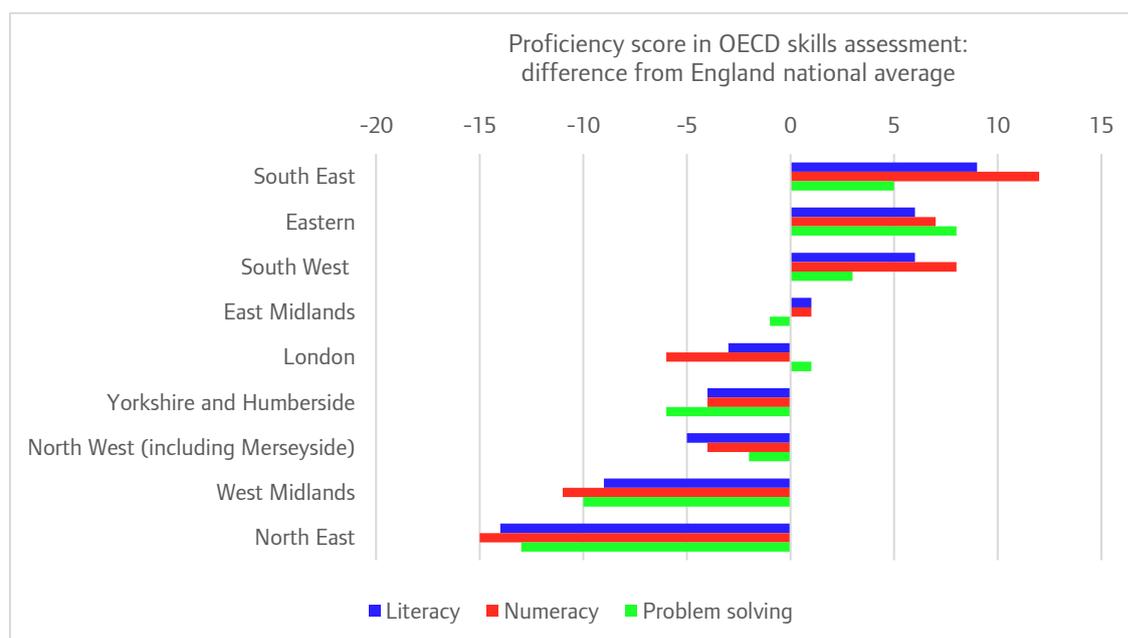
Source: Eurostat

### London

Some data from the OECD’s 2012 Adult Skills Survey is available at the London level.<sup>71</sup> Average scores for adult literacy and numeracy were lower in London than in England overall, although the difference between London and England was not statistically significant. Of the nine English regions, London was fifth for literacy and seventh for numeracy. If London is placed in the country rankings above, it would rank 15th out of 24 OECD countries for literacy, and 20th for numeracy.

<sup>71</sup> Department for Business Innovation and Skills (2013) ‘[Adult skills international survey 2012](#)’

**Fig 4.3: Average proficiency in three core skills, by region, difference from national average (2012)**



Source: BIS, OECD Adult Skills Survey, 2012.

Similarly, in the 2011 Skills for Life Survey, Londoners appear to have lower level basic skills than adults in England as a whole.<sup>72</sup> For example, 44% of Londoners (age 16 to 65) had literacy levels of Level 2 or above, compared to 59% in the rest of England. Numeracy levels were also slightly lower in London, with 20% at Level 2 or above compared to 22% in the rest of England.

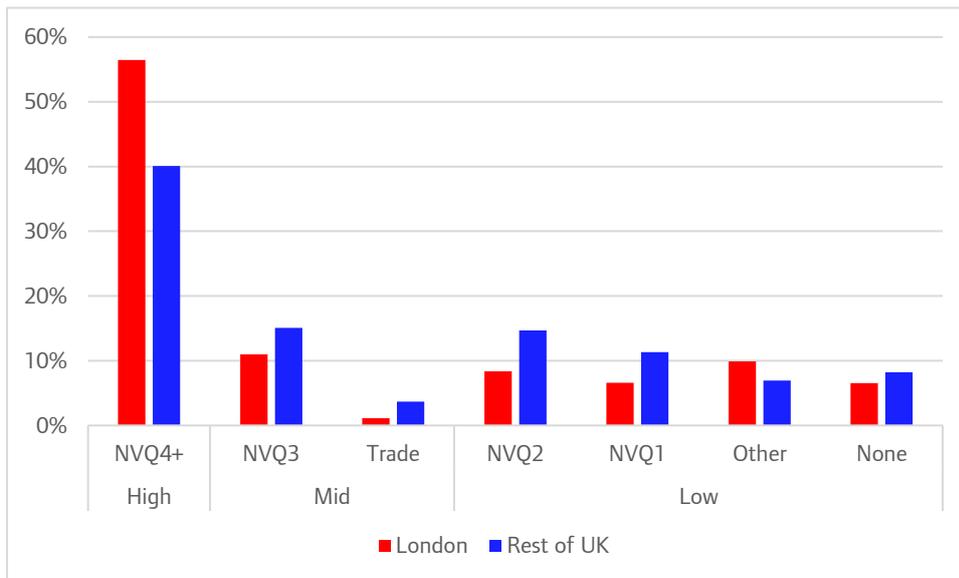
Interestingly, this survey showed that part of the difference in basic skills between London and the rest of England is explained by the fact that London is home to many people who do not have English as a first language. In literacy the gap between London and England overall falls from 13 percentage points to 5 percentage points when looking only at those with English as a first language (55% at Level 2 or above, compared to 60% in England). In numeracy there is no gap between London and England when looking only at those with English as a first language. However, it is perhaps notable that not all of the literacy gap is explained by English as a first language, a gap still remains.

While London appears slightly worse than England on direct measures of basic skills, in terms of education levels London does much better. In 2016, 57% of Londoners aged 25-64 held a 'high' level qualification, defined as NVQ Level 4 or above, compared to 40% in the rest of the UK. In London 31% held a 'low' level qualification (defined as having a qualification at NVQ Level 2 or below, having no qualification, or having a qualification unclassified in the Annual Population Survey). This compares to 42% in the rest of the UK. London also had a lower proportion of 25 to 64 year olds with 'mid' level qualifications (defined as qualifications at NVQ Level 3 or Trade Apprenticeships) compared to the rest of the UK.

In terms of numbers, this amounted to 2.85 million Londoners with 'high' level qualifications, 600,000 with 'mid' level qualifications, and 1.6 million Londoners with 'low' level qualifications, looking only at the 25 to 64 age group.

<sup>72</sup> Department for Business Innovation and Skills (2012) '[2011 Skills for Life Survey](#)'

**Fig 4.4: qualification level of 25-64 year olds, London and rest of UK**

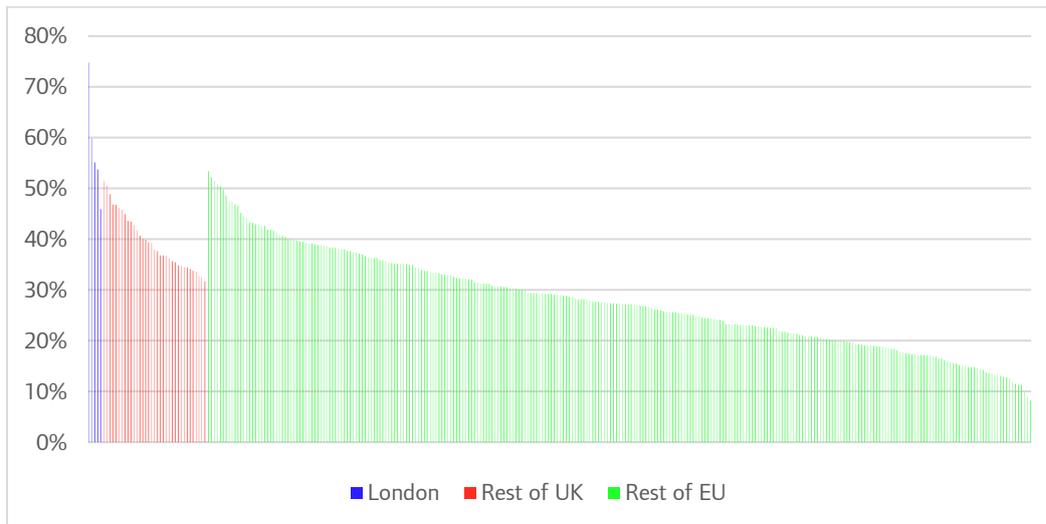


Source: Annual Population Survey, 2017

As well as being more highly qualified than the rest of the UK, London is more qualified than almost all other areas in Europe. Data is published by Eurostat for NUTS 2 regions, of which there are five in London, 35 in the rest of the UK, and 279 in the rest of the EU<sup>73</sup>. London’s five NUTS 2 regions rank first, second, third, fourth and eighth out of all NUTS 2 areas in Europe in the proportion of working age adults aged over 25 with tertiary level education.

The figures for London’s regions were: ‘Inner London – West’, 75%; Inner London East; 60%; ‘Outer London – West and North West’, 55%, ‘Outer London – South’, 54%; and ‘Outer London – East and North East’, still had a high rate of tertiary education of 46%. These figures compare to the overall rate for the 28 EU countries of 31%, and the whole UK rate of 42%.

<sup>73</sup> NUTS 2 regions are areas with between 800,000 and 3 million inhabitants. ‘NUTS’ is short for ‘Nomenclature of Territorial Units for Statistics’.

**Fig 4.5: 25-64 year olds with tertiary education in European NUTS 2 regions**

Source: Eurostat, 2016

## 4.2 Trends

The proportion of adults with high level qualifications has been increasing over time. In London, in 2017 the proportion of 25-64 year olds (to focus on those people likely to have finished their education) with high level qualifications (defined here as NVQ Level 4 or above) was 56%, an increase of 20 percentage points from 26% in 2004. In the rest of the UK, 40% of 25-64 year olds had high level qualifications in 2017, an increase of 12 percentage points from 28% in 2004.

At the other end of the scale, in London in 2017, 31% of residents age 25 to 64 had 'low' qualifications (defined as being at NVQ Level 2 or lower, or having 'other' qualifications - i.e. not classified in the Annual Population Survey - or having no qualifications). This proportion had fallen by 20 percentage points from 51% in 2004. In the rest of the UK, there was also a fall in the proportion with 'low' qualifications, from 52% in 2004 (a similar starting point to London) to 41% in 2017.

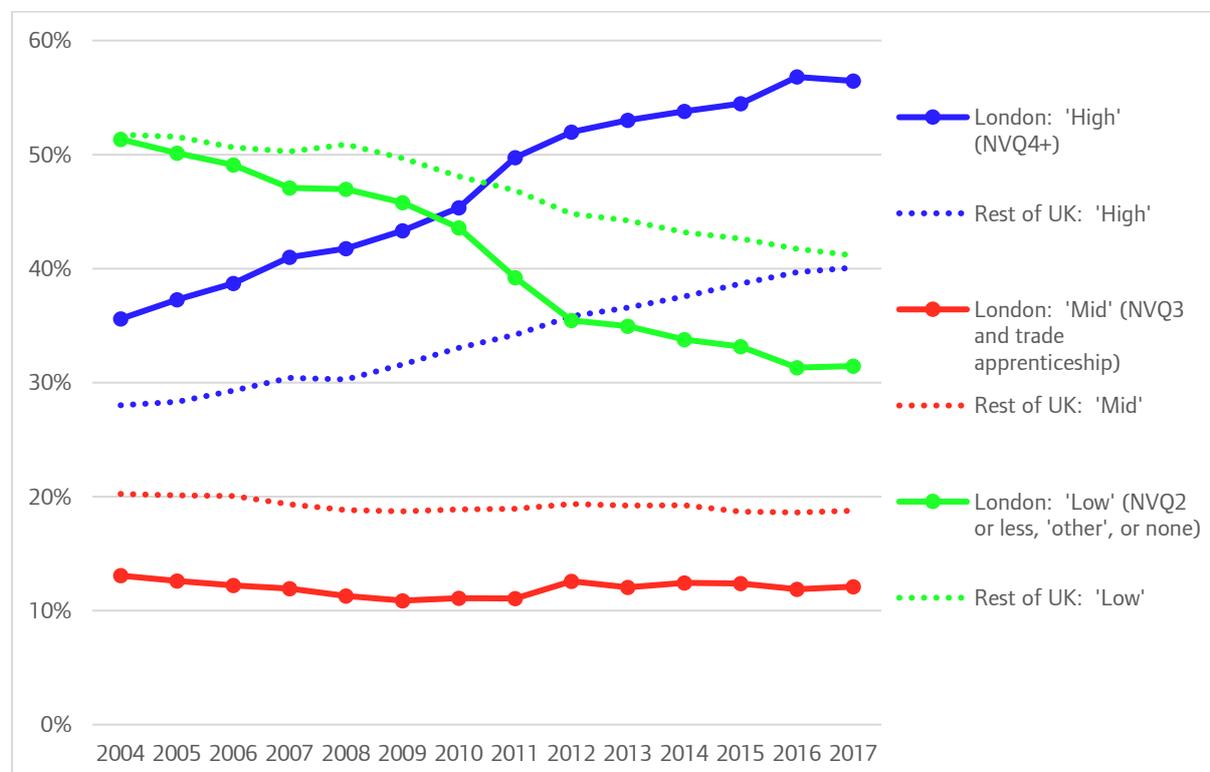
In terms of 'mid' level qualifications (defined as including those with NVQ Level 3 qualifications or 'Trade Apprenticeships', as classified in the Annual Population Survey), the proportions in both London and the rest of the UK have been broadly stable over the last decade, with 12% in London in 2017, and 13% in 2004. Compared to London, a greater proportion of 25-64 year olds have mid-level qualifications (19% in 2017).

Therefore, the main trends over the past decade or so are the increase in the proportion of working age adults (age over 25+) with high level qualifications, and the fall in the proportion with low qualifications, with those with 'mid' level qualifications remaining stable<sup>74</sup>. This trend has occurred both in London and the rest of the UK, the difference being in the starting point and the scale of this change. London started in a better position than the rest of the UK (it had a greater proportion with high-level qualifications, and a lower proportion with low level qualifications) and saw a greater increase in the proportion with high-level qualifications and a greater fall in the proportion with low-level qualifications.

<sup>74</sup> It is worth noting that these trends will, to a significant extent, reflect dynamic population flows, including the net impact of people moving into and out of this age group, and also the net impact of people moving into and out of London. The trends should not be interpreted as showing a static population increasing its qualification level, although this may also have happened.

The increase in the proportion with 'high' level qualifications was about twice as great in London as in the rest of the UK.

**Fig 4.6: Highest qualification level of 25-64 year olds, London and rest of the UK, 2004 to 2017**



Source: Annual Population Survey.

### 4.3 Digital skills

The above section focused primarily on the skill *level* of Londoners, with only a limited distinction made between types of skills. However, one specific type of skill that is of interest to policy makers due to the increasing use of technology, is 'digital' skills. Digital skills are important for two main reasons. First, for reasons of inclusion, allowing people to access digital services and to use digital technologies. Second, digital skills have an important economic function, providing the necessary skills for both specialist digital jobs, but also for jobs in non-specialist digital sectors which have a digital component. There are a range of levels within digital skills, from basic skills that enable people to communicate and use simple tools, to advanced skills that enable people to use sophisticated digital tools, or even to create digital technologies.

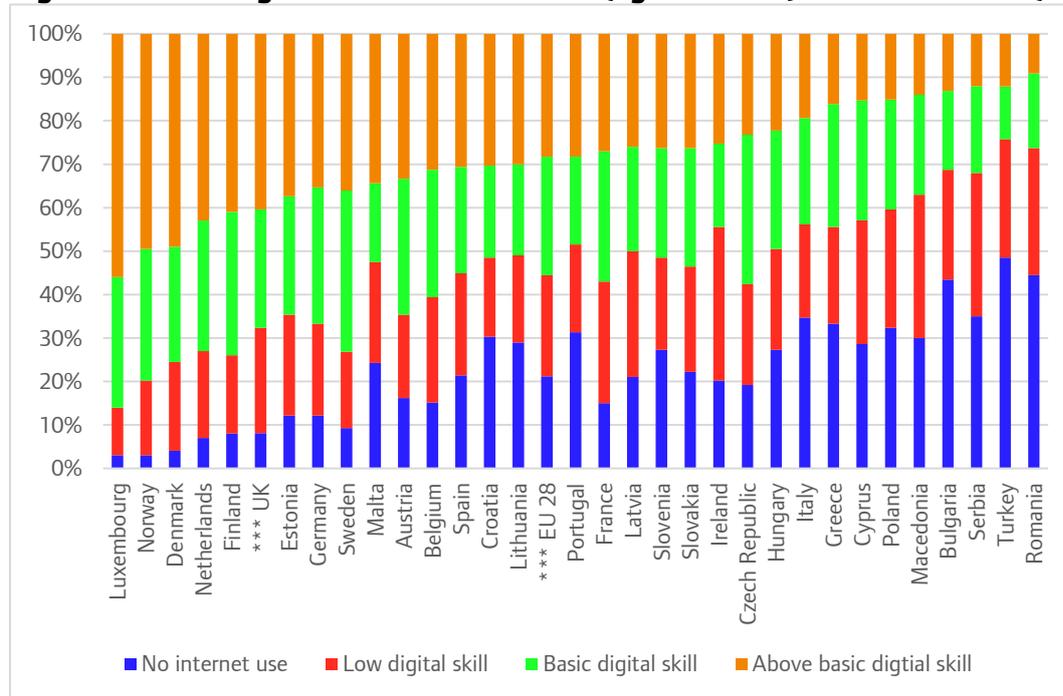
#### Basic digital skills

In 2015, two thirds (67%) of UK adults were found to have 'basic' or 'above basic' overall digital skills, compared to 55% in the EU overall.<sup>75</sup> Forty per cent of UK adults had 'above basic' overall digital skills, compared to 28% across the EU. At the other end of the scale, a third (32%) of UK adults either had 'low'

<sup>75</sup> Eurostat defines digital skill level in terms of tasks in four domains – information, communication, problem solving, and software. In 'information skills' someone is given a 'basic' classification if they can perform one of: copying or moving files or folders; saving files on internet storage space; obtaining information from public authorities' websites; finding information about goods or services; and seeking health related information. Someone is assigned 'above basic' if they can perform more than one of these tasks. Someone is considered to have *overall* basic digital skills if they have at least one 'basic' but no 'no skills' in all four domains, and above basic if they are 'above basic' in all four domains.

overall digital skills, or had not used the internet the last 3 months and so, according to the survey's methodology, could not be assessed. This was lower than in the EU overall, where 44% had 'low' overall digital skills or no internet use.

**Fig 4.7: Overall digital skill level of adults (age 16 to 74) in EU countries (2015)**



Source: Eurostat

Another survey that provides information on basic digital skills is one undertaken by Ipsos Mori (commissioned by Lloyds Bank). This defines 'basic digital skills' as being able to perform tasks across five domains: communicating, creating, managing information, problem solving and transacting.<sup>76</sup> In 2017, 79% of UK adults were considered to have 'basic' digital skills, leaving 21% without such skills. These results are comparable to the 24% in the Eurostat survey that are defined as having 'low' overall digital skills, although there are an additional 8% in the Eurostat survey with no internet access and who were not assessed.

The Ipsos Mori survey found that in London 81% of adults had basic digital skills, higher than the UK overall, but lower than some UK regions including Yorkshire and Humberside, and the South East. In terms of demographic breakdowns, the survey found that groups less likely to have basic digital skills include older people; women (by 6 percentage points compared to men); 'lower' socio-economic social grades; and those with lower household incomes.

### Digital inclusion

There are numerous benefits associated with having basic digital skills. Many involve using the internet to access information, services and to communicate, and therefore internet use can be used as a measure of digital inclusion.<sup>77</sup> The ONS produce annual data on internet use, drawing on the Labour Force Survey.<sup>78</sup> In 2017, almost 1 in 10 adults in the UK (9.2%) said they had never used the internet. London

<sup>76</sup> Ipsos Mori (2017) '[Basic Digital Skills UK Report 2017](#)'

<sup>77</sup> Internet use may also be a proxy for the possession of core digital skills to the extent that the lack of these skills drives internet non-use. However, there will likely be other drivers of internet non-use, including affordability.

<sup>78</sup> ONS (2017) '[Internet users in the UK: 2017](#)'

was the region in the UK with the lowest percentage of adults who had either not used the internet in the past three months, or who had never used the internet (7.9%).

Breaking down the UK data shows that over half (51.9%) of the adults who never used the internet were aged 75 years and over. More females than males never used the internet, 10.5% compared to 7.8% of males. A high proportion (22.5%) of disabled persons have never used the internet, compared to 4.9% of non-disabled persons. Data on internet non-users by ethnic groups shows that the group with the highest percentage of internet non-users are Bangladeshis (11.3%), followed by White (9.6%).

A 2017 study using Ofcom data gives slightly higher estimate of internet non-use.<sup>79</sup> This study estimated that 14.9% of UK people do not use the internet currently, and a further 14.3% are 'limited users'. However, the study suggested similar patterns in terms of which population groups are less likely to use the internet. The study estimated that 90% of non-internet-users in the UK are 'disadvantaged', with 'disadvantage' defined as incorporating either socio-economic class DE, having a disability, or having left education by age 16. Other findings included that most non-users are old (64% of non-users are aged 65 or over); half (48%) have a disability or long-standing health issue; half (50%) are in DE social class (Semi-skilled and unskilled occupations, unemployed and lowest grade occupations); almost half (45%) have an annual household income less than £11,500, and the majority (78%) left education at aged 16 or under.

#### 4.4 Brexit

London is an international city with a long history shaped by globalisation<sup>80</sup>. Access to a diverse and highly-skilled labour force – including workers born in the rest of the European Economic Area (EEA) – has been an increasingly important feature of the capital's labour market in recent years.

According to the ONS Annual Population Survey, 14% – approximately 748,000 – of jobs in London were filled by workers born in the rest of the EEA in 2016, up from 8% of jobs in 2004.<sup>81</sup> The contribution of EEA workers to the London labour market is far greater than in the rest of the UK (6% of jobs in 2016). There are, therefore, concerns about the impact that the UK's decision to leave the European Union could have on the supply of labour to the capital's economy.

##### Characteristics of EEA workers in London

Overall, EEA workers in London provide a relatively young and highly qualified supply of labour. In 2016 62% of jobs filled by EEA workers were held by people who have obtained a qualification level of higher education or above – 465,000 jobs in total. This was slightly above the share of jobs held by UK (59%) and non-EEA workers (60%) with this qualification level. Conversely, only 3% of the jobs filled by EEA-born workers were held by workers with no qualifications, while the employment rate for working age London residents born in the EU is higher than for those born elsewhere.<sup>82</sup>

At the same time, EEA workers in the capital hold jobs across a relatively wide range of higher and lower-skilled occupations. As Figure 4.8 shows, only 44% of the jobs filled by EEA workers were in the three

<sup>79</sup> Good Things Foundation & Professor Simeon Yates (2017) '[The real digital divide? Understanding the demographics of non-users and limited users of the internet: an analysis of Ofcom data](#)'.

<sup>80</sup> Note: this section is based on the GLA's response to the Migration Advisory Committee's call for evidence: GLA (2017) '[EEA workers in the London labour market](#)'

<sup>81</sup> Note: looking at the data on a nationality and workers (rather than jobs) basis provides similar figures. Overall, there were 586,000 EU workers in London in 2016, accounting for 13% of all workers, compared to 4% in the rest of the UK. Source: ONS (2017) '[International immigration and the labour market, UK: 2016](#)'

<sup>82</sup> In London, an estimated 82% of London's working age EU residents were in employment in the year to June 2017, compared to 75% of UK born residents and 69% of residents from non-EU countries. Source: ONS Annual Population Survey

highest-paying occupational groups in 2016<sup>83</sup> – far below the rate for workers born in the UK (65%). Indeed, it is Skilled Trades (29% of jobs) and Elementary Occupations (26%) that have the highest proportions of workers born in the rest of the EEA in the capital. This is reflected in the rate of over-qualification among EEA-born graduates, which is significantly higher than for UK-born residents (44% vs. 26%).<sup>84</sup>

**Fig 4.8: Number (000s) and percentage of jobs filled by EEA-born workers by major occupational group, London, 2016**



Source: ONS Annual Population Survey

### Changes in migration will affect some sectors much more than others

It is difficult to know how the number of jobs filled by EEA workers in London has changed since the UK voted to leave the EU in June 2016. The latest long-term international migration statistics indicate a significant fall in net migration to the UK from the EU since the referendum.<sup>85</sup> It is too soon to tell if these trends will persist or exactly how they are affecting London. However, the evidence does suggest that a continued reduction in EEA migration would be likely to affect some sectors of the economy more than others – including industries where EEA workers account for more jobs or those with high rates of staff turnover or fluctuating patterns of demand.<sup>86</sup>

There is, for example, variation in the share of jobs filled by EEA workers between different sectors in London. EEA workers contributed a third (32%) of the capital's jobs in the Construction and Accommodation and food sectors in 2016, compared to just 6% of jobs in the Public administration and defence sector. In absolute terms, EEA-born workers also accounted for a considerable number of jobs in sectors not mentioned above. This includes high value-added services like Professional, scientific and technical activities (75,000 jobs), Financial and insurance activities (53,000) and Information and

<sup>83</sup> Managers, Directors and Senior Officials; Professional; and Associate Professional and Technical Occupations.

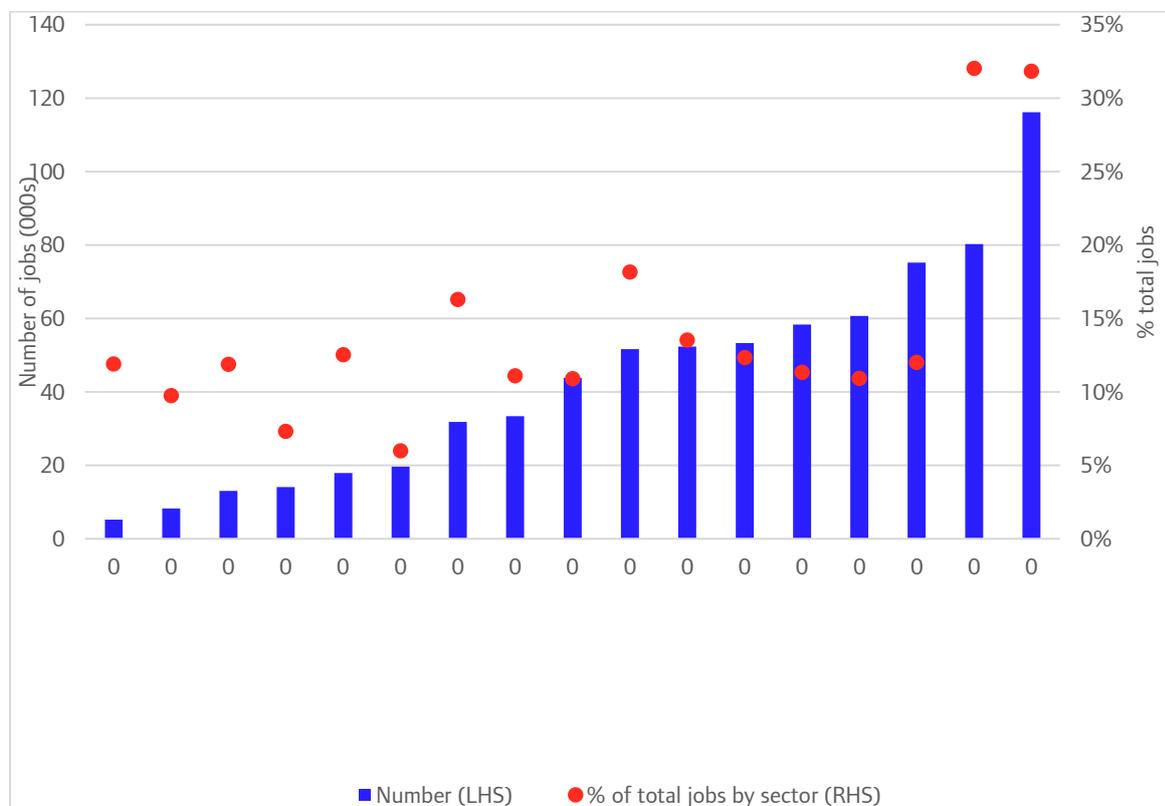
<sup>84</sup> ONS Annual Population Survey

<sup>85</sup> ONS (2017) [Migration Statistics Quarterly Report: November 2017](#)

<sup>86</sup> Resolution Foundation (2017) [Work in Brexit Britain](#)

communication (52,000); as well as public service sectors like Human health and social work (61,000) and Education (58,000).

**Fig 4.9: Number and percentage of jobs filled by EEA-born workers by broad sector group (London, 2016)**



Source: ONS Annual Population Survey

The impact of a reduction in the availability of EEA migrants would also depend on a range of other factors, such as whether there are feasible alternatives to the existing supply of migrant labour. The evidence suggests that it would be a challenge to train Londoners to fill the jobs currently held by EEA workers. As chapter 8 shows, levels of employer training in London and the rest of UK have fallen, and are low relative to other countries in Europe. There are also challenges in attracting UK-born candidates to fill certain jobs, particularly in sectors with fluctuating levels of demand or difficult working conditions.<sup>87</sup> There are also indications that UK workers have higher reservation wages than migrant workers.<sup>88</sup>

Some international evidence suggests that technology is more likely to replace migrant labour than a large inflow of domestic workers.<sup>89</sup> Section 3.4 discusses the challenges and opportunities associated with automation in London. However, the amount of jobs in the economy is not fixed, and firms could respond to a reduction in the supply of labour in different ways. They could also move operations to a different market, or invest elsewhere (thereby reducing the demand for labour). A lot will depend on the nature of any future agreement with the EU and the future UK migration regime.

<sup>87</sup> CIPD (2017) Facing the future: tackling post-Brexit labour and skills shortages

<sup>88</sup> According to analysis by the Resolution Foundation, the average hourly wage in the 15 UK industries with the highest concentration of migrants from EU Accession countries is £9.32, significantly below average UK-born wages of £11.07. Source: Resolution Foundation (2017) Work in Brexit Britain

<sup>89</sup> Select Committee on Economic Affairs (2017) Corrected oral evidence: Brexit and the Labour Market. Tuesday 28 February 2017 ([link](#)).

## 5 Does supply match demand?

### Key points

- Previous chapters showed that both the demand for and supply of skills in London, in terms of both level and quantity, has increased in recent years. This appears to suggest that in aggregate London has a ‘high skills equilibrium’.
- However, this ‘balance’ is not true for all industries and occupations in London. For example, a relatively high proportion of vacancies in Skilled trades, Machine operatives, and Professional occupations were hard to fill due to skills shortages.
- To the extent that there is an aggregate ‘imbalance’ in skills supply and demand, weak demand relative to supply may be a more important issue than any under-supply. The proportion of workers in London considered ‘over qualified’ is about twice as high as the proportion considered to ‘lack proficiency’.

This section focuses on whether skills supply meets demand. This is another way of asking whether employers’ skill needs are met under the current system. This section starts by describing how demand for skills has changed, then looks for evidence as to whether skills supply meets demand overall, concluding that, broadly speaking, it does. Then the section looks more closely for evidence of skills mismatches at the sector and occupation level, highlighting some sectors that appear to have greater skills issues. The section also draws on some international evidence.

Note that this section looks at whether the demand for skills generated by London employers is ‘in balance with’ the supply of skills available, regardless of where those people come from. Of course commuters into the city comprise a significant proportion of London’s workers.<sup>90</sup> This section does not ask whether demand for skills in London is matched by the skills of London residents specifically, which would be relevant to understanding residents’ labour market outcomes. This section is therefore expressly taking the employers’ perspective, as opposed to the residents’ perspective.

### 5.1 Overall measures of skill imbalances

This section looks at whether skills supply and demand are in overall balance, with evidence from employer surveys and other sources. The section then looks at whether supply and demand are in balance in specific sectors and occupations.

The Employer Skills Survey (ESS) has two main questions which shed light on whether skills supply meets demand:

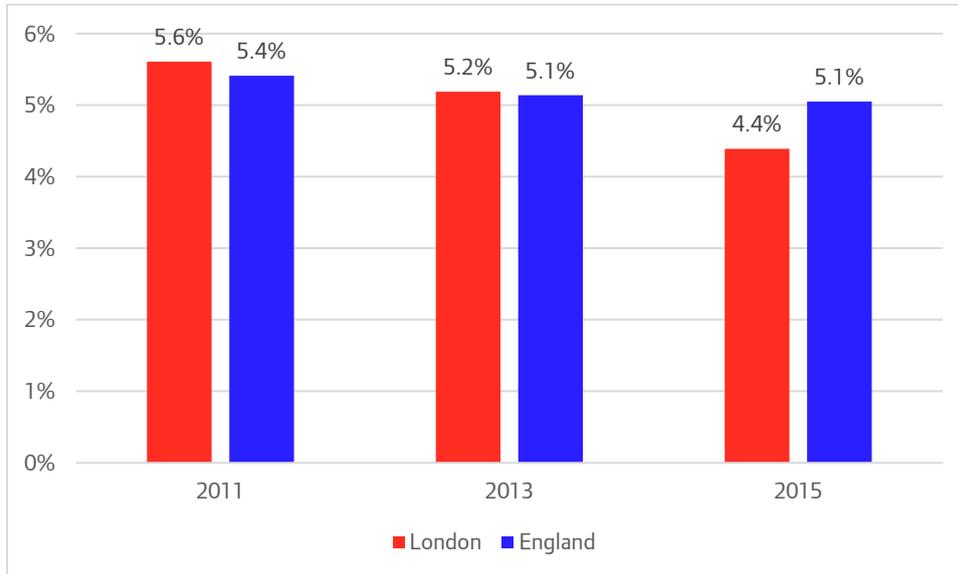
- Skill ‘gaps’: whether the employer has any staff at the moment who lack proficiency, and
- ‘Skill shortage vacancies’ (SSVs): whether the employer has struggled to fill some vacancies due to a lack of appropriately skilled staff.

In 2015, 14% of London employers reported having ‘any’ skills gaps in their workforce. This was the same as the proportion as in England in 2015, and slightly lower than the figures from previous surveys (in 2011 and 2013). Looking at skill gaps on a per-employer basis is, however, potentially misleading, since it does not distinguish between employers with few or many skill gaps. It is more useful to look at the number of skill gaps on a per-employment basis.

<sup>90</sup> In 2015 there were 870,000 regular commuters into London, amounting to 19% of London’s jobs. See: GLA Economics (2017) ‘[2016 labour market projections](#)’

In London in 2015, 196,000 staff were considered to lack proficiency. Yet, this only amounts to 4.4% employment in London, slightly lower than the 5.1% in England. In both London and England, the proportion has fallen slightly across the three recent survey periods. This suggests that overall, skill supply and demand are broadly in balance.

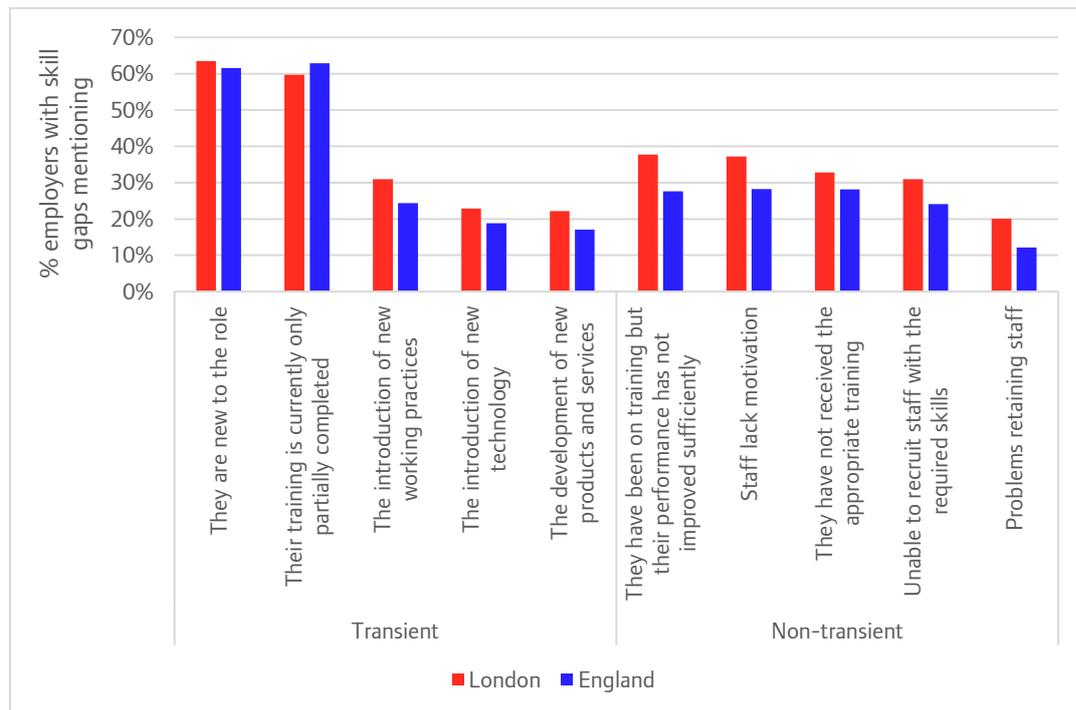
**Fig 5.1: Proportion of staff considered 'not fully proficient', London and England 2011 to 2015**



Source: Employer Skills Survey 2011, 2013, 2015

Furthermore, when asked about the cause of skill 'gaps' within their workforce, the most common response given by employers was that staff are new to the role (mentioned by 63% of London employers with skill gaps) or have not finished their training (mentioned by 60%). These might be considered 'transient' or 'frictional' causes of skill gaps, due to movement between roles. They do not suggest an underlying problem.

**Fig 5.2: Reasons for skills gaps, reported by employers with skills gaps, London and England, 2015**



Source: Employer Skills Survey 2015. Grouped into 'transient' and 'non-transient' by GLA Economics.

The other key measure of whether skills supply and demand are in balance is 'skill shortage vacancies' (SSVs), which are vacancies that the employer has found hard to fill due to a lack of skilled or qualified people. The UKCES report on the 'density' of SSVs, which is the number of SSVs as a percentage of all vacancies. In 2015, 21% of vacancies in London were considered SSVs, slightly below the figure for England (23%), and similar to the previous survey round in 2013.

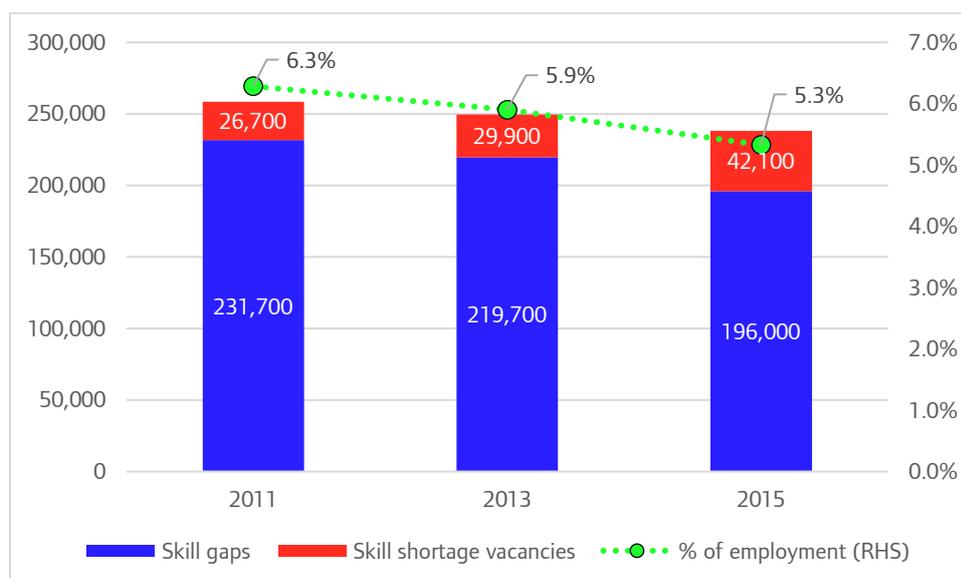
Arguably a better statistic is the number of SSVs as a proportion of employment, rather than as a proportion of vacancies. The latter implies a significant skills problem. However, vacancies only comprise a small portion of overall labour demand. At any given point, the vast majority of employment demand is met by supply, as shown by the large number of filled jobs (5.63 million in London in 2016<sup>91</sup>) compared to unfilled jobs (there were just under 200,000 vacancies in London in 2015, of which only 42,000 were unfilled for skill reasons). That means that SSVs comprised less than 1% of overall labour demand. That, as with the skills gap data above, suggests that overall, supply of skills in London is broadly in line with demand.<sup>92</sup>

We can also combine both skill gaps and skill shortage vacancies to give an indication of the total size of unmet demand for skills. In 2015, there were 196,000 skill gaps (4.4% of employment) and 42,000 skill shortage vacancies (0.9%), which jointly amounted to unmet skills demand of 238,000, or 5.3% of London employment. This suggests that in aggregate skill supply and demand are broadly in balance, at least according to this measure. This measure also suggests that skill imbalances have reduced slightly in recent years, from 6.3% in 2011, to 5.9% in 2013, to 5.3% in 2015.

<sup>91</sup> Source: ONS Workforce Jobs, September 2015, via Nomis.

<sup>92</sup> The ESS data output suggests this is broadly the case in all areas of the country. The Local Enterprise Partnership with the highest number of SSVs as a proportion of employment – 'Enterprise M3' – has a SSVs/employment figure of 1.3%.

**Fig 5.3: Skill gaps and skill shortage vacancies in London – absolute numbers and as a percentage of employment, 2011 to 2015**



Source: Employer Skills Survey 2015. Bar size corresponds to percentage of overall employment in London, absolute numbers are shown inside the bars.

Another source of data on employers' views of the skills system is the 2014 London Business Survey. Businesses were asked a number of questions relevant to skills, including factors affecting them positively or negatively (including the availability of staff with appropriate skills), and businesses' views on London as a place to do business (of which skills was one variable for consideration). Seventy per cent of London businesses rated London as good or excellent in terms of access to skilled staff, compared to 5% who rated London poorly on this measure.<sup>93</sup> This was the fourth highest rated domain, behind the city's diversity and its proximity to customers and other businesses, and ahead of transport and communications infrastructure, suggesting skills are an important part of London's attractiveness as a place to do business.

A more mixed picture emerges from the businesses' response to a question asking them about factors affecting them. Here 21% of businesses said that the availability of staff with appropriate skills affected them negatively, compared to 18% positively. That suggests a slight net negative rating, although the largest group is the 61% of business who do not see the availability of suitably skilled staff as affecting them either way.

It is also worth placing these figures in context. While 21% of businesses responded negatively about access to skilled staff, this is far below other factors they were asked about, including taxes and business rates (50% responded negatively), staff costs / cost of living (41%), cost of energy (36%), and four other issues which businesses rated as more concerning than skill supply.

More concerningly, the Confederation of British Industry surveyed London businesses in 2016<sup>94</sup> and found that 42% of London firms were not confident of being able to access the requisite number of higher skills staff over the next 5 years, and 46% of firms said they *currently* lack people with the

<sup>93</sup> GLA (2014) 'London Business Survey: Main Findings'

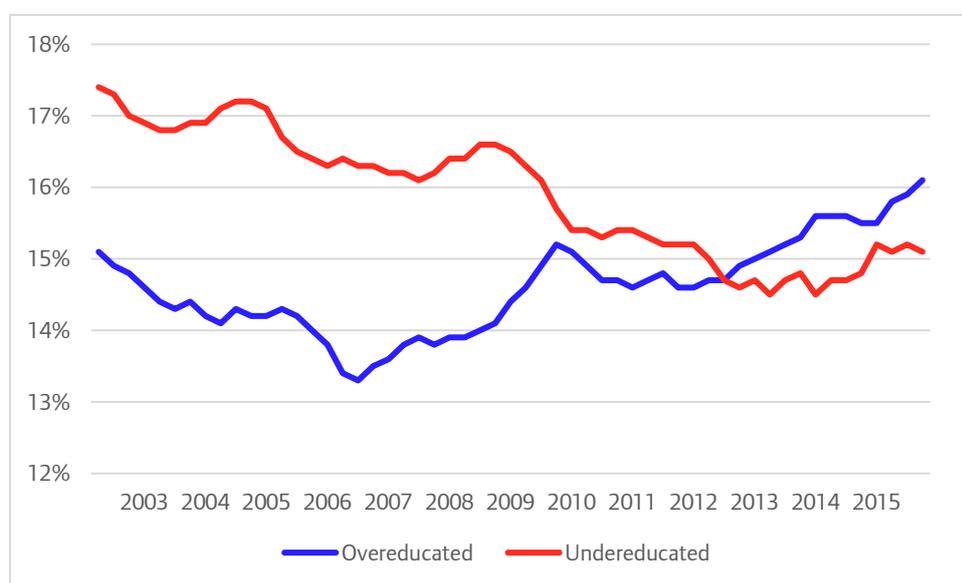
<sup>94</sup> <http://www.cbi.org.uk/cbi-prod/assets/File/pdf/LBS%20September%202016.pdf> Note: survey sample size was 186. Note: usefulness of CBI survey is limited. Small sample size, not broken down by sector or size of employer. And despite being bi-annual results from same questions not consistently reported (e.g. the September 2015 survey report does not have a section on skills).

necessary higher-level skills. Thirty-three per cent cited a lack of digital skills in their workforce. Sixty-nine per cent of firms said high housing costs in London impacted on their ability to recruit and retain skilled talent.

### Other measures of skill mismatch

There are other measures of skills mismatches besides the Employer Skills Survey<sup>95</sup>. One is the ONS's series which estimates the proportion of workers whose education level matches their occupation. In the last quarter of 2015, just over two thirds of people in employment in the UK (69%) were considered to have an education level that 'matches' their occupation level, with the remaining 31% broken evenly between people who are under-educated and over-educated. Apart from minor fluctuations these proportions have not changed much since the start of the series in 2002, although recently the proportion estimated to be over-educated has been higher than the under-educated.

**Fig 5.4: ONS estimate of those in employment who are under- and over-educated for their occupation (UK, 2002 to 2015)**

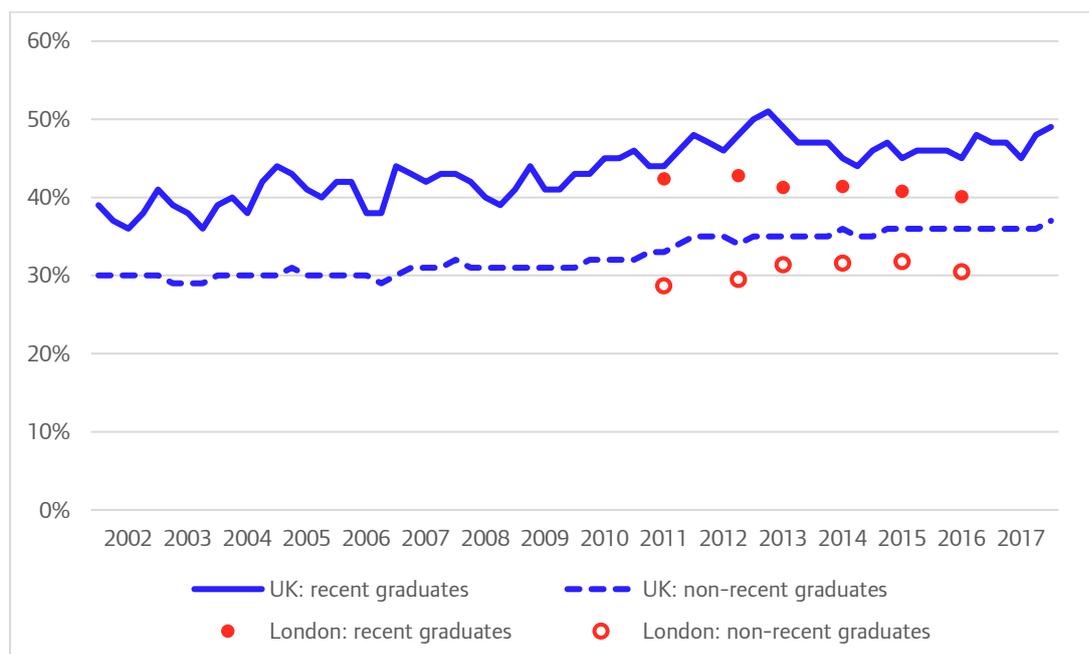


Source: ONS, using ILO methodology.<sup>96</sup>

There is also data available on the skills mismatch of graduates specifically. The ONS produce a series which estimates the proportion of recent graduates working in non-graduate roles. This really only looks at the over-education side of the skills mismatch coin. The ONS's series suggests that, in London in 2016, 40% of recent graduates were working in non-graduate roles (defined as having graduated within the last five years) as were 30% of non-recent graduates. Figures for the UK are from a different series, but are slightly higher than in London. This suggests that the problem of over-education is less severe in the London labour market than elsewhere.

<sup>95</sup> There may also be some bias in employers' responses. They may have an incentive to overstate their skills problems to encourage the state sector to invest.

<sup>96</sup> ONS (2015) '[Analysis of the UK labour market - estimates of skills mismatch using measures of over and under education: 2015](#)'

**Fig 5.5: Graduates working in non-graduate roles, UK and London**

Source: ONS. 'Graduates' are defined as those who have left education with qualifications above A-level standard. 'Recent' graduate means those who graduated within the previous five years. A 'non-graduate role' is defined as one in which the associated tasks do not normally require knowledge and skills developed through higher education to enable them to perform these tasks in a competent manner.<sup>97</sup> UK series from '[Graduates in the labour market, 2017](#)'. London series is from a [2016 ad hoc request](#).

## 5.2 London's skills 'equilibrium' and the importance of the demand side

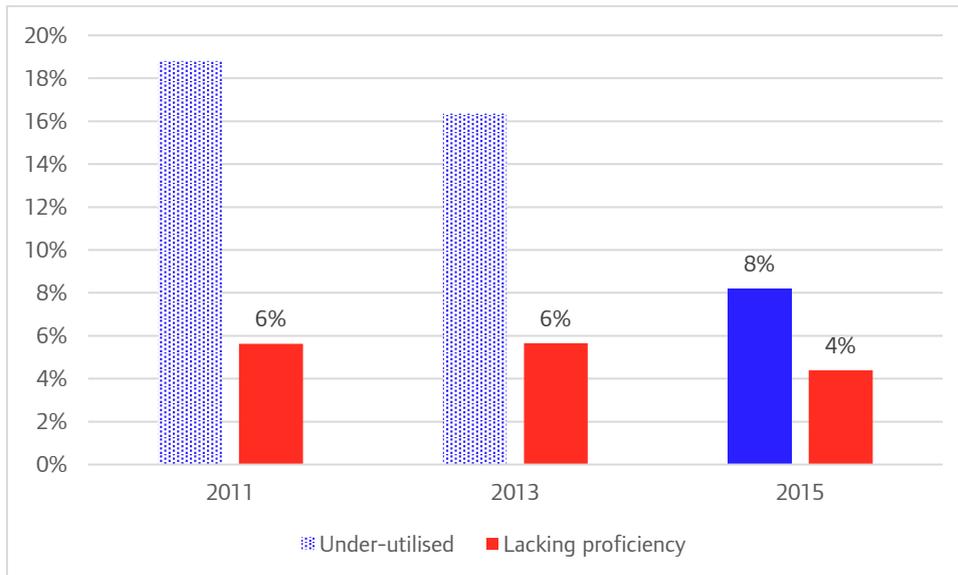
This section has, so far, looked at the balance of skills supply and demand from one angle – does supply match demand? However, one can also take the alternative perspective and ask whether skills demand is of the 'right' level and type given the supply of skills.

The data suggests that a lack of skills demand may be at least as big a problem as a lack of supply. The Employer Skills Survey provides an estimate of the number of people working that are 'under-utilised', which in the 2015 survey was defined as occurring 'where a member of staff is perceived by their employer to have both qualifications and skills that are more advanced than required for their current job role.'<sup>98</sup> In 2015, the estimate was that 367,000 people working in London had skills that were under-utilised, comprising 8% of London employment. This compares to 196,000 people deemed to be lacking proficiency, comprising 4% of employment. On this measure, therefore, a lack of appropriate demand is twice as big a problem as an under-supply of skills, in terms of achieving the outcome that everyone has skills well-matched to their job.

<sup>97</sup> The ONS use a definition developed in: Elias, P. and K. Purcell (2013) 'Classifying graduate occupations for the knowledge society'. Futuretrack Working Paper No. 5. Warwick Institute for Employment Research.

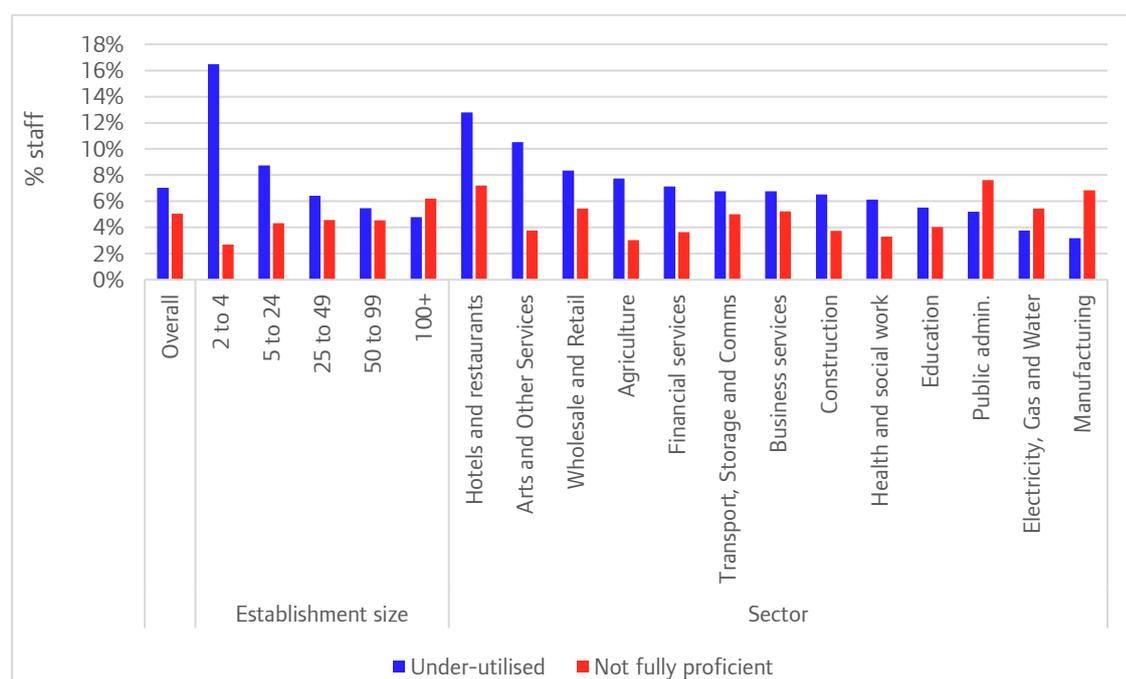
<sup>98</sup> See page 78 in: UKCES (2015) '[UK Employer Skills Survey: UK Results](#)'

**Fig 5.6: Proportion of staff considered 'under-utilised' or 'under-employed' compared to 'lacking proficiency', London 2011 to 2015**



Source: Employer Skills Survey 2011, 2013, 2015. Note in 2011 and 2013 the term used is 'underemployed', whereas in 2015 it is 'under-utilised'. Note: the method of measuring under-utilisation was changed for the 2015 survey to reduce under-reporting, so the 2015 data should not be treated as a direct comparison with earlier years. 2015 is the more reliable estimate.

It is worth noting that there is variation in this balance at the sector level, and by employer size. At the England level (London data was not available for this breakdown) 7.0% of staff are under-utilised, compared to 5.1% who lack proficiency. Small employers are much more likely to have staff that are under-utilised, whereas for larger firms the proportion that are under- and over-skilled are similar. Among sectors, some suffer more from an under-supply of skills (Manufacturing, Utilities, Public Administration) whereas others have a greater issue with under-utilisation, most notably Arts and Other Services, Agriculture, Financial Services and Hotels and Restaurants.

**Fig 5.7: balance of under-skilled and under-utilised by establishment size and sector (England, 2015)**

Employer Skills Survey, 2015

The importance of skills utilisation - the demand side of skills policy - has been recognised in the UK since at least 2006, when the Leitch Review of Skills<sup>99</sup> argued that low productivity in the UK was explained by workplace management as well as in the relatively low stock of skills in the UK workforce. It is not enough to increase the level of skills supply. A 2008 review of the literature concerning skills utilisation concluded that at the national level 'evidence has failed to produce a conclusive and causal correlation between increased investment in skills ... and increased productivity'.<sup>100</sup> This can be seen in the recent history of skills and productivity in the UK, where despite an increase in investment in skills and education, and widening participation in higher education, labour productivity in the UK lags several other developed countries including France, Germany and the US.<sup>101</sup> This disconnect was observed by Scottish policy makers in 2007: 'having pushed supply even harder than England, and thereby tested the 'supply push' model even closer to destruction, Scottish policy makers arrived at the conclusion that high volume, high quality skills supply was a necessary and important but on its own insufficient lever to produce the economic change that they desired'<sup>102</sup>.

Despite this recognition, progress towards demand-side skills policy has, in the words of one report on the subject, been 'painfully slow'<sup>103</sup>. But this may be because skills policy lacks the power to affect the demand for skill in the way it can affect supply. In explaining skill under-utilisation, it is suggested that

<sup>99</sup> Leitch (2006) Leitch Review of Skills <http://webarchive.nationalarchives.gov.uk/+/http://www.hm-treasury.gov.uk/leitch>

<sup>100</sup> CFE (2008) "Skills utilisation literature review" <http://www.gov.scot/Publications/2008/12/15114643/0>

<sup>101</sup> Wright and Sissons (2012) The Skills Dilemma: Skills Under-Utilisation and Low Wage Work <http://staging.ilo.org/public/libdoc/nonigo/2012/470368.pdf>

<sup>102</sup> Keep, Ewart (2016) Improving Skills Utilisation in the UK – Some Reflections on What, Who and How? <http://www.skope.ox.ac.uk/wp-content/uploads/2016/09/Keep-2016.-Improving-Skills-Utilisation-in-the-UK-Some-reflections-on-What-Who-and-How.pdf>

<sup>103</sup> Wright and Sissons (2012) The Skills Dilemma: Skills Under-Utilisation and Low Wage Work <http://staging.ilo.org/public/libdoc/nonigo/2012/470368.pdf>

skill utilisation is driven by an employer's business model, and that in the UK many employers pursue low product specification strategies, cost based competition, and highly routinized work. Taking the explanation one level further, it is hypothesised that the widespread use of low cost business models in the UK is due to weak domestic demand for high quality goods.<sup>104</sup> If this is correct – that skill utilisation depends on the structure of domestic demand – this suggests that skills policy, let alone local skills policy, may struggle to have an impact on skill utilisation, at least without the assistance of other economic policy levers.

More promisingly, the UKCES attributes the problem of skill-underutilisation to weak management capability in the UK rather than fundamental economic drivers. There is evidence suggesting that the quality of management in the UK lags behind other countries<sup>105</sup>, with a 'long tail' of poorly managed firms in the UK.<sup>106</sup> The Employer Skills Survey includes questions about management practices and product market strategy. In both cases London appears to do slightly better than England overall, with 13% of employers using 14 or more 'high performance working' practices (compared to 12% in England), and 49% of private sector companies pursuing a 'high' or 'very high' product market strategy (compared to 46% in England). However, skill under-utilisation is *higher* in London than in England, so management practices and business models must be at best a partial explanation for skill utilisation.

At the UK level, the combination of a relatively low-skilled workforce (by international standards – referring to proficiency in basic skills) and the fact that, if anything, supply of skills outstrips demand, has been referred to as a 'low skills equilibrium'. This term, coined in the 1980s, refers not just to the fact that demand and supply are simultaneously low, but also to the idea that demand and skill can interact to move the economy *towards* an equilibrium where demand and supply are low. For example, one mechanism might be as follows. If there is under-supply, employers cannot fill vacancies and reduce the number of skilled jobs available. This in turn reduces the incentive to acquire higher skills, which creates a self-reinforcing cycle.<sup>107</sup> In this sense, a low skill equilibrium can also be seen as a low skill 'trap'.<sup>108</sup>

However, evidence suggests that, unlike the rest of the UK, London is actually in a high skills equilibrium. In 2012 Ann Green, working with the OECD's Local Employment and Economic Development Programme, developed a framework for looking at skills equilibria at the local labour market level (the project used NUTS 3 geographies, which divides London into five areas).<sup>109</sup> This framework categorises localities into four states, two equilibria and two disequilibria, with the following characteristics:

- **High skills equilibrium.** High wages and productivity, high educational attainment and skill levels, high employment and low unemployment. Migration balanced.
- **Low skills equilibrium.** Low wages and productivity, low skills and educational attainment, out-migration of the low skilled, cycle dependent employment.
- **Skill gaps and shortages.** High wages and productivity, low local educational attainment and skills, high vacancy rates for skilled jobs, in-migration of skilled workers.

<sup>104</sup> Keep, Ewart (2016) Improving Skills Utilisation in the UK – Some Reflections on What, Who and How? <http://www.skope.ox.ac.uk/wp-content/uploads/2016/09/Keep-2016.-Improving-Skills-Utilisation-in-the-UK-Some-reflections-on-What-Who-and-How.pdf>

<sup>105</sup> Bloom and Van Reenan (2005) 'Measuring and Explaining Management Practices Across Firms and Countries'

<sup>106</sup> Bloom, N. and Van Reenan, J. (2010) 'Why Do Management Practices Differ across Firms and Countries?', in Journal of Economic Perspectives Volume 24., No. 1., pp. 203–224.

<sup>107</sup> Morris and Morris (2016) 'Skill shortages and firm response: Is the UK heading for Low Skill Equilibrium?'

<sup>108</sup> OECD (2014) 'Job creation and local economic development: Escaping the low skills equilibrium trap'

<sup>109</sup> Green (2012) 'Skills for competitiveness: Country Report for United Kingdom'

- **Skills surplus.** Low wages and productivity, high local educational attainment and skills, low share of high skilled jobs, high unemployment rate of skilled workers.

Four of five NUTS 3 areas in London are firmly in the ‘high skills equilibrium’ category. The other, Outer London – East and North East, sits on the border between ‘high skills equilibrium’ and ‘skill gaps and shortages’. That is, the paper suggests that all parts of London have high demand, and with the partial exception also have high supply of skills. Therefore, it is fair to say that overall, on these measures at least, London is in a high skills equilibrium. The paper’s policy prescription for areas with a high skills equilibrium such as London is to maintain this ‘desirable’ position.

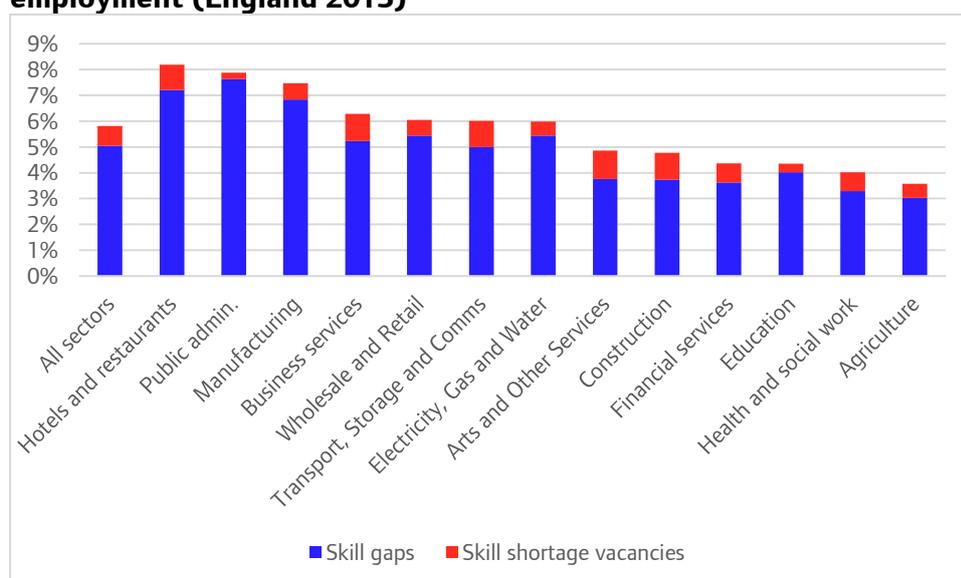
### 5.3 Skills mismatch by sector, occupation and employer size

#### Sector

As with measures of overall skills mismatches, we can use both direct sources of information (asking employers what skills they lack) and indirect (drawing inferences from other data). The main source of direct information – the Employer Skills Survey – does not provide an industry breakdown at the London level. Instead, data is available at the England level. It is not known whether London figures reflect England patterns.

As in the above section on overall skill mismatches, skill shortage vacancies (SSVs) and skill gaps are combined to produce a total count of unmet skills demand for each industry. Figure 5.8 shows, for each industry, these two forms of unmet skill demand combined as a percentage of employment in that sector. The greatest issue appears to be in the Hotels and Restaurants sector, where unmet skills demand corresponded to 8.2% of employment in that sector (above the rate for all sectors in England of 5.8%). Other sectors with apparently high levels of unmet skills demand on this measure are Public Administration and Manufacturing. At the other end of the scale are sectors such as Agriculture, Health and Social Work, Education, and Financial Services.

**Fig 5.8: Skills gaps and skill-shortage vacancies by sector as a percentage of employment (England 2015)**



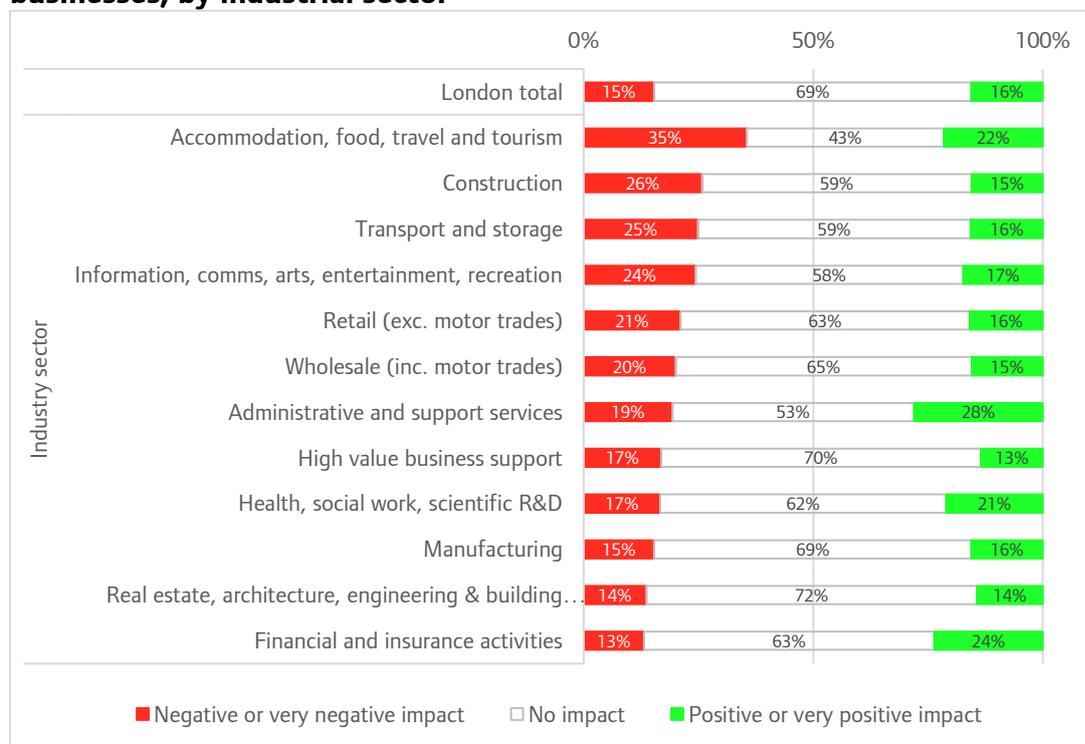
Source: 2015 Employer Skills Survey

One direct data source that is available at the London level by industry is the 2014 London Business Survey, which asked London businesses about skills. Figure 5.9 shows businesses’ response when asked

whether skills are a factor that affects them negatively or positively. Sectors that reported the most negative responses were Accommodation, food, travel and tourism (35% citing as negative factor), Construction (26%), and Transport and storage (25%). The sectors with the greatest proportion citing skills as a positive factor were: Administrative and support services (28% citing as positive factor), Financial and insurance activities (24%), and, perhaps confusingly given they also had the most negative responses, Accommodation, food, travel and tourism (22% citing as a positive factor).

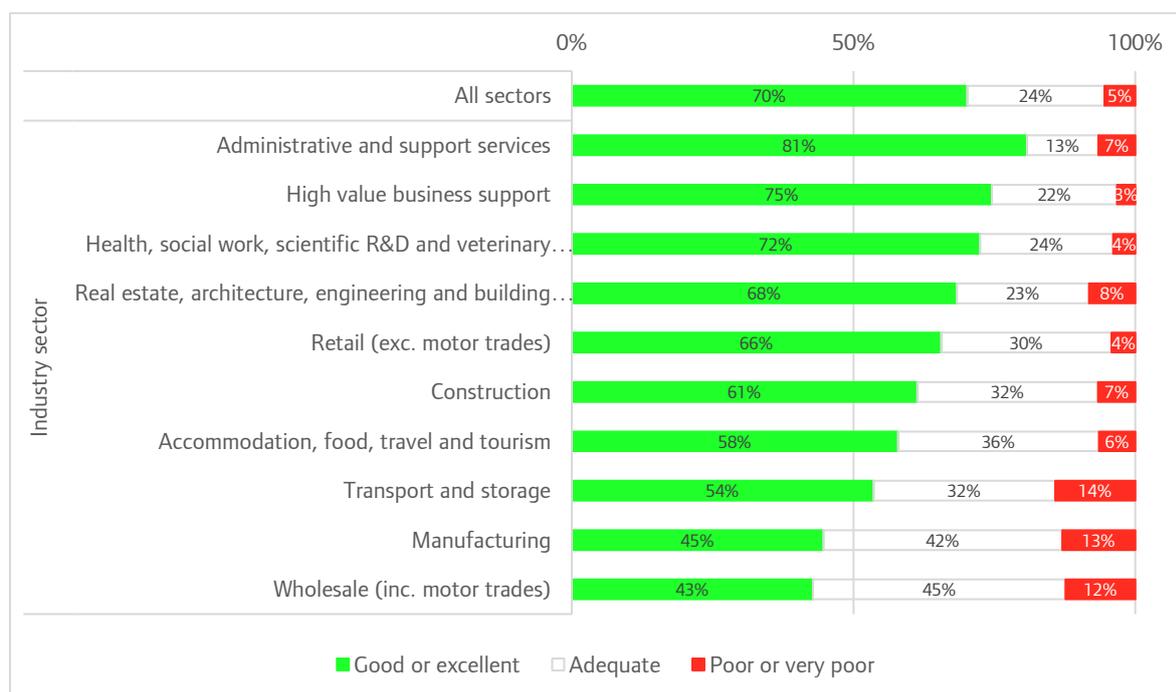
Comparing the proportion citing positively with the proportion citing negatively, the sectors with the greatest 'net negative' score for skills availability as a factor (i.e. % negative minus % positive) were: Accommodation, food, travel and tourism (14 percentage points net negative), Construction (10 percentage points), and Transport and storage (9 percentage points).

**Fig 5.9: Availability of staff with appropriate skills as factor affecting London businesses, by industrial sector**



Source: London Business Survey, 2014. Note: 'businesses' are business units. NB: 'no response' excluded.

Another question asked in the London Business Survey was whether the business rated London positively or negatively in terms of access to skilled staff. Overall, 70% of businesses responded positively to this question. In terms of industrial sectors, the highest ratings came from Administrative and support services (81% rated London as good or excellent as a place to do business in terms of skilled staff), High value business support (75%) and Health, social work and scientific R&D (72%). The lowest ratings came from Wholesale (43% considered London good or excellent), Manufacturing (45%) and Transport and storage (54%).

**Fig 5.10: London rated as a place to do business in terms of access to skilled staff, by industry**

Source: London Business Survey, 2014. Note: 'businesses' are business units. NB: 'no response' excluded. Data not available on all three categories for bottom two sectors.

Looking across these two survey questions, sectors expressing greatest dissatisfaction with London's skills supply were Transport and Storage, Accommodation and Hospitality, Construction, and Manufacturing. There is some crossover with the results at the England level from the Employer Skills Survey, above, where Hotels and Restaurants (similar to Accommodation and Hospitality) and Manufacturing also appear.

Beyond these direct sources of data on skill shortages, it is also possible to make inferences from indirect sources. Table 5.1 collects some key indicators, including wages, wage growth, vacancies and vacancies growth, and use of foreign labour. Note that not all these indicators are available at the London level: the most direct measure of skill shortages (skill shortage vacancies and gaps as a proportion of employment) refers to England, while vacancies growth refers to the UK (the UK is preferred here because the data source for London vacancies carries an industry bias and is less robust across time).

A colour scale has been applied to each column in the table to indicate high potential skills problem (red) and low (blue). Looking across the table, it is clear that there is no single industry which stands out as having a skill shortage across all available indicators. The Hotels and restaurants sector has the highest proportion of skill shortages, and has also seen strong wage growth in London over the past six years, perhaps indicating that employers have responded by increasing wages. However, this sector has a large number of low paying jobs, meaning the sector's high wage growth could have been driven by increases in the minimum wage rather than as a response to skill shortages. This sector also has the largest proportion of workers from overseas, suggesting skill needs are not being met by UK labour supply. Other sectors which stand out are Construction (large growth in vacancies at the UK level, and high reliance on foreign workers), Public administration (high direct measure of skill shortage at England level, and large growth in vacancies at the UK level) and Manufacturing (high direct measure of skill shortage at England level and relatively high use of foreign workers).

**Table 5.1: Industry skill shortage indicators**

Industry (g)	Current jobs (London) (a)	Jobs growth 2011 to 2017 (London) (b)		Employer reporting of skill shortages (England) (c)	Wages (London) (d)		Vacancies (London and UK) (e)		Foreign workers (London) (f)	
	WFJ Sep 2017 (000s)	Number (000s)	%	SSVs + Gaps / Emp	2017 wage (£/week)	Wage growth 2011-17 (nominal)	London online job postings (000s) (2017)	2016-17 change in vacancies (UK)	% workers from non-UK	% workers from EU
Total	5,836	876	18%	5.8%	871	6%	1,895	4%	40%	14%
Primary and utilities (ABDE)	37	6	19%	4.6%	794	-3%	7	6%	37%	12%
Manufacturing (C)	140	21	18%	7.5%	744	9%	41	8%	42%	16%
Construction (F)	335	80	31%	4.8%	861	7%	15	26%	48%	32%
Wholesale and Retail (G)	637	49	8%	6.1%	685	7%	59	1%	48%	11%
Hotels and Restaurants (I)	425	94	28%	8.2%	503	19%	81	13%	71%	32%
Transport, storage and comms (HJ)	733	104	17%	6.0%	948	16%	46	-2%	42%	12%
Financial services (K)	387	16	4%	4.4%	1,489	7%	86	12%	34%	12%
Business services (LMN)	1,587	341	27%	6.3%	898	5%	166	3%	38%	14%
Public administration (O)	228	0	0%	7.9%	796	5%	12	29%	24%	6%
Education (P)	383	22	6%	4.4%	759	9%	104	4%	34%	11%
Health and social work (Q)	573	94	20%	4.0%	701	-3%	130	0%	44%	11%
Arts and other servies (RS)	352	49	16%	4.9%	803	26%	30	-10%	31%	10%

(a) Workforce jobs, London, Sep 2017. Source: ONS.

(b) Change in WFJ from Sep 2011 to Sep 2017. Source: ONS.

(c) These data refer to England - industrial breakdown not available for London in ESS. 'SSVs' are skills shortage vacancies and 'Gaps' are employees deemed to lack proficiency. Source: 2015 Employer Skills Survey, UKCES.

(d) Refers to mean gross weekly wages of full time workers, in Sep 2011 and Sep 2017. Source: ASHE, ONS.

(e) Burning Glass count of online job postings. Note that only 44% of online postings were successfully coded to an industry in this period, hence categories do not sum to total. Burning Glass parsing technology changes over time, therefore annual change was taken from the ONS Vacancies Survey for the UK, a more stable source. Burning Glass online postings count are included to give a current picture of London vacancy volumes. Sources: Burning Glass, and ONS Vacancies Survey.

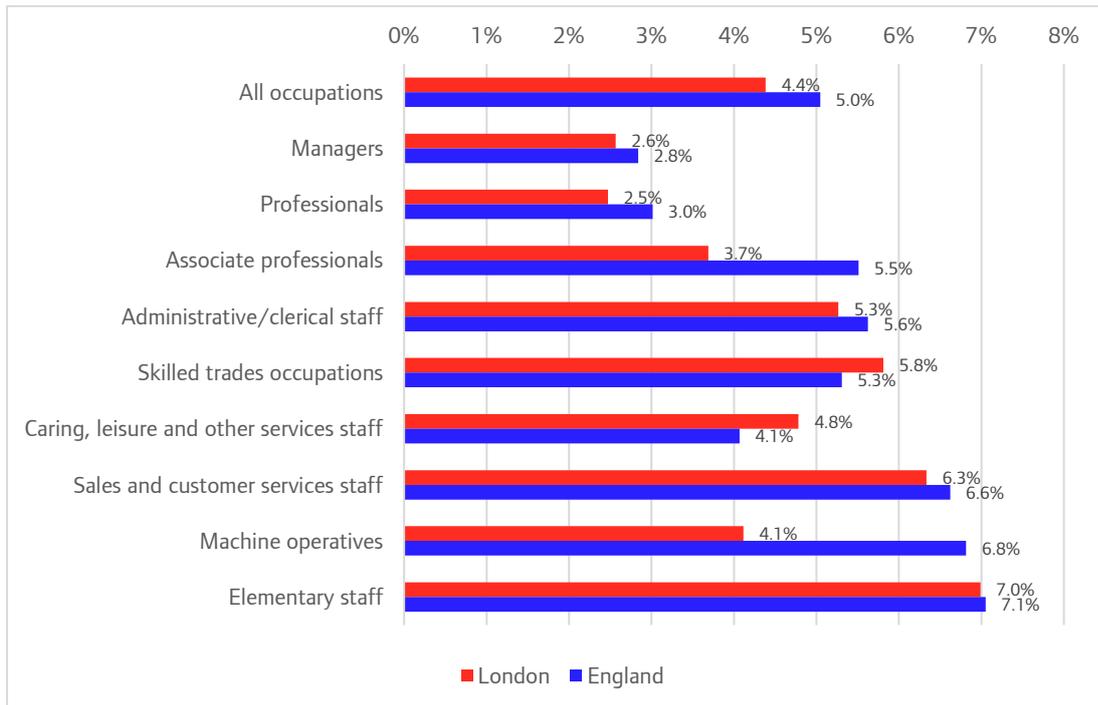
(f) Data is from the Annual Population survey, and refers to country of birth (not nationality). Source: ONS, Annual Population Survey.

(g) This table aggregates some sectors to match the aggregation used in ESS reporting and in ONS's APS outputs for foreign workers. Note that in the ESS column the Manufacturing row includes Mining and Quarrying. In all other rows the groups are as indicated.

## Occupation

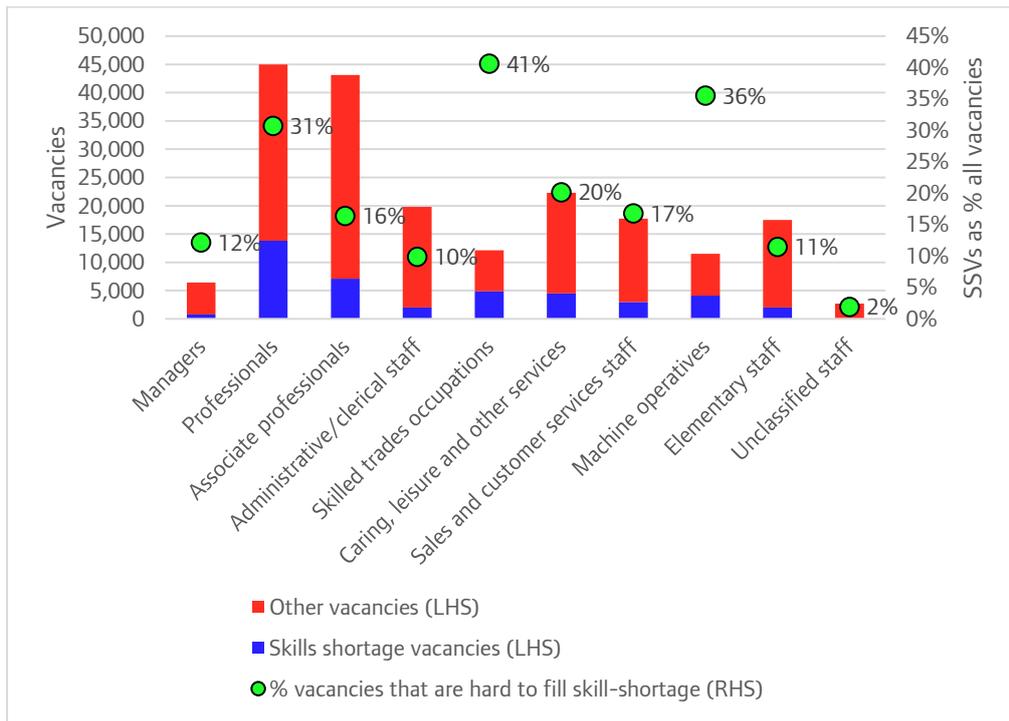
Turning to occupation, the Employer Skills Survey provides a breakdown of skills gaps and shortages by broad occupation level. It is the mid- and lower-level occupations that have the greatest apparent skills problems. For example, in London 7% of 'Elementary staff' and 6% of 'Sales and customer services staff' were considered not fully proficient by their employer, compared to 3% of 'Managers' and 2% of 'Professionals'.

**Fig 5.11: Staff considered ‘not fully proficient’ by occupation level, London and England, 2015**



Source: Employer Skills Survey, 2015

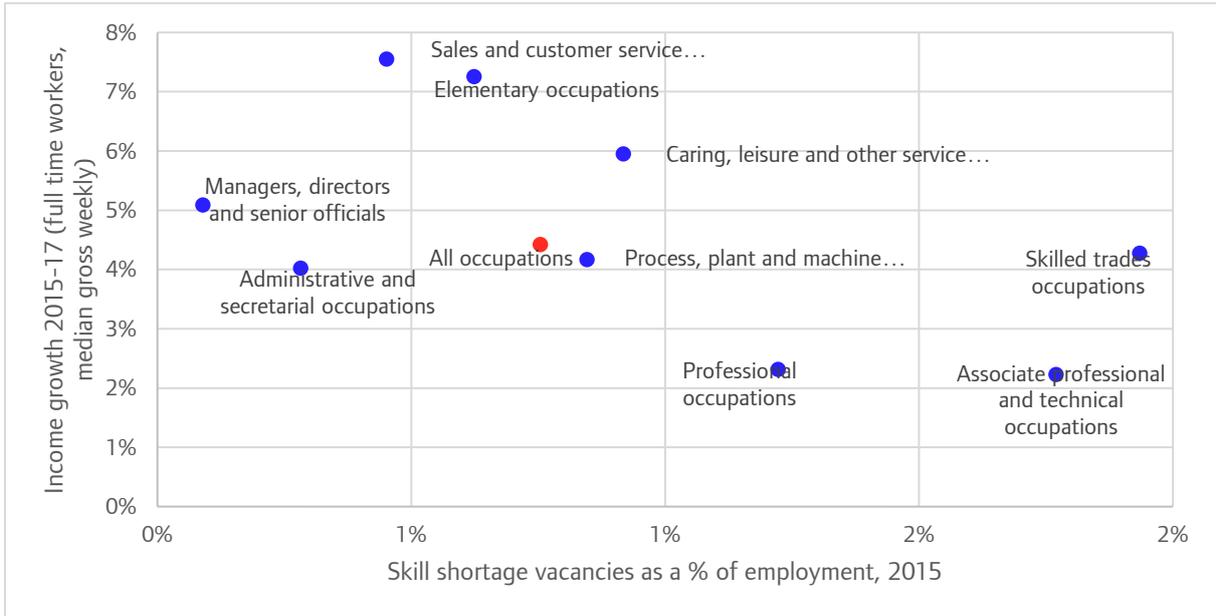
In terms of SSVs, in London the highest level of skill shortage vacancies as a proportion of overall vacancies is found in the ‘Skilled Trades’ and ‘Machine Operatives’ occupations. However, these account for a small number of overall vacancies. Perhaps more concerning is the 31% of vacancies at the Professional occupational level that were hard to fill due to a skills shortage. On the other hand, the largest number of skill shortage vacancies is found in the Professional and Associate Professional occupations. However, this merely reflects the occupational structure in London.

**Fig 5.12: Hard to fill skill shortage vacancies by broad occupation level, London**

Source: Employer Skills Survey, 2015

As before, we can also move beyond employer reports of skill shortage to see whether anything else in the data suggests where the skill shortages are greatest. Figure 5.13 shows the same nine major occupation groups above and shows, for the UK, skill shortage vacancies as a percentage of employment on the x-axis and wage growth on the y-axis. The relationship between these variables, rough as it is given there are only nine data points, is the opposite of what one would expect. The occupation groups with the highest reported skill shortage issues have seen the lowest wage growth over the past three years. Since economic theory would suggest that wages experiencing shortages of appropriately skilled labour should see employers paying higher wages, this data could be interpreted as casting doubt on employers' claims about the scale of skill shortages in these occupations, or at least as questioning their resolve or capacity to respond to skills shortages. However, this data is short term ('sticky' wages may mean that even over a three-year period wages do not adjust to supply shortages), and also the wage growth in the lower level occupations (sales and customer services in particular) was likely driven by increases in the minimum wage, which should clearly not be interpreted as a response to skill scarcity.

**Fig 5.13: Skill shortage vacancies (2015) and income growth (2015 to 2017) by**



Source: Skill shortage vacancies: UKCES Employer Skills Survey, Income by occupation: Annual Survey of Hours and Earnings, ONS.

## 6 Inequalities in skills and qualifications

### Key points

- There are inequalities in the skills and qualifications held by Londoners. These are evident between different population groups, and also between different areas in London.
- The proportion of adults in London with a degree level qualification is higher amongst those from White and Asian/Asian British backgrounds, and for those without disabilities.
- In terms of geography, the proportion of adults with degree level qualifications is higher in Central and West London than other areas. Adults in East London are more likely to have no qualifications.
- OECD data suggest that proficiency in basic skills (numeracy, literacy and problem solving) are less evenly distributed in England compared to other OECD countries, meaning there is a greater gap between the skills levels of those at the top and bottom of the distribution. Comparison data for London is not available.

This section covers inequalities in skills and qualifications in London's current workforce. For information on inequalities in the skills and education system (i.e. what is being learned now in various parts of the skills and education system, and how this varies between different groups of Londoners) see the next chapter.

### 6.1 Inequalities in basic skills

As with previous chapters, this chapter will mostly rely on qualifications as a proxy for skill level. First, though, there is some evidence available on how basic skill levels vary between groups from the OECD's Adult Skills Survey. Unfortunately, this is only available at the national (England) level.

First, the OECD note that as well as having lower basic skills compared to many other OECD countries, England's skills are less evenly distributed. There is a greater gap between the skill level of the top and bottom of the distribution in England, in both literacy and numeracy, than in most other countries.<sup>110</sup> High skills polarisation is especially true of young people, where England's skills inequality is only matched by the US. This suggests the skills and education system in England is failing to deliver equal skill outcomes for young people.

As well as *overall* skills inequality, we can compare the average basic skill level of different groups. Breakdowns are available by a number of equalities characteristics, including age, gender, ethnicity, and disability. Taking age first, in most countries in the OECD's sample, proficiency by age follows a similar pattern. Proficiency is highest for those age 25 to 34, a little lower for the younger age groups, and much lower for the older age groups.

For example, for literacy, in the OECD the mean score was 274 for the 16 to 18 group, 284 for the 25 to 34 age group, and 255 for the 55-64 age group. In England, these scores were 259 for the 16 to 18 group (below the OECD average), 280 for the 25 to 34 age group (similar to the OECD average), and 265 for the 55 to 65 age group (higher than the OECD average, and higher than the 16 to 18 age group in the UK). A similar pattern is observable for proficiency in numeracy. Korea is shown in Figure 6.1 for contrast, a country where the proficiency in basic skills is markedly higher for the young than the old. In

<sup>110</sup> Green, A., Green, F. and Pensiero, N. (2014) "Why are Literacy and Numeracy Skills in England so Unequal? Evidence from the OECD's Survey of Adult Skills and other International Surveys". Centre for Learning and Life Chances in Knowledge Economies and Societies <http://www.llakes.org>

the case of problem solving proficiency (‘in a technology rich environment’) England does follow the OECD pattern of higher proficiency for the young compared to the old.

**Fig 6.1: literacy and numeracy scores in 2012 Adult Skills Survey by age group in England, OECD and Korea**

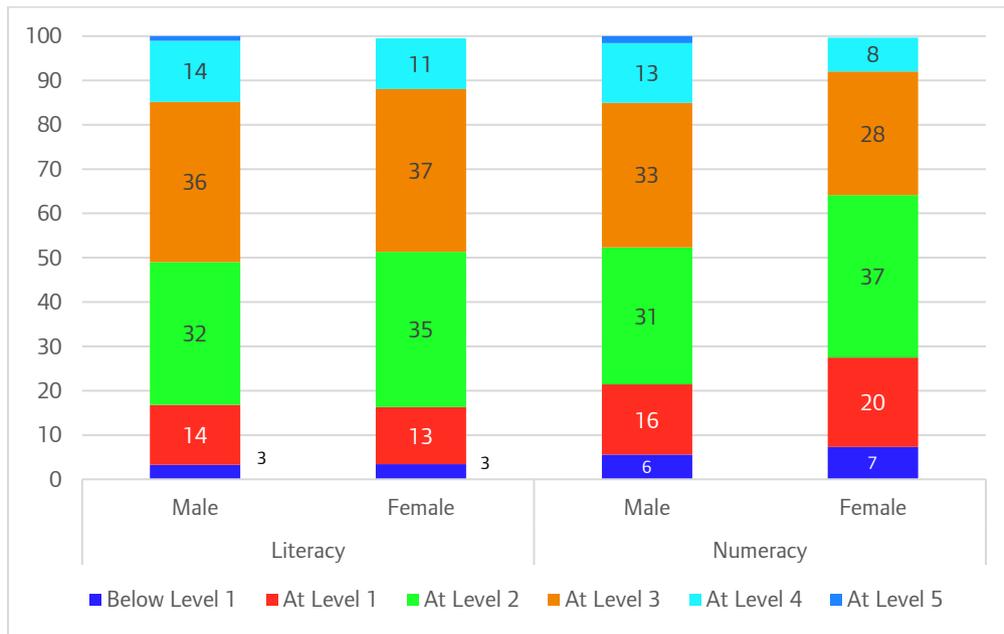


Source: BIS, OECD Adult Skills Survey, 2012.

Proficiency in basic skills in England is similar for men and women, although men appear to have slightly higher average proficiency, with the gap more apparent in numeracy, where 49% of men have numeracy proficiency of Level 3 or above, compared to 36% of women (Figure 6.2). Details on what these levels mean are available in the OECD’s methodology.<sup>111</sup>

<sup>111</sup> See page 48: OECD (2012) ‘Further Results from the Adult Skills Survey’

**Fig 6.2: literacy and numeracy scores in OECD adult skills survey by gender (England)**

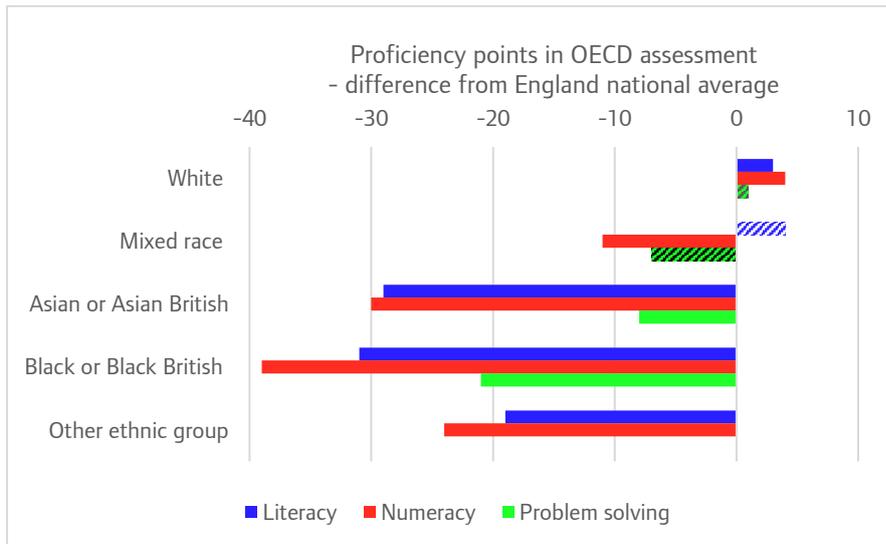


Source: BIS, OECD Adult Skills Survey, 2012.

There are also differences in basic skills proficiency between broad ethnic groups in England. Figure 6.3 shows how the average score for the ethnic group differs from the England overall score in literacy, numeracy and problem solving. Bars that are cross-hatched indicate that the difference from the England-wide figure is not statistically significant. This figure suggests that the Asian or Asian British, Black or Black British and Other ethnic groups all have lower proficiency in basic skills than the White ethnic group.

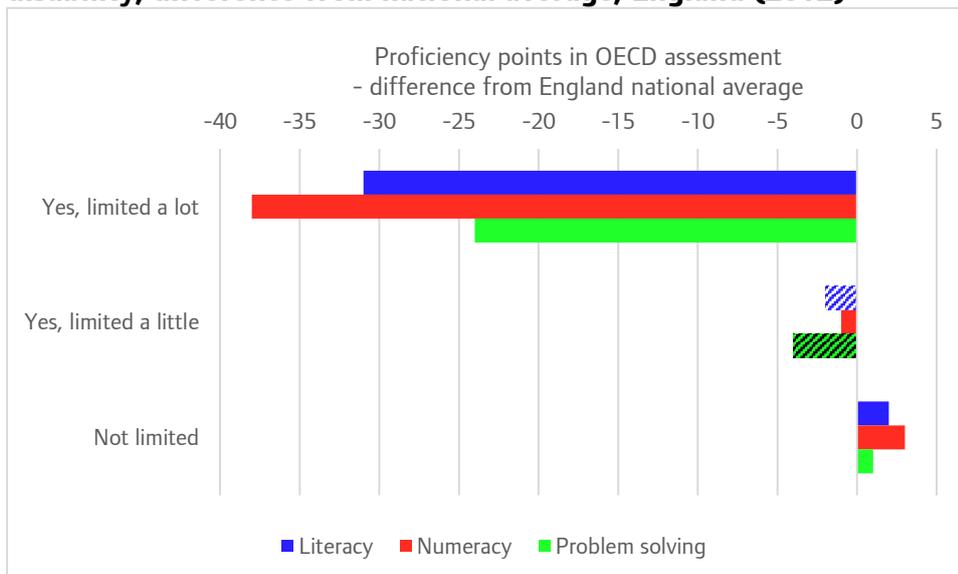
Finally, the data can be broken down by disability, where disability is self-reported and defined according to whether the individual's daily activities are limited. The proficiency of individuals whose activities are 'limited a little' was not statistically significantly different from the England-wide figure. However, individuals whose activities are 'limited a lot' show lower proficiency on all three domains.

**Fig 6.3: Average scores in literacy, numeracy and problem solving by ethnic group, difference from national average, England (2012)**



Source: OECD 2012 Adult Skills Survey, via Department for Business Innovation and Skills. Cross-hatching indicates value is not statistically significantly different from the national average. No value is available for problem solving for ‘other ethnic group’ due to sample size.

**Fig 6.4: Average scores in literacy, numeracy and problem solving by self-reported disability, difference from national average, England (2012)**



Source: OECD 2012 Adult Skills Survey, via Department for Business Innovation and Skills. Cross-hatching indicates value is not statistically significantly different from the national average. Note: disability is defined by the answer to the question: “to what extent are daily activities limited...”

One further use of the OECD’s survey is that it can be used to investigate the drivers of skill level. Researchers suggested that the key drivers of skills inequality in England are socio-economic inequalities and inequalities in education outcomes. For example, the OECD found that England and Northern Ireland show ‘one of the strongest associations of socio-economic background and literary proficiency’ among young people and working age adults. Unlike other countries this association is stronger among

young people than among the overall adult population (OECD 2013).<sup>112</sup> Across all countries in the Adult Skills Survey, adults whose parents had low educational attainment were five times more likely to have poor literacy and numerical proficiency, compared to eight times more likely in England and Northern Ireland. This large parental background effect exists even after controlling for age, gender and occupation.

Another study using the same data showed that skills outcomes are associated with education outcomes, which in England also exhibits broad inequalities, across all age groups. Note that association does not imply causality, and nor does the study show why the association exists. It may not be as straightforward as education conferring skills and inequalities in one feeding directly into the other, as people can develop skills outside of formal education settings. Also, some of the gap in skills remains even after controlling for educational attainment, suggesting that parental background feeds into skills outcomes in other ways as well (Green et al 2014).<sup>113</sup>

## 6.2 Inequality in skill as proxied by qualification level

To look at skill inequalities at the London level we must use qualifications as a proxy. The OECD data suggested that skills are more polarised in England than in other countries, with a large difference between the skill level at the top and bottom of the distribution. In terms of qualifications, 38% of 16-64 year-olds in England have qualifications at NVQ Level 4 or above, and 19% have qualifications at NVQ Level 1 or have no qualifications – accounting for 57% of the working age population. In London, this ‘high’ and ‘low’ group amounts to 67%, however, this difference is almost entirely driven by the proportion that have high level qualifications. Therefore it is not clear that the distribution of skills in London is more polarised than England, although it is more skewed towards higher skills (as proxied by qualification level).

**Table 6.1: Highest qualification level of 16-64 year olds in London and England**

Qualification level	London	England
NVQ Level 4+ (high)	52%	38%
NVQ Level 3	14%	17%
NVQ Level 2	11%	16%
NVQ Level 1	8%	11%
No qualifications	7%	8%
Other qualifications	8%	7%
Trade apprenticeship	1%	3%
<i>‘Low’ plus ‘High’ (sum of NVQ 4+, 1, and No qualification)</i>	<i>67%</i>	<i>57%</i>

Source: Annual Population Survey, Jan-Dec 2016

As with the basic skill proficiency data (for England overall) we can use qualification data to compare the skill level for different population groups. Using 2011 census data, figure 6.5 shows the proportion of people with ‘high’ level qualifications (defined as NVQ level 4+) in London and England. London data is shown by the red bars, with the London overall level shown by the green dotted line. In London, the overall proportion of 16-64 year olds with ‘high’ level qualifications in 2011 was 41% (compared to 30% in England). The proportion with high level qualifications was lower for minority ethnic groups (apart

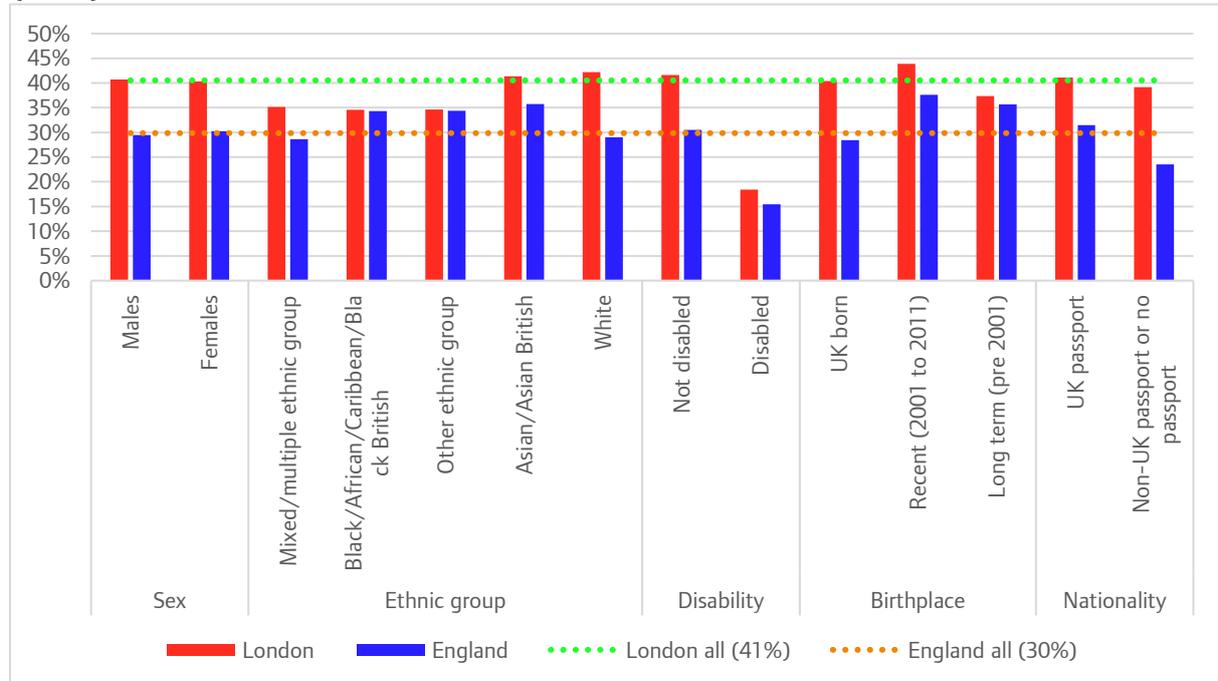
<sup>112</sup> OECD (2013) Survey of Adult Skills First Results: England and Northern Ireland

<http://www.oecd.org/skills/piaac/Country%20note%20-%20United%20Kingdom.pdf>

<sup>113</sup> Green, A., Green, F. and Pensiero, N. (2014) “Why are Literacy and Numeracy Skills in England so Unequal? Evidence from the OECD’s Survey of Adult Skills and other International Surveys”. Centre for Learning and Life Chances in Knowledge Economies and Societies <http://www.llakes.org>

from the Asian / Asian British group), lower for people reporting a disability (of whom only 18% had a high-level qualification), and slightly lower for long-term migrants (people not born in the UK and who moved to the UK before 2001). There does not appear to be any difference within London in the qualification level of Males and Females, although in both cases qualification levels were higher than England as a whole.

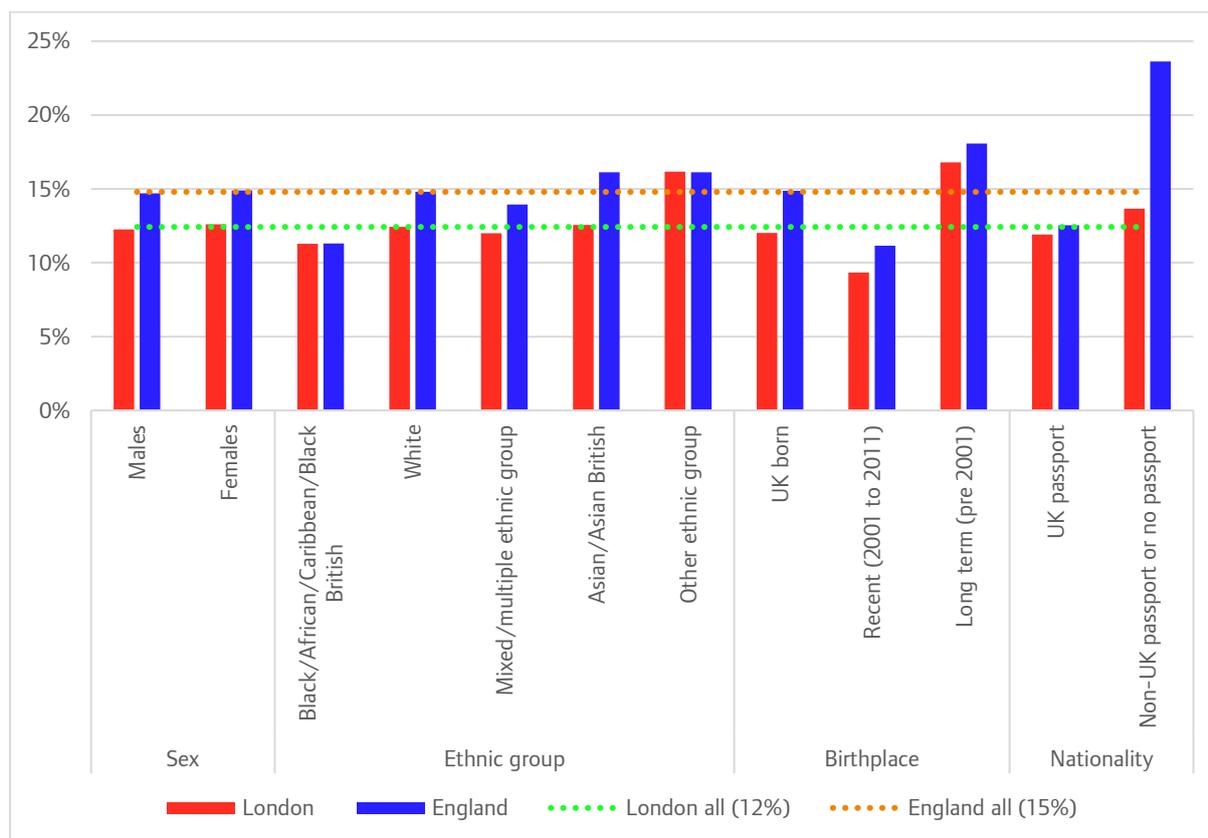
**Fig 6.5: Percentage of 16-64 year-olds with highest qualification NVQ level 4 or above (2011)**



Source: Census 2011. Note: disability is self-defined, and here means that day-to-day activities are limited. For disabled and non-disabled groups the age range is 16+, unlike 16-64 for all other groups.

Similarly, there is variation in the proportion that have no qualifications. In London overall, 12% of residents aged 16-64 had no qualifications in 2011. Groups showing higher rates with no qualification include the ‘other’ ethnic group, longer term migrants, and people without a UK passport (note this includes UK citizens with no passport).

The breakdown by disability is not presented in Figure 6.6 because the disabled group had a much higher rate, which would have hidden differences between other groups. Of Londoners age 16 and above reporting that their day to day activities are limited a little or a lot by disability (the definition of disability in the census), 44% had no qualifications, compared to 12% of Londoners with no limitation on their day to day activities.

**Fig 6.6: Percentage of 16-64 year-olds with no qualifications (2011)**

Source: Census 2011.

### 6.3 Potential 'target' population groups in London for skills policy

In the appendix, a set of data is presented setting out the groups that appear to be in greatest skill 'need'. These are groups that policy makers might want to target with skills related interventions, either because they have poor skill levels (as proxied by qualification level, and also by one specific skill - English language ability) or because they experience poor labour market outcomes. Measures of labour market outcomes are employment rates, working part time if in employment, income level, and working in a low-paying occupation. To enable detailed comparisons census data is used, which again carries the caveat that the picture may have changed since 2011. This analysis suggests that, at the London level, target groups may include:

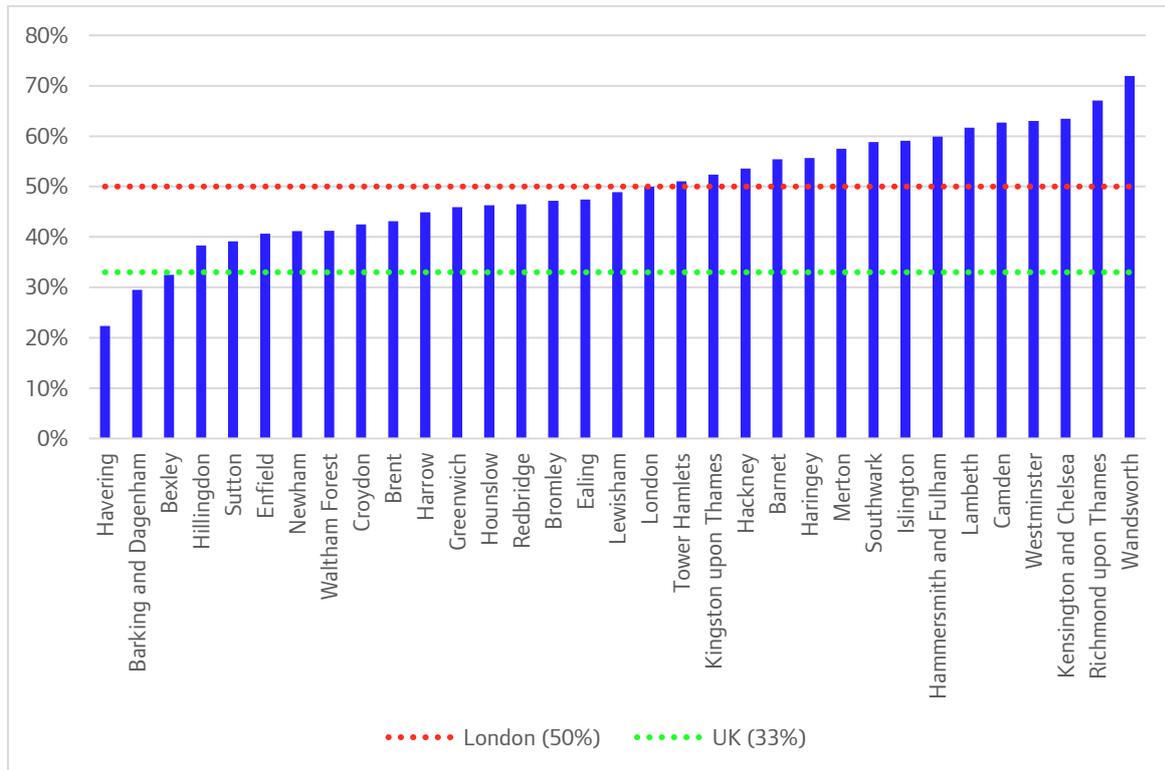
- Ethnicity.** 'Black' and 'Mixed' ethnic groups are more likely to have lower level qualifications. Forty-three per cent of Black Londoners and 41% of Mixed ethnicity Londoners had a highest qualification at NVQ Level 2 or below, compared to 37% for all Londoners. NVQ Level 2 is equivalent to 5 GCSEs at grades A\*-C. In terms of labour market outcomes, employment rates are lower among White Gypsy/Travelers and the Arab, Bangladeshi, Pakistani, White and Black Caribbean and 'Other Black' ethnic groups. At the England level, the broad 'Black' and 'Asian' groups had lower average proficiency in basic skills than the other ethnic groups, but we do not know whether this would also be true in London.
- Sex.** The direct measure of basic skills proficiency at the England level suggested no significant difference in literacy levels, but slightly higher numeracy levels for men. In London, there is no difference in the qualification level of men and women. However, there are differences in labour market outcomes. Women have lower employment rates than men, and in work earn less (comparing full time employees) and are twice as likely to be working part time. It is also worth

noting that some of the ethnic group differences are more pronounced when further disaggregated by sex. Women are more likely to be working in low-paying occupations. For example, the employment rate for Bangladeshi and Pakistani women is very low. Therefore, there may be value in ‘targeting’ specific sex-ethnic groups.

- **Disability.** People with disabilities on average have lower level qualifications. In 2011 18% of Londoners with a disability had a qualification at NVQ Level 4+ in 2011, compared to 42% of those without. People with disabilities also have much lower employment rates and are more likely to be working part time, if in employment (36% compared to 21% of those without).
- **Industry and occupation.** Some industries employ a large number of people with low level qualifications, as a proportion of employment in those industries. This is true in Transport and Storage, Manufacturing, Utilities, Construction, Retail and Wholesale, Accommodation and Food Services, and Administrative Services. Londoners working in those industries have above-average rates of low-qualification. For example, 35% of people working in Transport and Storage had qualifications of Level 1 or below, double the rate for all employed Londoners.
- **Household structure.** Census data suggests that low qualification is more prevalent among lone parents than other groups. Thirty-nine per cent of lone parents (both with and without dependent children) had qualifications at Level 1 or below, compared to 28% of all Londoners. NVQ Level 1 is equivalent to 4 GCSEs at level D to G.

We can also compare qualification outcomes across geographies. Returning first to 2016 data to compare boroughs, there is a very wide variation in the proportion of residents with degree level qualifications across boroughs. In Havering, 22% of 25-64 year olds had degree level qualifications in 2016, compared to 72% in Wandsworth (Figure 6.7). Other boroughs with low rates of degree level qualifications include Bexley and Barking and Dagenham. There is still wide variation in other boroughs, but these are the only boroughs with a rate of high level qualification below the England rate of 33%.

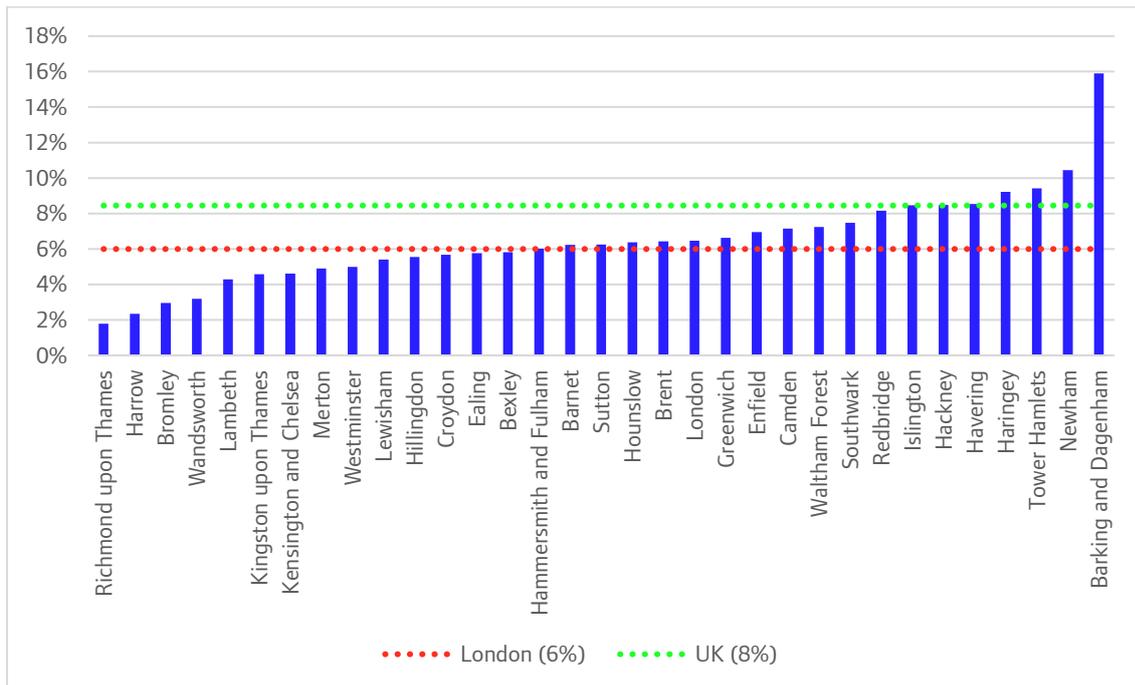
**Fig 6.7: Percentage of 25-64 year olds with degree level qualifications, London boroughs, Jan 2016-Dec 2016**



Source: Annual Population Survey

Similarly, we can compare the boroughs by the proportion of 25-64 year olds that have no qualifications. There is a wide range, from the very low (2% in Richmond upon Thames and Harrow) to the very high (16% in Barking and Dagenham). Again, while there is a wide range, very few boroughs have rates of no qualification above the England rate of 8%. The boroughs that do (Barking and Dagenham, Newham, Tower Hamlets and Haringey) are located in east London and north-east London.

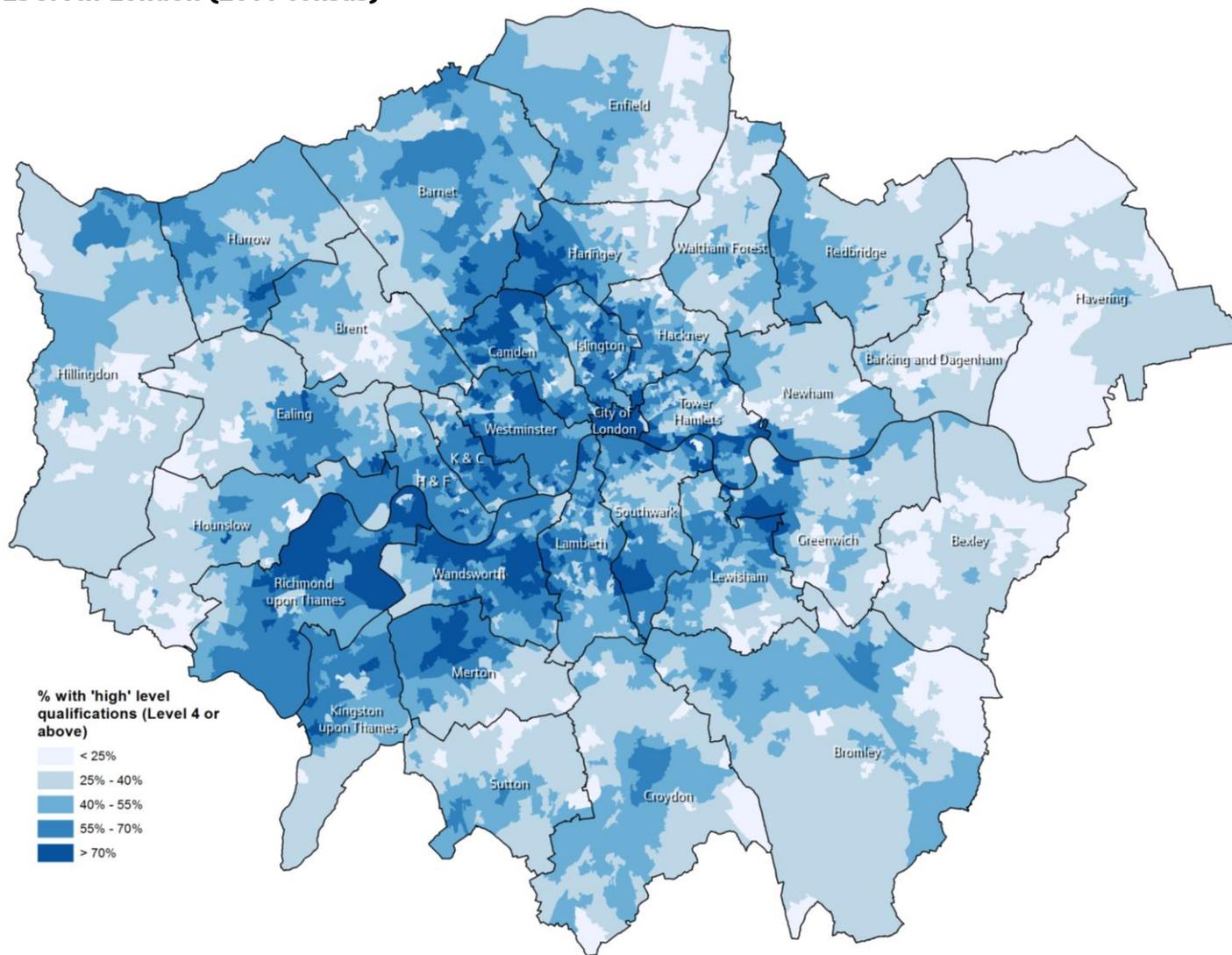
**Fig 6.8: Percentage of 25-64 year olds with no qualifications, London boroughs**



Source: Annual Population Survey, Jan 2016-Dec 2016

Returning to 2011 census data allows a more detailed geographic breakdown. Figures 6.9 and 6.10 show the geographic spread of those with a 'high' level qualification (NVQ 4+) or a 'very low' qualification level (NVQ 1 or no qualifications). The 25 to 64 age group is used as this age group is likely to have completed their education. Both maps show a similar picture overall. In 2011 areas with relatively well qualified residents (shown in darker blue in Figure 6.9) included many areas in the centre and south-west, along with further areas in central-east London, and some smaller outer London areas in the west and north west.

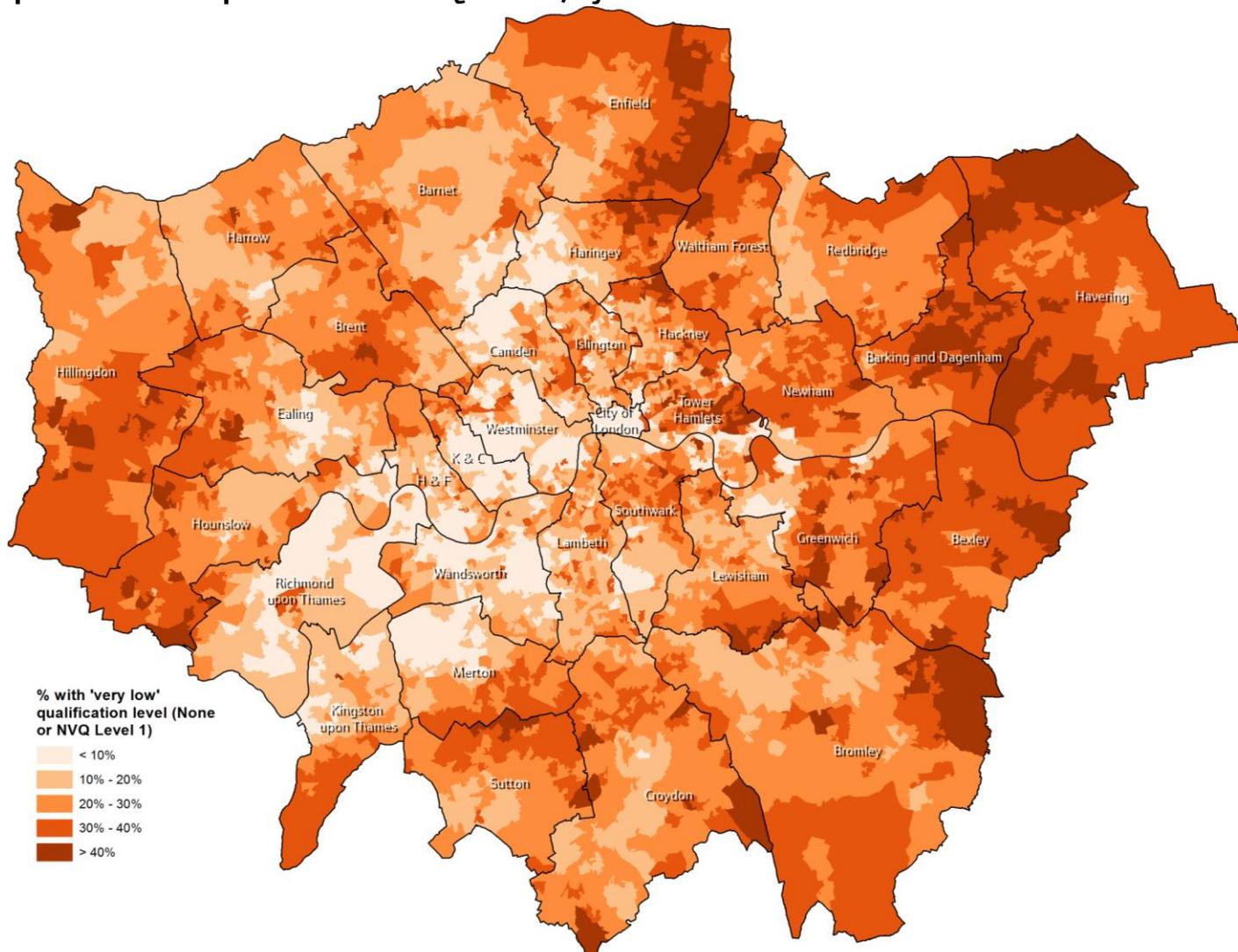
**Fig 6.9: 25- to 64-year-olds with 'high' qualification level: NVQ Level 4 or above, by LSOA in London (2011 census)**



Source: 2011 census

Areas with relatively poorly qualified residents (shown in darker orange in Figure 6.10) include much of outer London, especially the east, south, and far west. Unsurprisingly, this repeats the pattern of the map above. Areas in lighter colours in Figure 6.9, which had fewer people with high level qualifications, are for the most part the same areas in darker colours in Figure 6.10, showing areas where many people have 'very low' qualifications'.

**Fig 6.10: 25- to 64-year-olds with 'very low' qualification level: either with no qualifications or qualification at NVQ Level 1, by LSOA in London**



Source: 2011 census

It is worth making two further points about these maps beyond this basic pattern of high-and low qualifications. Firstly, areas have been placed into coloured bands to make the maps easier to read. However, this hides the fact that there are some areas at the extremes of the distribution. For example, in the 'very low' qualifications map, the highest band is above 40%, however, some LSOAs within this band have extremely high rates. There were 11 LSOAs where over half of their 25 to 64 year old residents had a 'very low' highest qualification level (defined as either having no qualifications or having a qualification at NVQ Level 1). These included an LSOA in the east of Tower Hamlets with 56%, an LSOA in the north of Hackney with 53%, and three LSOAs in the south-east of Croydon with 53 and 54%. Other boroughs with LSOAs with 'very low' qualification rates of over 50 per included Enfield, Havering, Sutton and Haringey.

Similarly, Figure 6.9 showing the proportion of residents with 'high' qualifications does not show the areas at the extremes of the distribution. The highest band includes LSOAs where 70% or more of 25-64 year olds had a level 4 qualification, which includes 70 LSOAs, mostly in central, north, and south-west London. But there were LSOAs with much higher proportions. For example, in one LSOA in northern-most Southwark (by the Thames) and in another in the City of London, 85% of residents (age 25 to 64)

had a Level 4 qualification in 2011. Seven other LSOAs had 'high' qualification proportions of over 80%. Boroughs with these pockets of very highly qualified residents included City of London, Southwark, Islington, Wandsworth and Hammersmith and Fulham.

Hackney's appearance in both the list of boroughs with extremely high and the list with extremely low qualification areas raises an additional point. Although there are visibly some broad patterns in the qualifications of residents, with some borough-level differences observable, often high- and low-qualification areas sit side by side. For example, in the eastern-most LSOA in the City of London, around Aldgate, in 2011 a fairly low proportion (40%) of 25 to 64 year old residents had Level 4 qualifications, whereas in neighbouring LSOAs to the north, west and south this figure was over 70%.

## 7 Participation and attainment in education and skills

### Key points

- London has higher attainment than the rest of England at Key Stage 4, with 60.6% of students in London attaining 5+ A\*-C GCSEs including English and Maths, compared to 57.7% in England overall. London also appears to do better at Key Stage 5, with a higher proportion of London pupils achieving a Level 3 qualification by age 19 than pupils in the rest of England.
- One driver of this gap may be the relatively high quality of London's schools, as measured by Ofsted inspection outcomes.
- London has a higher rate of progression to higher education than other parts of the country, with 49% of students in London going to university by age 19, compared to 38% in England as a whole.
- At Key Stages 4 and 5, and in access to higher education, students from disadvantaged backgrounds do less well than their peers.
- In further education, London (along with England) has seen a fall in participation in classroom-based further education in recent years. Apprenticeship numbers have been stable, having increased rapidly up to 2010/11. London offers few apprenticeships compared to other regions, both in absolute terms and relative to its size. Part of this, but not all, may be explained by London's sectoral composition.
- In higher education, one issue facing London universities is a relatively high non-continuation rate compared to other parts of the country (10%, compared to 8% in the UK overall). Non-continuation is higher for black students.
- Participation in learning (whether formal or informal) is higher among London adults (age 25-64) than in the UK overall). Participation is highest among those with high prior educational attainment, suggesting patterns in adult learning serve to reinforce existing inequalities in education.

This section sets out statistics relating to participation and attainment within the education and skills system in London, including how London compares to other parts of the country, comparisons of different areas in London, and where possible a breakdown of attainment and participation along equalities lines. Areas covered include:

- Key Stage 4 (age 16): GCSE attainment, schools, and post-16 destinations
- Key Stage 5 (age 16 to 18): attainment at A-levels and technical qualifications, and access to higher education
- Further education, including apprenticeships
- Higher education in London

The education and skills system is important because, in addition to movements into London from elsewhere, outputs from the system are the *flow* of new skills supply, which over time comprise the *stock* of skills supply (which is what chapters 3 to 6 looked at). The current skills and education system will have a significant impact on whether, in the future, skills supply and demand are in balance. This also applies to inequalities. Inequalities apparent in the education and skills system will, in time, add up to inequalities in workforce skills, and in turn, into inequalities in labour market outcomes.

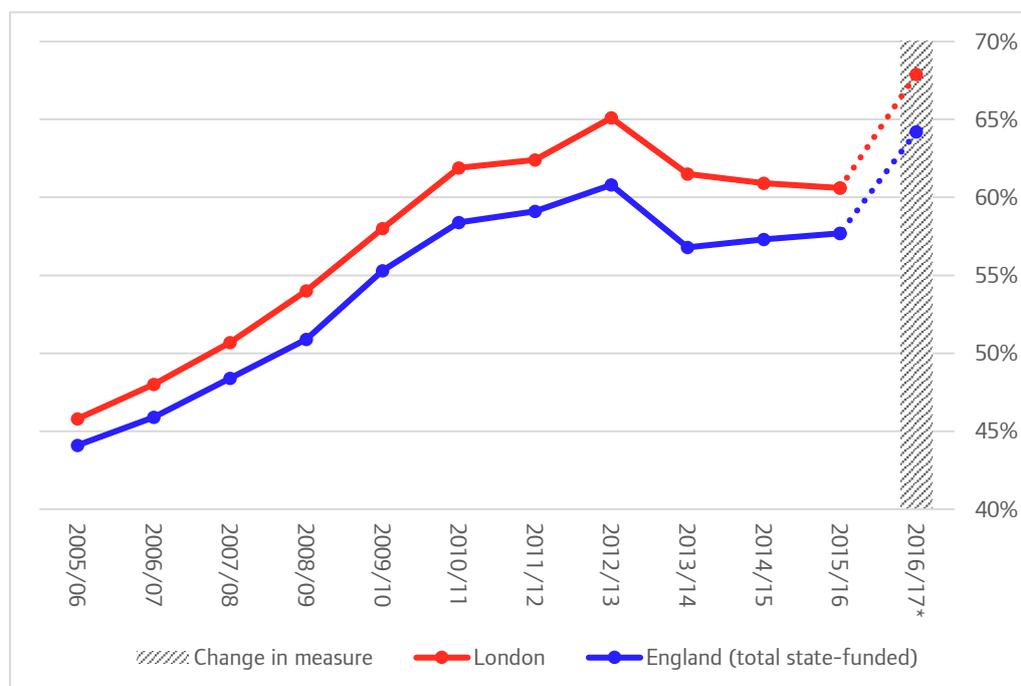
### 7.1 Key stage 4 (age 16)

London has had higher attainment at GCSE level compared to England overall for the last decade. The measure which is available consistently over this period (until a new measure was introduced in

2016/17)<sup>114</sup> is the percentage of pupils achieving five or more GCSEs at grade C or above including English and Maths. Figure 7.1 shows that while attainment levels have improved in both London and England overall over the past 10 years, London has consistently had higher attainment at GCSE level.

In London in the academic year 2016/17, 67.9% of pupils achieved a ‘standard pass’ in both Maths and English GCSE, compared to 64.2% in England overall.

**Fig 7.1: Pupils attaining 5+ GCSEs at grade C+ including English and Maths**



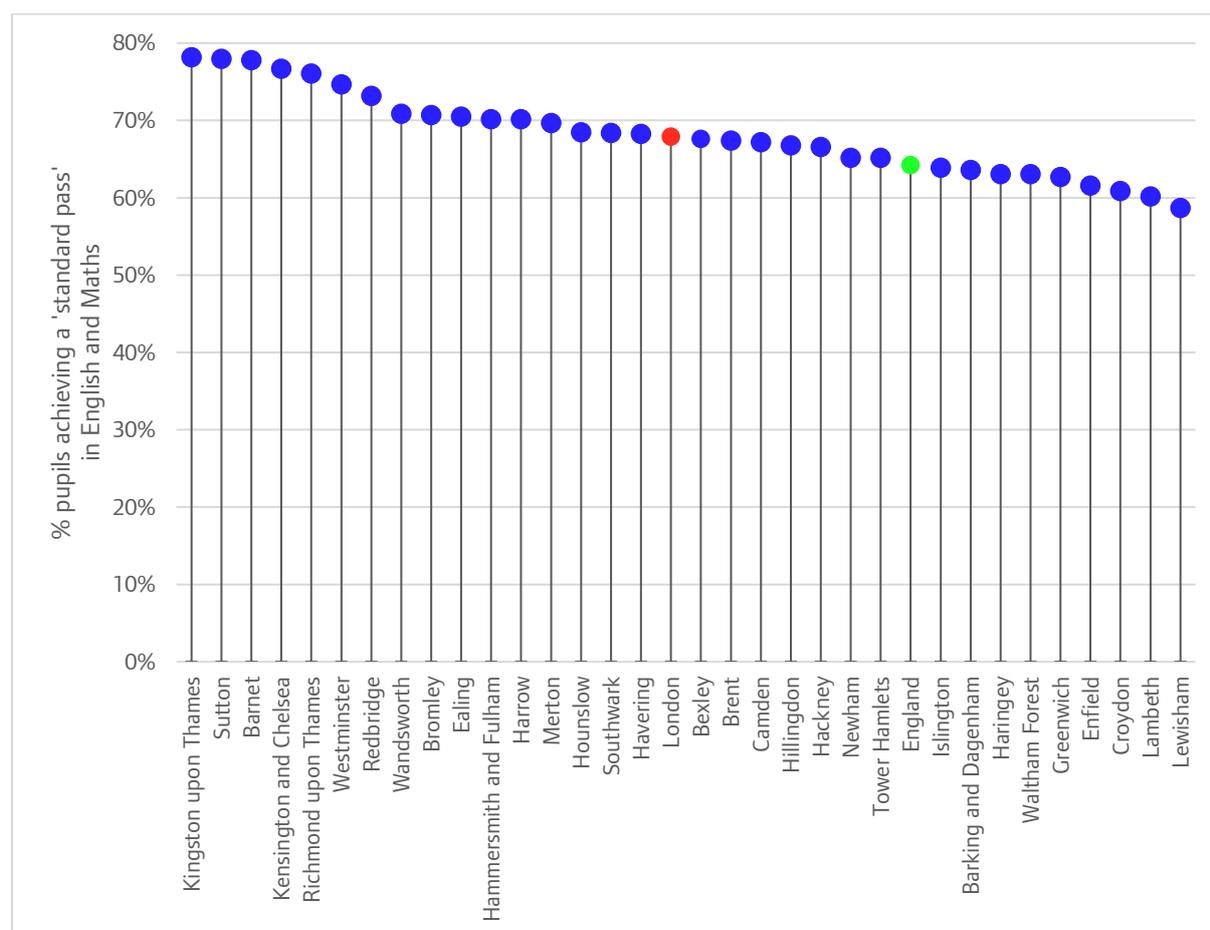
DfE. Note in 2016/17 the headline measure of GCSE attainment was changed to ‘% achieving a standard pass, grade 9-4, in English and Maths’. There is therefore a discontinuity in the series, indicated with the grey shaded bar, and the dotted lines.

Attainment at GCSE level (those achieving a ‘standard pass’ in English and Maths) varies between London boroughs. Figure 7.2 below shows the proportion of pupils achieving a ‘standard pass’ in English and Maths in 2016/17. On this measure, attainment varied from 58% in Lewisham, up to 78% in Kingston upon Thames, Sutton, and Barnet. On average, attainment is higher in outer London boroughs, with 69% achieving a standard pass in English and Maths in Outer London boroughs, compared to 66% in Inner London boroughs.<sup>115</sup>

<sup>114</sup> For more information on changes to the GCSE grading system, see: Department for Education (2017) ‘[GCSE new grading scale: factsheets](#)’

<sup>115</sup> Inner London boroughs are: Camden, City of London, Hackney, Hammersmith and Fulham, Haringey, Islington, Kensington and Chelsea, Lambeth, Lewisham, Newham, Southwark, Tower Hamlets, Wandsworth, and Westminster. Outer London boroughs are: Barking and Dagenham, Barnet, Bexley, Brent, Bromley, Croydon, Ealing, Enfield, Greenwich, Harrow, Havering, Hillingdon, Hounslow, Kingston upon Thames, Merton, Redbridge, Richmond upon Thames, Sutton, and Waltham Forest.

Fig 7.2: GCSE attainment by borough, 2016/17



Source: Department for Education

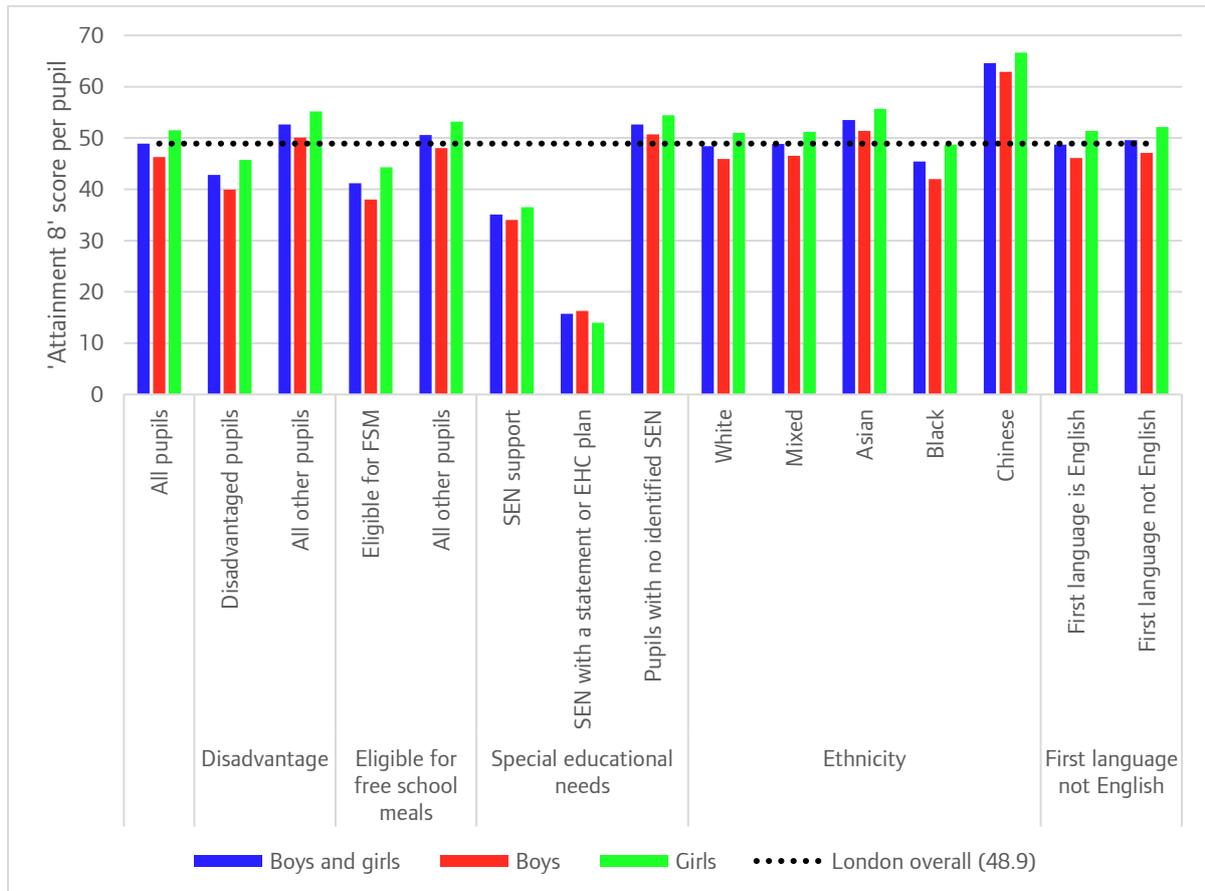
Attainment also varies by student characteristic. Figure 7.3 compares the average 'attainment 8' score of London pupils with different characteristics in 2016/17<sup>116</sup>. To start with, girls tend to outperform boys. Girls' average attainment 8 score in 2016/17 was 51.5, compared to 48.9 for boys. This gap is not driven by the choice of GCSEs, since in England at least (data on attainment by subject and sex is not readily available for London) girls have higher attainment than boys in all but two GCSE subjects.<sup>117</sup> Further differences in GCSE attainment include lower attainment for those eligible for free school meals, those from 'disadvantaged' backgrounds<sup>118</sup>, and those with special educational needs. In terms of ethnicity, differences between most ethnic groups are not large, apart higher attainment among 'Chinese' pupils, and lower attainment among 'Black' pupils (although attainment among Black girls is level with the overall London average).

<sup>116</sup> 'Attainment 8' is a measure of attainment across eight GCSEs, with English and Maths given twice the weight of other subjects. For more information, see: Department for Education (2018) '[Secondary accountability measures \(including Progress 8 and Attainment 8\)](#)'

<sup>117</sup> Specifically: Ancient Greek, and 'Other sciences'. Source: DfE

<sup>118</sup> 'Disadvantaged' pupils are those known to be eligible for free school meals OR looked after children for at least one day OR are adopted from care.

**Fig 7.3: GCSE attainment ('attainment 8 score') by pupil characteristic, London, 2016/17**

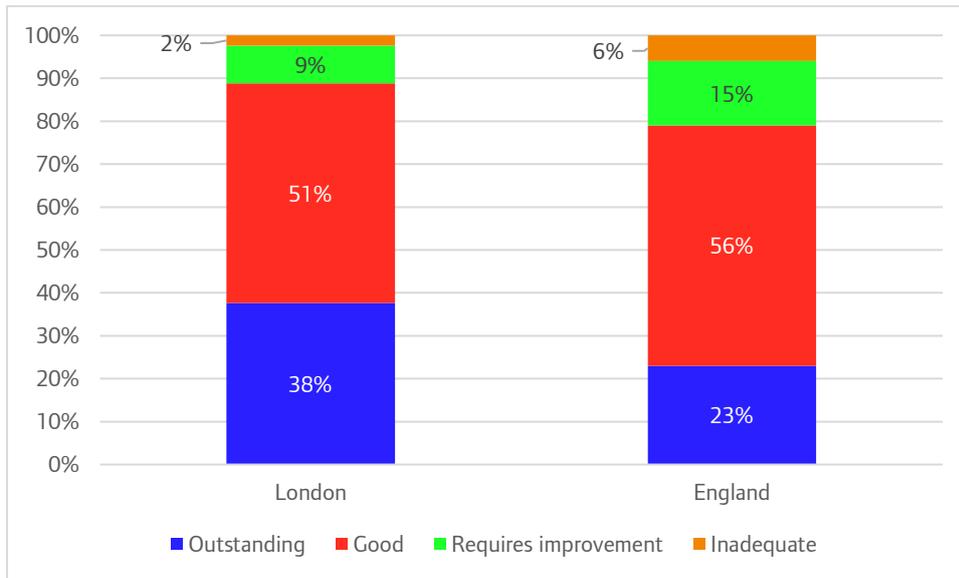


Source: DfE, GCSE attainment by learner characteristic. Note: 'Disadvantaged' includes pupils that are either a) eligible for free school meals or b) looked after children or are adopted from care.

One of the drivers of high GCSE attainment in London (compared to the rest of England) may be the quality of its schools. One way of measuring school quality is the result of Ofsted inspections, which assign schools a rating on a four point scale from 'Outstanding' (top of the scale) to 'Inadequate' (the bottom). Of London's 489 secondary schools, 172 were 'outstanding' (38%, compared to 23% in England overall), and a smaller proportion were either 'Inadequate' or 'requiring improvement' (11% in London, compared to 21% in England overall).<sup>119</sup> See figure 7.4.

<sup>119</sup> As at 31<sup>st</sup> August 2017.

**Fig 7.4: State maintained secondary schools by overall effectiveness, London and England**

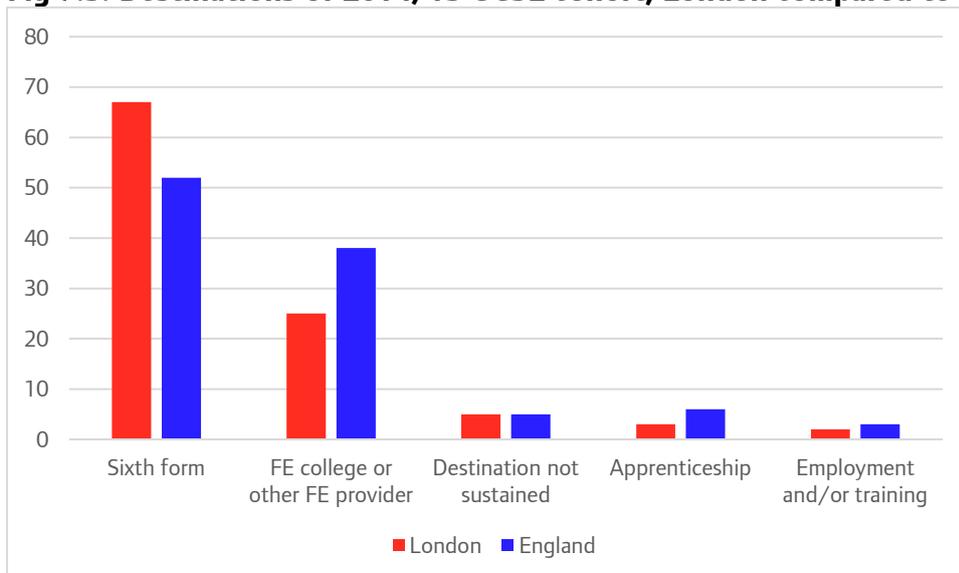


Source: Ofsted, as of August 2017. Note that a small minority of London secondary schools (32 out of 489) had not been inspected and are not included in the data.

## 7.2 Key stage 5 (age 16 to 18)

Another way London is different from the rest of England is in what students do after their GCSEs, with a smaller proportion in London choosing institutions that primarily offer technical courses. Of the 74,330 London pupils who finished their GCSEs in 2014/15, 67% subsequently went on to a sixth form (compared to 52% in England), while 25% attended an FE college (compared to 38% in England). A small number in London (3%) started an apprenticeship, half the 6% in England overall. There is more data on apprenticeships later in this chapter.

**Fig 7.5: Destinations of 2014/15 GCSE cohort, London compared to England**

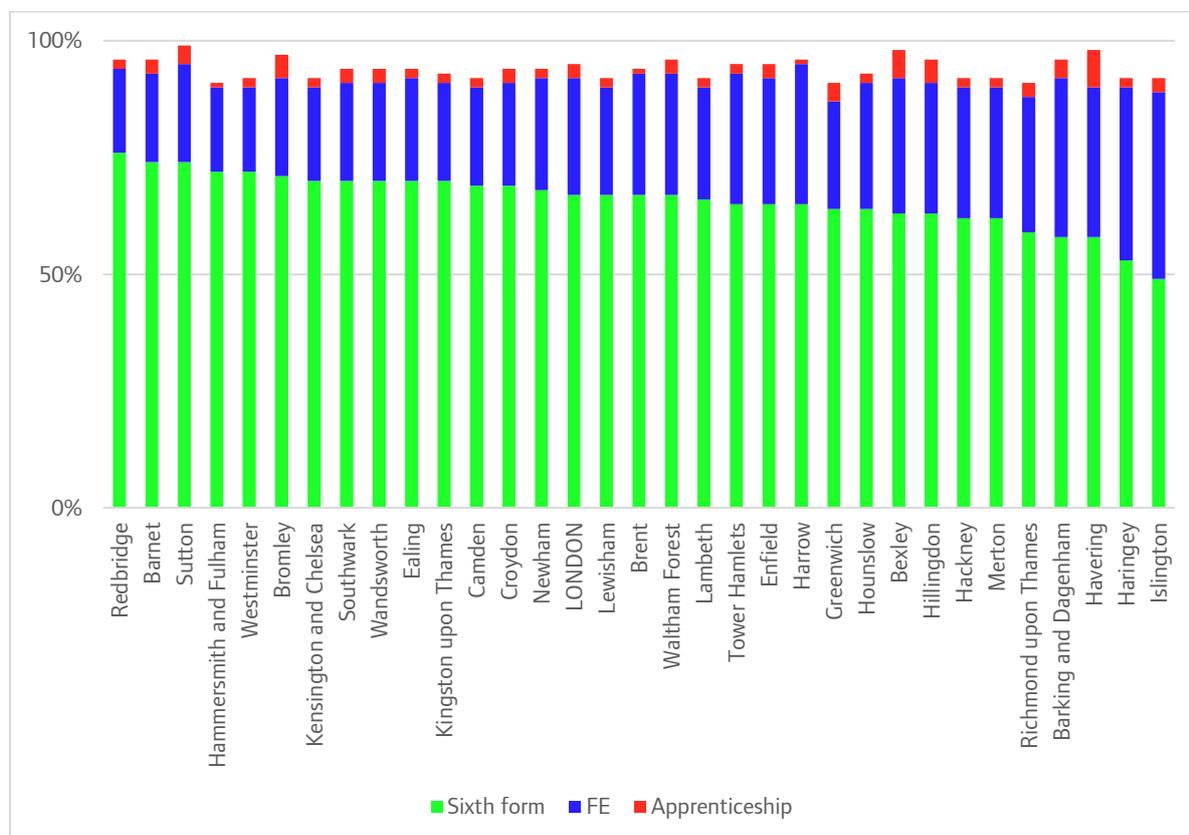


Source: Department for Education

There is some variation in the proportion of GCSE leavers going on to vocational providers by London borough. The highest was in Islington (39%, still less than the 44% in England overall) and the lowest

was in Redbridge (20%). GCSE leavers from inner-London boroughs were overall slightly more likely than their outer-London counterparts to opt for vocational providers post GCSE.

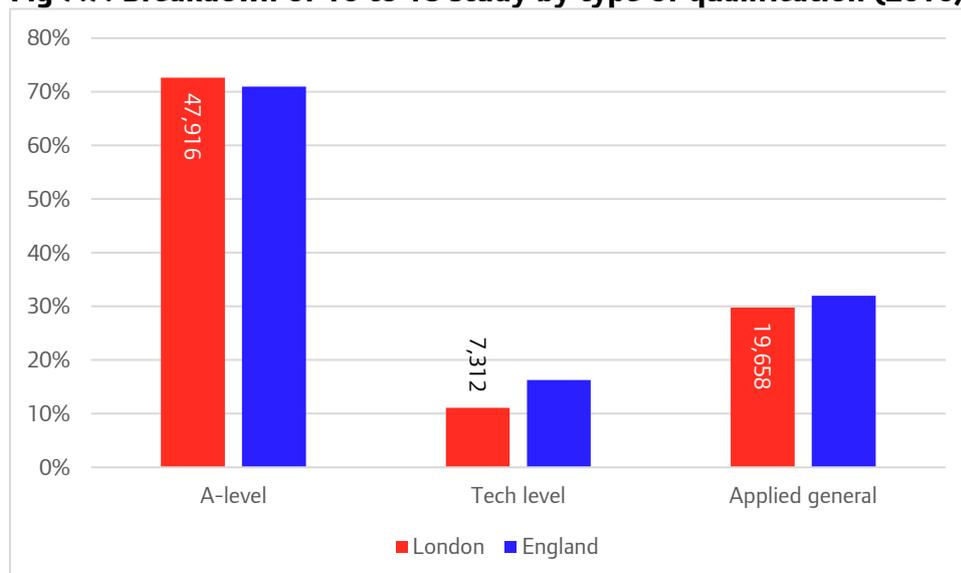
**Fig 7.6: Destinations of 2014/15 GCSE cohort: sixth form, FE colleges and apprenticeships, by borough**



Source: DfE. FE and Apprenticeships have been grouped together to indicate a ‘vocational’ pathway.

There is also some variation in post-GCSE destinations by gender. Still referring to the 2014/15 GCSE cohort, boys were more likely to go on to a vocational institution (30% went on to FE or an apprenticeship, versus 26% of girls). There was no difference in the proportion going on to apprenticeships – differing FE participation accounts for this gap. Boys were less likely to go on to sixth form (62%, compared to 69% of girls).

However, note that while FE colleges are associated with technical options, and sixth form colleges with A-levels, in fact many learning providers will offer both academic and technical courses. This means that the type of institution young people attend is not the best way to measure what kind of learning they are engaged in. The figure below shows the proportion of students engaged in the three main types of qualification at Key Stage 5, A-levels, and Technical Levels and Applied General qualifications. This comparison shows that the proportion of students taking the two technical options in London (41%, combined) is lower than the proportion in England overall (48%), but the difference is not very large.

**Fig 7.7: Breakdown of 16 to 18 study by type of qualification (2016/17)**

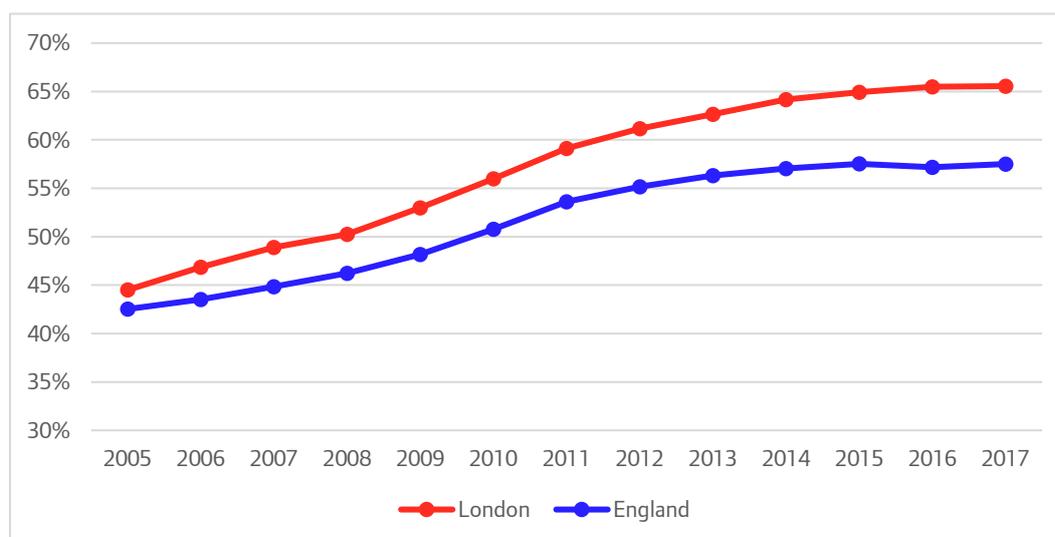
Source: DfE. Note: categories sum to more than 100% because the categories overlap. Students are counted towards one of these groups if they are taking *one or more* of that type of qualification. Therefore, any student taking more than one *type* of qualification will be counted twice.

There is also variation in young people's post-GCSE destinations according to the type of institution attended previously. Of the 2,210 London pupils that completed Key Stage 4 in some form of 'alternative provision' (which is mainly provision for students that have been excluded<sup>120</sup>), only 59% had a 'sustained destination' (which means being in employment or education two terms later), compared to 94% overall.

### Attainment

At Key Stage 5 London appears to maintain its attainment gap over the rest of England. In 2017 the proportion of London students achieving a Level 3 qualification by age 19 (often a prerequisite for higher level study) was 66%, compared to 58% in England overall. Note that attainment has increased in both London and England overall over the past decade – in London the proportion achieving this milestone was 45% in 2005, 20 percentage points lower. See figure 7.8.

<sup>120</sup> The full definition of 'alternative provision' is: education arranged by local authorities for pupils who, because of exclusion, illness or other reasons, would not otherwise receive suitable education; education arranged by schools for pupils on a fixed period exclusion; and pupils being directed by schools to off-site provision to improve their behaviour. See Department for Education (2016) '[Alternative Provision](#)'

**Fig 7.8: Young people achieving a Level 3 qualification by age 19**

Source: DfE.

Another way of measuring attainment at Key Stage 5 is in the 'average points score' achieved in Level 3 qualifications. On this measure London still does better than England overall, but the differences are marginal. For example, in 2016/17 average 'points' per A-level entry were 31.16 in London compared to 30.85 in England overall. There were similarly small but positive gaps for Tech Levels and Applied General qualifications.

As with attainment at GCSE level, there are significant differences in attainment at Key Stage 5 by students' background. In London, in 2016, 53% of students eligible for free school meals (a measure of disadvantage) attained a Level 3 qualification by age 19, compared to 69% of those not eligible. Encouragingly, the gap in attainment at this level between FSM eligible and non-FSM eligible is smaller in London than in any other English region, and attainment has increased over the past decade for both groups. However, the gap between the two has remained constant over the period. It is worth noting that a higher proportion of London students are eligible for free school meals than in the rest of England (in 2016, 24% of London's 19 year olds in state education were eligible for free school meals, compared to 15% in England overall<sup>121</sup>).

### Participation

Although the compulsory age of education is now 18 (it was increased from 16 in 2013) it is not yet the case that 100% of students are participating in education at this age, and therefore it is worth looking at the participation data. Non-participation may have an even greater effect on future learning trajectories than low attainment.

The majority of pupils are in education at Key Stage 5. In London in 2017, of young people 'known' to their local authority, 94% of 16 and 17 year olds were participating in education or training (compared to 91% in England overall)<sup>122</sup>. Eighty-nine per cent were in full time education or training (83% in England). A small number (4.5%) were undertaking an apprenticeship (compared to 6.7% in England). The overall rate of participation in education for this age group has increased in recent years, partly in

<sup>121</sup> Department for Education.

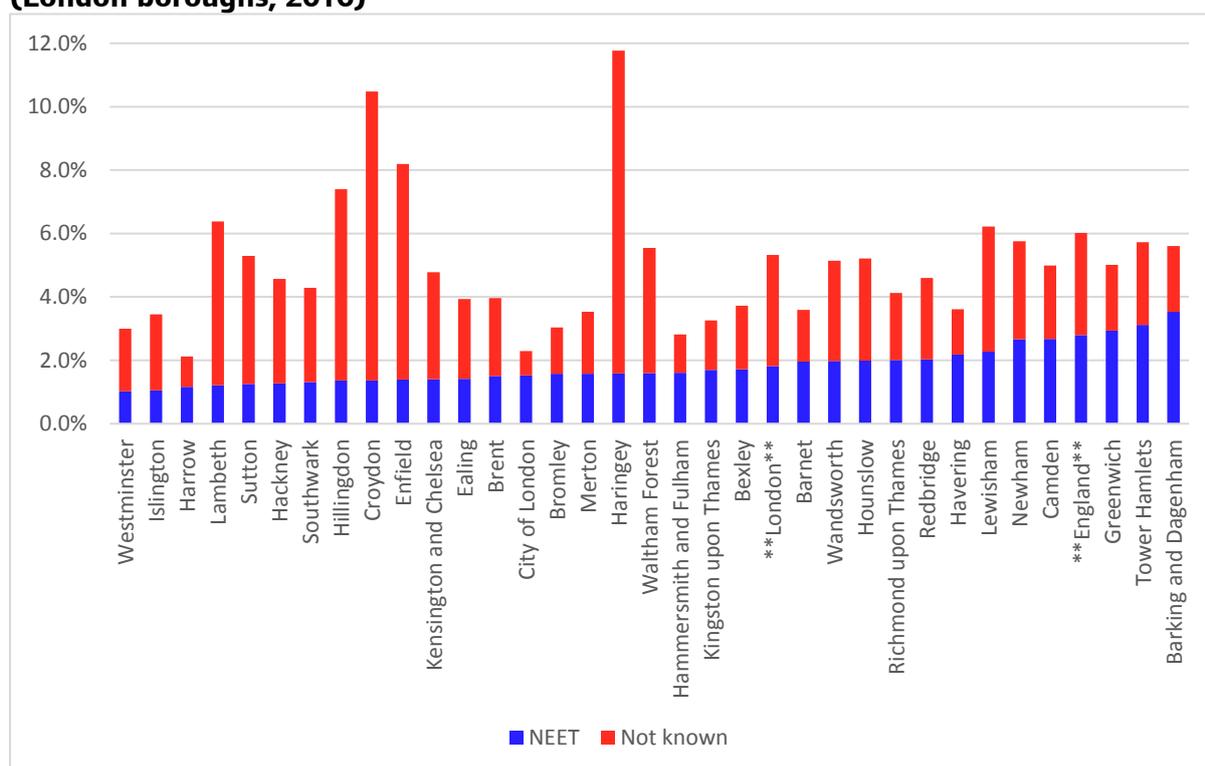
<sup>122</sup> Source: DfE, data collected from local authorities.

response to age of compulsory participation increasing to 18 in 2013, although participation was also increasing over a longer period before the policy change.<sup>123</sup>

There is some variation in participation across different groups in London and England. In London in the latest data (June 2017) participation was slightly higher for females (95.3%) than males (93.2%), slightly lower for those with special educational needs (91.9%), and among ethnic groups relatively high among those from a Chinese (97.8%), Asian / Asian British (96.7%), and Black / Black British (95.3%) ethnic background, and lowest among those White ethnic background (92.7%). However, none of these differences is large, and participation is higher in London than in England for every one of these sub-groups.

There is also variation in the participation rate between local authorities in London. In June 2017 the 16-17 participation rate was 90.7% in Enfield (the lowest), compared to 97.6% in the City of London (the highest - although the latter only record 40 16-17 year olds). Previous analysis has highlighted an east/west divide in participation rates of 16-17 year olds in the capital.<sup>124</sup> Similar differences exist in the rates of *non*-participation. In 2016 London has a NEET rate of 1.8% for the 16-18 age group (based on local authority administrative data), slightly lower than the 2.8% in England as a whole. There were differences across boroughs, with Barking and Dagenham (3.5%), Tower Hamlets (3.1%) and Greenwich (2.9%) recording high NEET rates (Figure 7.9).

**Fig 7.9: Percentage of 16-18 year olds not in employment, education or training (London boroughs, 2016)**



Source: Department for Education, collected from local authorities.

<sup>123</sup> In London, the participation rate of 16-17 year olds was 86.1% in 2011, compared to 94.2% in 2017. In England (for which data is available over a longer time period) the participation rate of 16, 17 and 18 year olds increased substantially in the late 1980s, fell slightly during the 1990s and then increased substantially from the early 2000s onwards. The participation rate of 18 year olds in full time education was 17% in 1985, and by 2016 had risen to 50%. Source: DfE.

<sup>124</sup> London Councils (2014) Young people in London: an evidence base

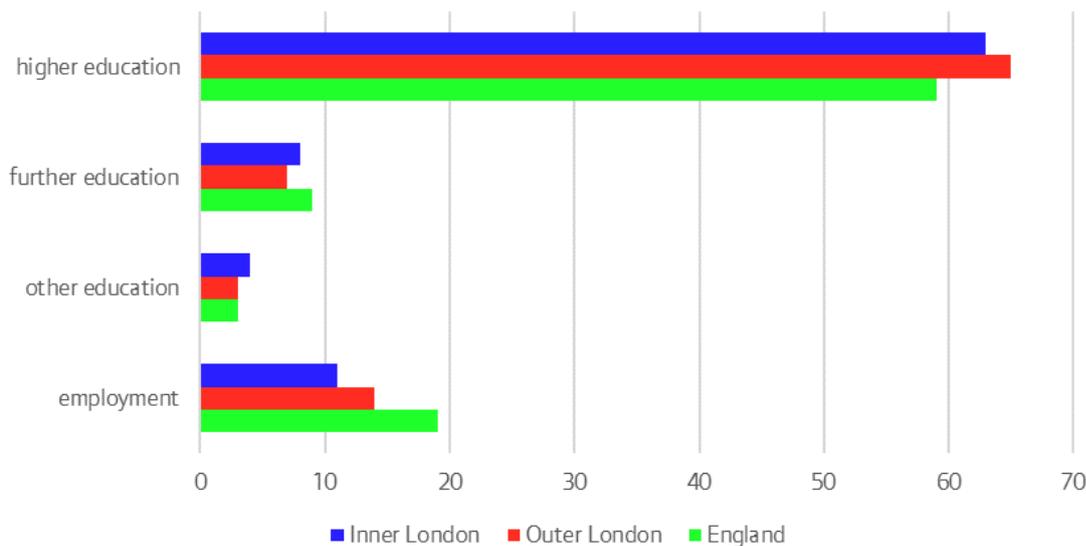
Note that the high numbers with activity ‘not known’ by the local authority renders comparisons between local authorities problematic, as for many the ‘not known’ figure is greater than the NEET figure. The ‘not known’ group also means this data likely underestimates the proportion of young people that are NEET. An alternative figure, based on the Labour Force Survey, estimates a NEET figure of 6.0% for England in 2016. Combining the NEET and unknown groups for England in the local authority produced data reached 6%, suggesting many of the ‘unknown’ group may in fact be NEET.<sup>125</sup>

### Destinations after Key Stage 5

Moving on to destinations after Key Stage 5, in London the proportion of students going on to a ‘sustained education or employment’ destination after taking level 3 qualifications was slightly lower in London than England (in 2014/15, 86% of pupils in inner London and 89% of pupils in outer London had a sustained education, training or employment destination after Key Stage 5, compared to 90% across England<sup>126</sup>). This gap is explained by the relatively low proportion in London moving into employment at this age. The proportion of students progressing to employment after Key Stage 5 in 2014/15 was 11% in inner London, 14% in outer London, and 19% in England overall (see figure 7.10).

The other difference between London and England overall is that London students are more likely to go onto university (see further data later in this section), and less likely to go onto ‘further education’ (again, see data later in the chapter). Following Key Stage 5, only 3% and 2% of students in inner and outer London went in to an apprenticeship destination in 2014/15, compared to 6% nationally. Take-up of apprenticeships after Key Stage 5 was similar for disadvantaged and other students in London.

**Fig 7.10: Sustained destinations after key stage 5: 2014/15**



Source: DfE (2017)

As with Key Stage 4, there are some differences in the destinations of students after Key Stage 5 by their background and characteristics. For example, a lower proportion of students with special educational needs were recorded in sustained education, employment or training destinations in 2014/15 than other school students – 80% and 87% of SEN pupils in inner and outer London, compared to 87% and 89% of non-SEN pupils. 13% and 9% of young people SEN had no sustained

<sup>125</sup> DfE (2017) ‘Participation in education, training and employment: 2016’

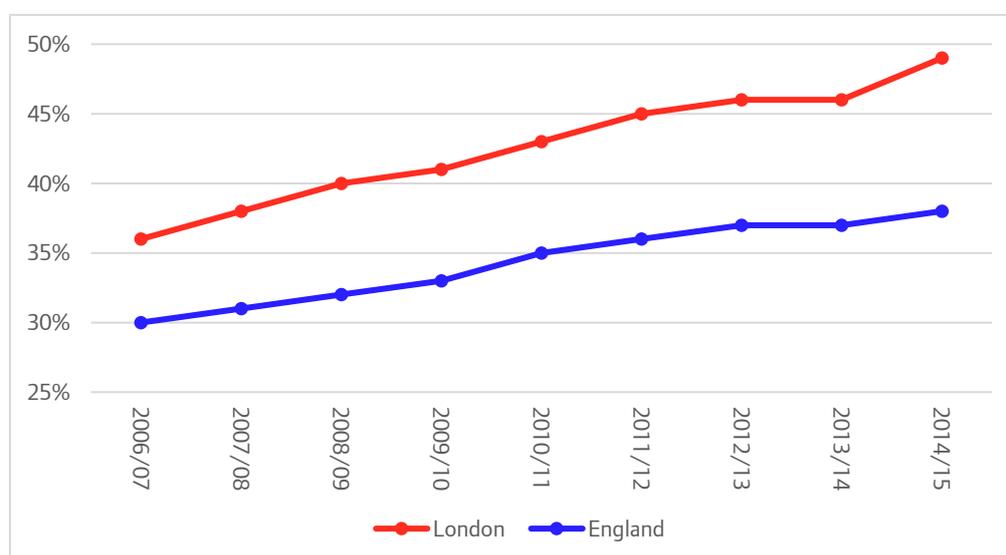
<sup>126</sup> After A levels or other level 3 qualifications, usually aged 18

destination, compared to 9% and 7% non-SEN pupils. In terms of disadvantage<sup>127</sup>, there are not significant differences compared to non-disadvantaged pupils in the proportion with sustained destinations, and similarly with regard to gender there are no major differences observable. There are, however, differences in access to higher education between students that are 'disadvantaged' and not – see the data in the following section.

### Access to higher education

So far this section has identified two differentiating factors between London and the rest of England, an attainment gap at Key Stages 4 and 5, and slight differences in the choices made at those stages (London students are less likely to go into employment or apprenticeships, and slightly less likely to be studying technical qualifications at Key Stage 5). Allied to these differences is the notable gap between London and the rest of England in terms of the proportion of young people that go to university. In London, 49% of students attended university by age 19<sup>128</sup>, compared to 38% in England overall (Figure 7.11).

**Fig 7.11: Students from state funded and special schools entering HE by age 19**



Source: DfE

As with attainment patterns in Key Stages 4 and 5, access to higher education is another example of students from disadvantaged backgrounds doing less well (with the proviso that attending higher education should not necessarily be considered doing 'better' than other options). In London 40% of students eligible for free school meals went on to higher education by age 18 or 19, compared to 49% of other students. As well as being less likely to go to university, disadvantaged<sup>129</sup> students that do are less likely to go on to the 'top' universities. Eleven per cent of those from disadvantaged backgrounds attending university go to a 'Russell group' university, compared to 19% of non-disadvantaged students. Note this statistics only includes students from state-funded mainstream schools and colleges. Data comparing access that included the private sector would show wider disparities between disadvantaged and other students.

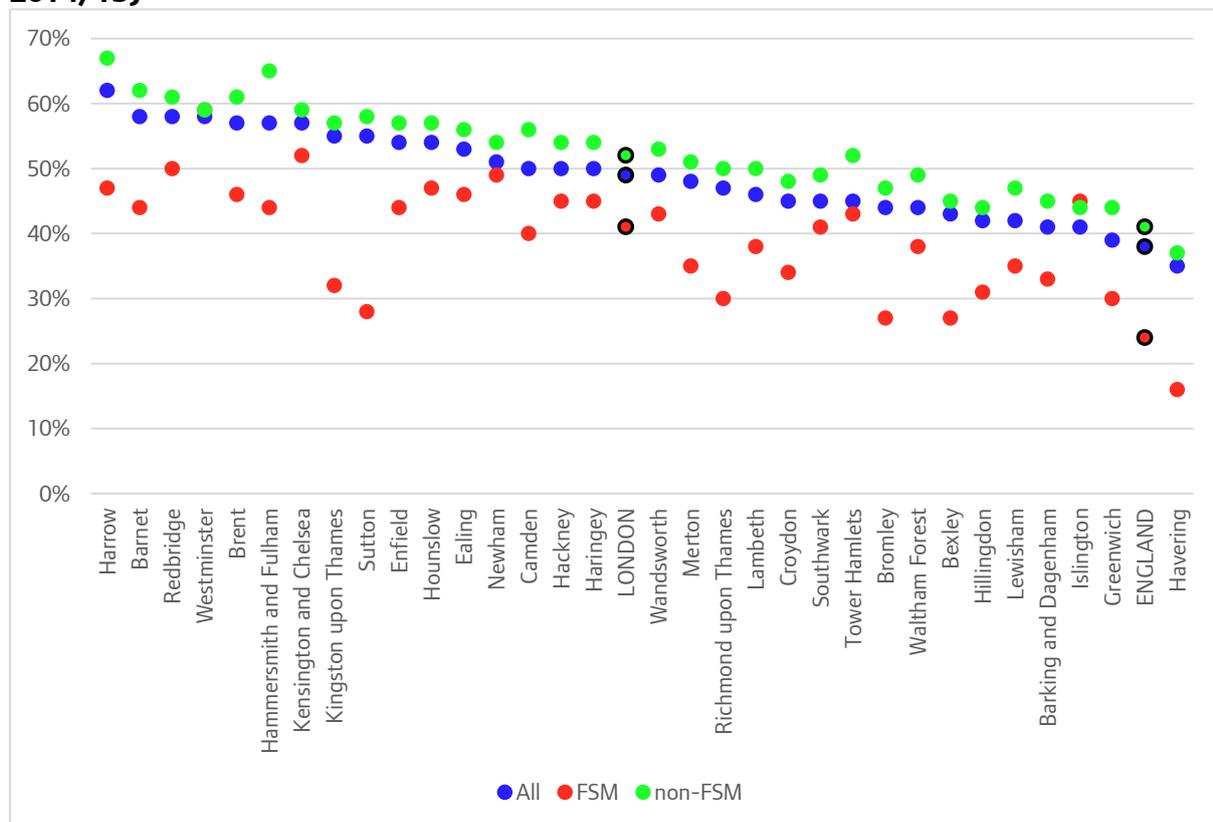
<sup>127</sup> Students are considered disadvantaged if they have been eligible for free school meals at any point in the last six years, have been looked after by the local authority, or have been adopted from care.

<sup>128</sup> Refers to students that were age 15 in 2014/15.

<sup>129</sup> Students are considered disadvantaged if they have been eligible for free school meals at any point in the last six years, have been looked after by the local authority, or have been adopted from care.

We can also compare progression to higher education by borough. There is some variation in the proportion of pupils (from state funded schools) going on to higher education between London boroughs. The highest is Harrow, where 62% went to university by age 19, and the lowest was Havering. Havering is the only one of London’s boroughs where the proportion of young people going to university is below the overall rate for England. Figure 7.12 shows this borough level data, including the breakdown by free school meal eligibility. In every borough the progression to university is lower among students eligible for free school meals. However, it is notable that the gap is larger in some boroughs than others. The largest gap was found in Sutton, where there was a 27 percentage point gap in the HE participation rate for FSM and non-FSM students. By contrast, the gap in several boroughs (mainly inner London) was much lower, with Islington, Hackney, Westminster, Barking and Dagenham, Tower Hamlets, Camden and Newham all having gaps in HE participation for FSM and non-FSM students of 5 percentage points or less.

**Fig 7.12: Percentage of young people in state funded schools going on to higher education by age 19, broken down by FSM and non-FSM (London boroughs, 2014/15)**



Source: Department for Education. Note: refers to young people age 15 in 2010/11 and whether they attended higher education by age 19, i.e. by 2014/15.

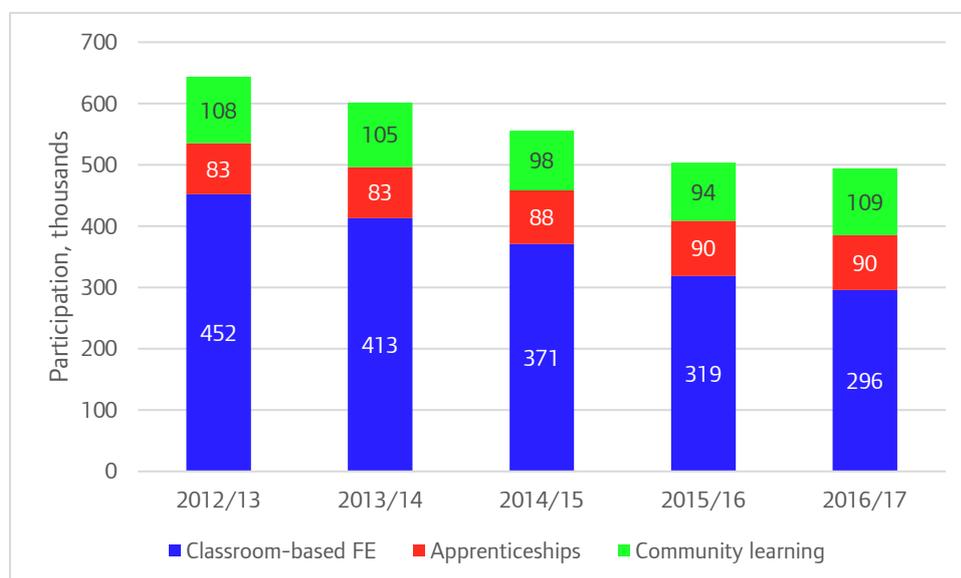
### 7.3 Further education and apprenticeships

There are four types of provision that fall within the umbrella term ‘further education’. These are: classroom based further education; apprenticeships; community learning (which is provision that does not lead to formal qualifications); and workplace learning. This section provides some data on further education overall, but also specifically on the classroom-based further education part of this overall term. The next section focuses specifically on apprenticeships.

In London in 2016/17 there were 295,000 residents participating in a classroom-based further education course, 89,000 participating in an apprenticeship, and 109,000 participating in community learning. In total, this amounted to 494,000 Londoners involved in one of these forms of further education.<sup>130</sup> This is fewer than in previous years. In 2012/13 there were 644,440 Londoners participating in one of these forms of learning, meaning participation has fallen by almost a quarter (23%) in this period. There has been a similar decline in participation in England overall.

Within this overall decline, the number of London residents participating in apprenticeships and community learning actually grew over this period (by 8% and 1%, respectively), which means that the fall in participation is entirely accounted for by classroom-based further education, where participation fell by 35% between 2012/13 and 2016/17. These different trends mean that apprentices now comprise a greater share of overall further education participation than previously (18% in 2016/17, compared to 13% in 2012/13).

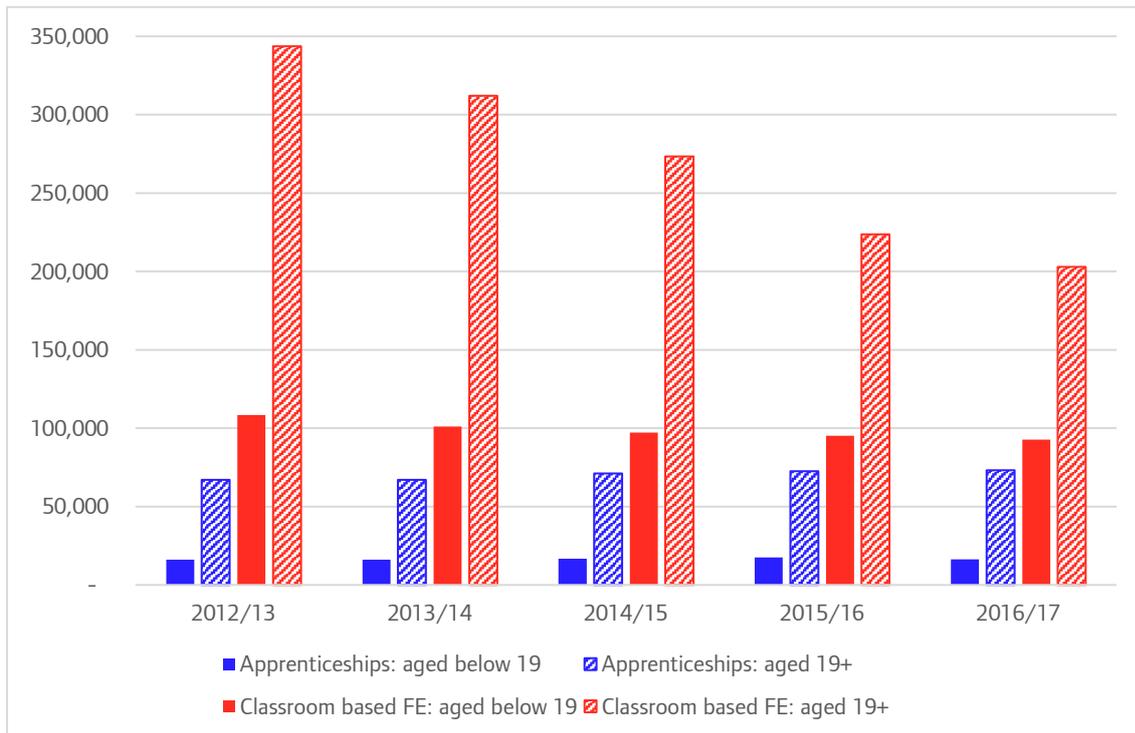
**Fig 7.13: Trends in participation in further education by type of further education (London residents)**



Source: ESFA (online data tool, and 'data cube'). Note: does not include workplace learning, for which participation data was not available.

As set out in chapter 9 [see section 9.1] adult further education (referring to learners aged 19 and above) has been subject to funding cuts in recent years, although apprenticeships are the exception to this. This is reflected in the fact that the decline in further education participation in London is mainly driven by a fall in the number of adult learners. Figure 7.14 shows the participation in classroom based further education and apprenticeships, by age. In apprenticeships, between 2012/13 and 2016/17, participation in London increased by 2% for under 19s (from 16,070 to 16,430), and by 9% for adults those aged 19 and above (from 67,090 to 73,240). In classroom-based further education, the number of under 19 learners fell by 14% between 2012/13 and 2016/17 (from 108,420 to 92,770), while the number of 'adult' learners (age 19 and above) fell by 41% over this period (from 343,660 to 202,860). Combining these two types of learning, participation fell by 12% for under 19s, and by 33% for adult learners – those aged 19 and above.

<sup>130</sup> Note that this figure does not include Workplace Learning, for which only starts was available, not participation. However, numbers on Workplace Learning are relatively small, with 5,900 starts in 2015/16 so the overall participation figure would not change much with their inclusion.

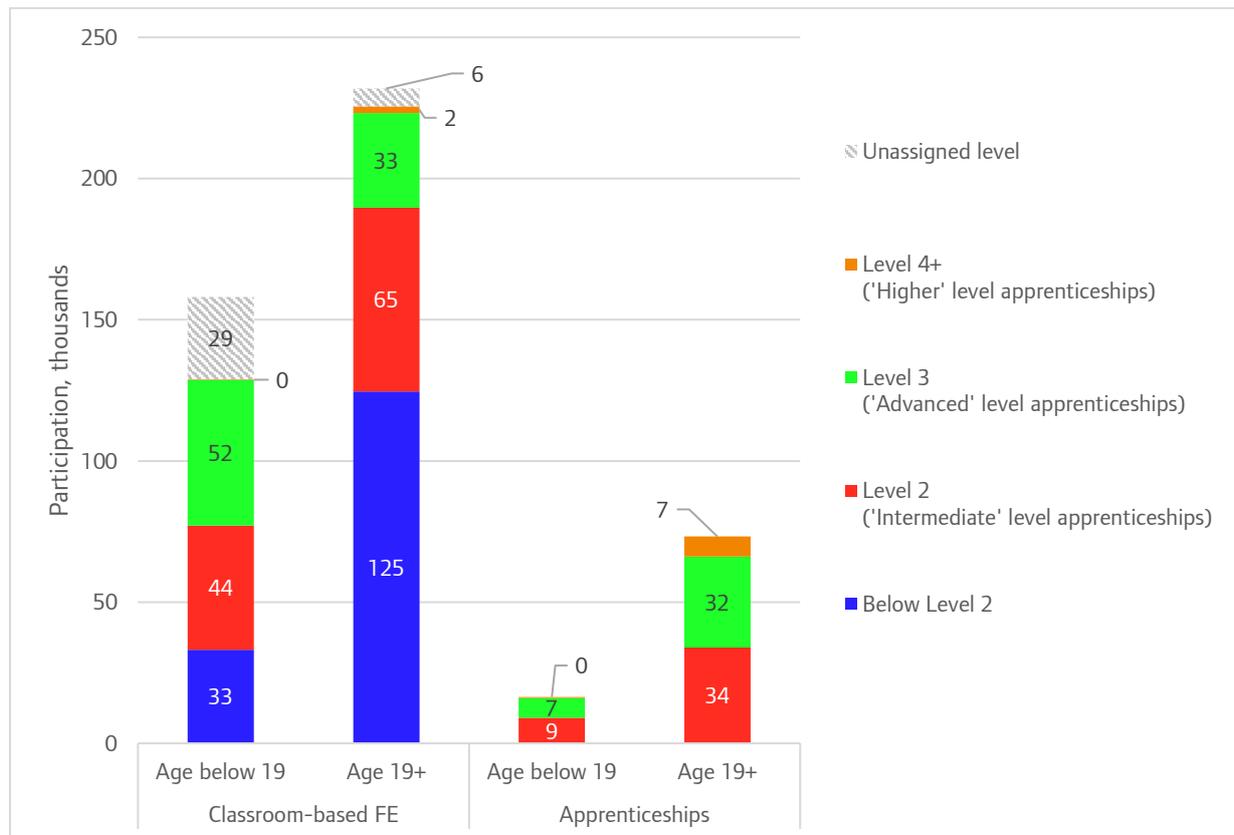
**Fig 7.14: Participation in further education and apprenticeships by age (London residents)**

Source: ESFA (online data tool, and 'data cube'). Note: does not include Workplace Learning (participation data unavailable) or Community Learning (age data unavailable).

Breaking down participation in classroom-based further education and apprenticeships by the level of study suggests that a significant proportion of this provision is at a relatively low level, compared to 'expected' attainment levels at age 16. In 2016/17 a third of provision (33%) was below NVQ Level 2, another third was at NVQ Level 2 (32%), leaving 28% of provision at NVQ Level 3 or above, and 7% where the level was 'unassigned'.<sup>131</sup> NVQ Level 2 is equivalent to 5 GCSEs at grade A\* to C, which is the 'expected' achievement level for pupils at Key Stage 4. This means that, in 2016/17, two thirds of London residents undertaking apprenticeships or classroom-based further education were studying at or below the level pupils are 'expected' to reach by age 16. In 2016/17, 23% of classroom-based further education participation, and 52% of apprenticeships, were at NVQ Level 3 or above.

<sup>131</sup> Note that apprenticeships start at 'Intermediate' level, which is equivalent to NVQ Level 2, so the 'below Level 2' category is entirely made up of classroom-based further education. Also, all apprenticeships have an assigned level, so the 'unassigned' group is also entirely classroom-based further education.

**Fig 7.15: Participation in apprenticeships and classroom-based further education by level of study (London residents)**



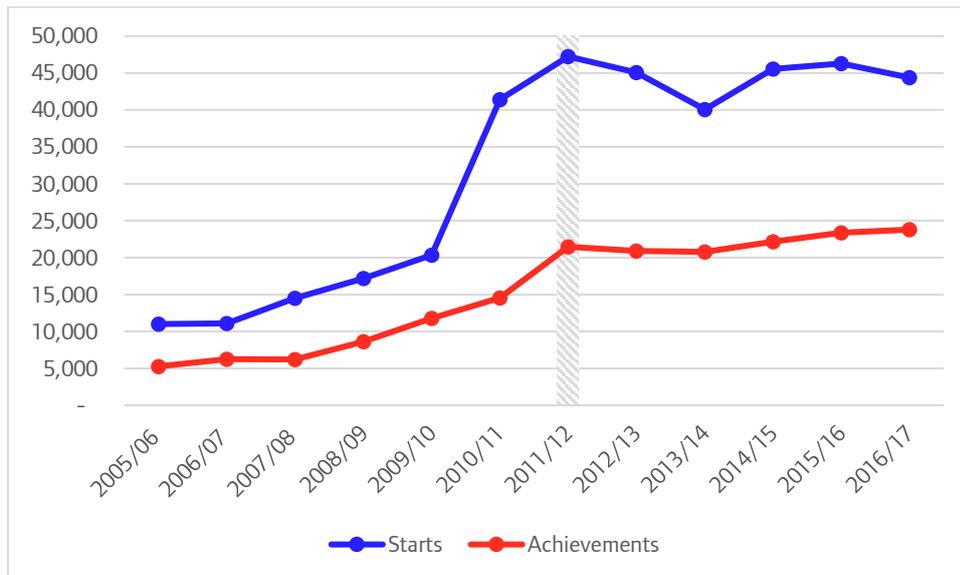
Source: ESFA (online data tool and 'data cube'). Note that summing the participation of the different levels in classroom-based FE will overstate overall participation. This is because some learners undertake courses at different levels, leading to double counting. For the correct total participation numbers, refer to Figure 7.13.

## 7.4 Apprenticeships

The rest of the further education part of this section focuses on apprenticeships. As noted above, funding and participation in apprenticeships have increased, while other parts of further education budgets have seen cuts and declining participation. The government has committed to creating three million apprenticeships by 2020.

The number of apprenticeship starts increased rapidly in London between 2005/06 and 2011/12, from 11,010 to 47,230. Since then, numbers have been relatively stable, with 44,380 starts in 2016/17. Around half of apprentices are aged over 25 (47% of starts in 2015/16), just under a third are aged 19 to 24 (30% of starts in 2015/16) and a quarter are aged under 19 (23% of starts in 2015/16).

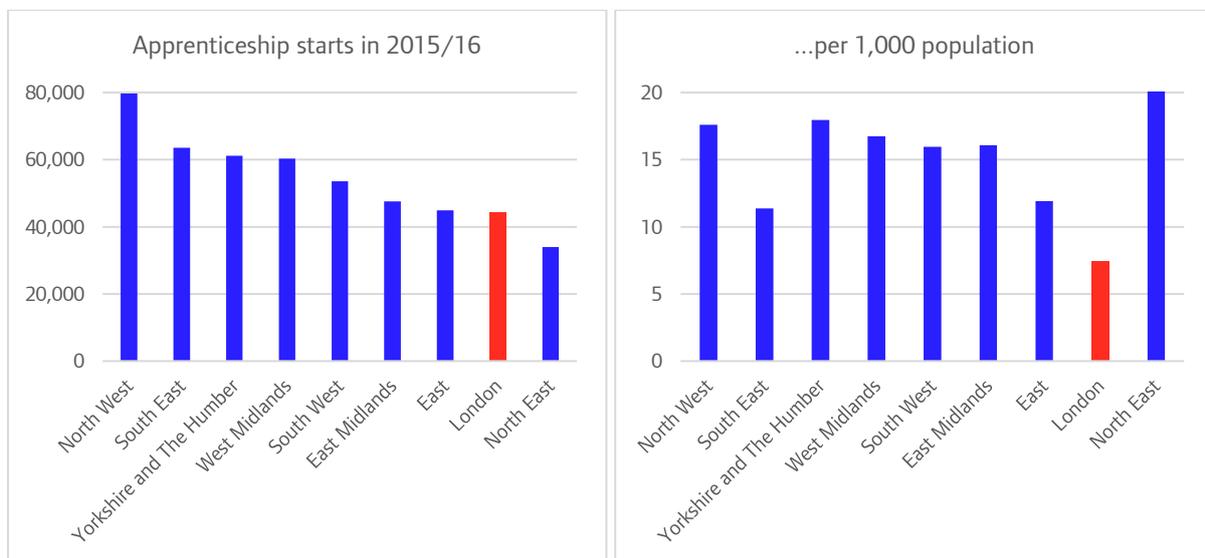
**Fig 7.16: Apprenticeships starts in London, 2005/06 to 2016/17**



Source: FE data library. Note there is a break in the series in 2011 due to changes in data collection methods. An apprenticeship ‘achievement’ means the apprentice successfully completed their qualification.

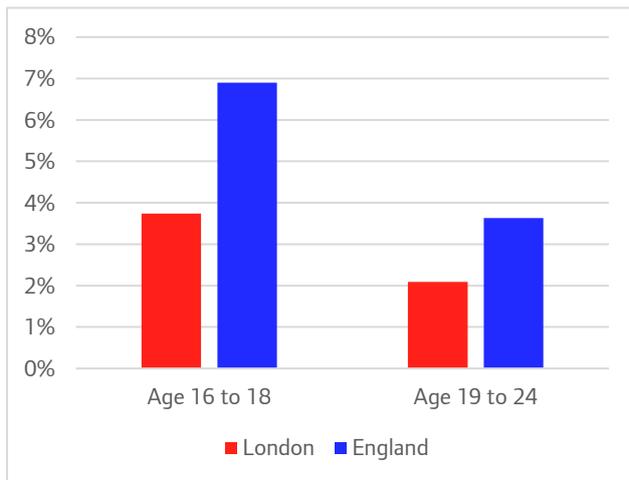
Despite the marked increase in the years up to 2011/12, apprenticeship numbers are relatively low in London compared to other parts of the country, both in absolute terms, on which measure London ranks second lowest among English regions, and on a per-population basis, on which measure London ranks last. London has around a third as many apprenticeship starts as the North East on a per-population basis (see figure 7.17).

**Fig 7.17: Apprenticeship starts in 2015/16 by region, and starts per 1,000 population**



Source: FE data library and ONS mid-year population estimates. Note population used is 16-64 age population in mid-year 2016.

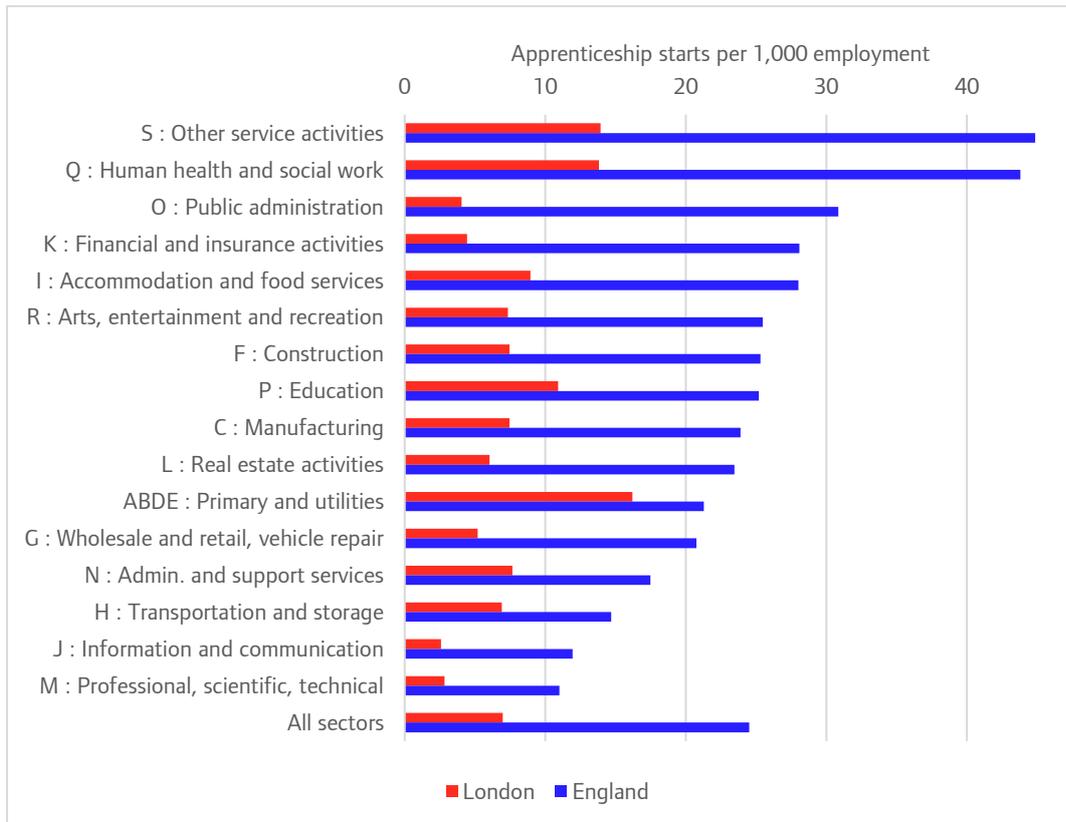
In terms of age, of 46,280 apprenticeship starts in London in 2015/16, 10,650 were aged under 19, 13,800 were aged between 19 and 24, and the remaining 21,830 were aged over 25. Focusing on the younger two categories, these starts amounted to just under 4% of the 16-18 population, and 2% of the 19 to 24 population. In both cases these proportions are about half the same figure for England overall, showing that apprenticeship take up among young people is lower in London than in England overall.

**Fig 7.18: Apprenticeship starts as percentage of age group (2015/16)**

Source: FE data library and ONS mid-year population estimates.

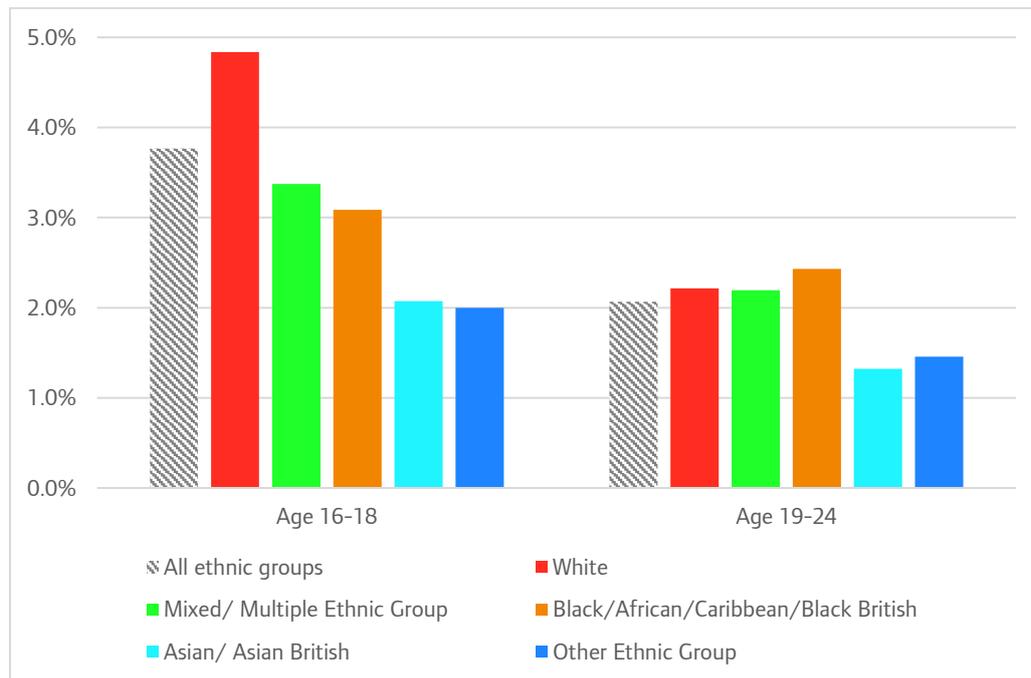
There are various possible explanations for why apprenticeship numbers are lower in London than the rest of England. The fact that young people in London are more likely to go to university than elsewhere is likely a significant part of the explanation. Another factor may be the sectoral balance in London's economy. Relative to the rest of the country, London has a relatively large share, of employment in sectors which tend to employ fewer apprentices (such as professional services, and information and communication) and a relatively small share of employment in some sectors that employ more apprentices (for example, health and social work). However, while this may explain some of London's lower apprenticeship numbers, the data suggest that even on a sector-by-basis London offers fewer apprenticeships than elsewhere as a proportion of employment. See figure 7.19.

**Fig 7.19: Apprenticeship starts by sector in London and England (average of 2010/11 to 2014/15)**



Source: DfE for apprenticeship starts by sector, ONS Workforce Jobs for jobs by sector. Apprenticeship numbers are the average of starts in the years 2010/11 to 2014/15.

Within London, there is some evidence to suggest that apprenticeships are a less popular option among ethnic minorities, with apprenticeship starts among the 16-18 age group higher, relative to the population, for Londoners of a 'White' ethnic background, compared to ethnic minorities (see figure 7.20). However, these differences are not large, and there are no differences observable for the 19 to 24 age group. In terms of other ethnic disparities within apprenticeships, the data suggest that there are not significant differences between ethnic groups in terms of the level of apprenticeships undertaken, or in achievement rates.

**Fig 7.20: Apprenticeship starts as a percentage of the population by age and broad ethnic group, London residents, 2015/16**

Source: Apprenticeship Starts: FE data library. Population: GLA ethnic group population projections.

## 7.5 Higher education in London

As mentioned in section 7.2, young people in London have higher rates of access than elsewhere in the country. This section focuses on higher education provision in London. That is, students studying in London, regardless of where they are from. It is worth making this distinction because it is fairly common for higher education students to move to study, which means that this section does not cover the same students as section 7.2 did (London residents going to university). According to HESA data, in 2016/17 of 243,000 undergraduate students registered as being domiciled in London before the start of their degree, only 113,000 (46%) were studying in London. Similarly, students from London account for 46% of the total 244,000 undergraduate students in London (if limited to those from the UK, London residents account for 60% of London undergraduates).<sup>132</sup>

For more information on the higher education journeys of young London residents (i.e. wherever they are studying), London Councils produce an annual report on this subject. The most recent edition found, for example, that in 2016/17 the number of London students going onto higher education whose parents had not been to higher education exceeded the number whose parents had.<sup>133</sup>

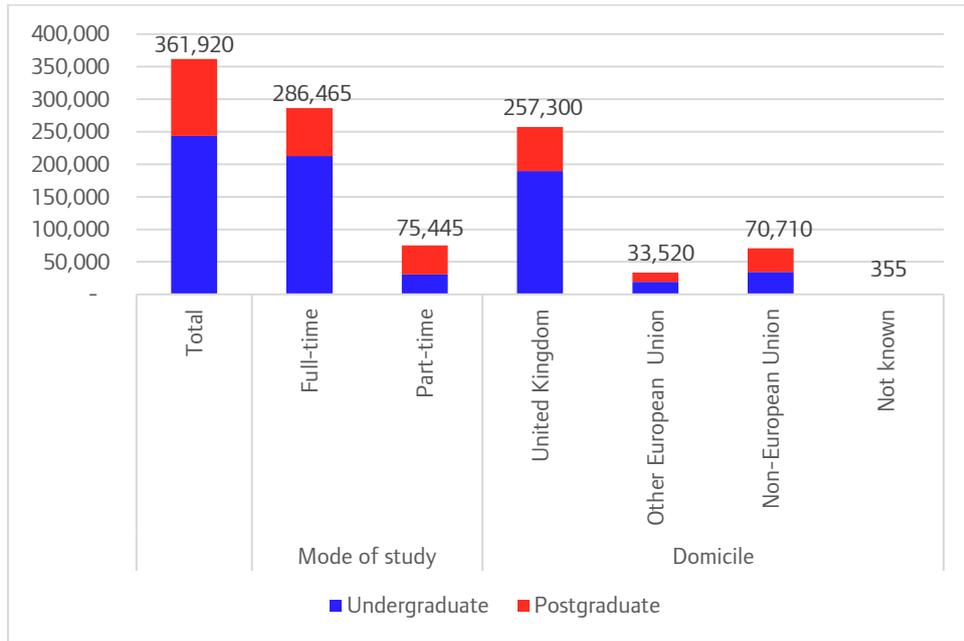
This section discusses the higher education sector in London, as opposed to the higher education journeys of Londoners.

Returning to students studying in London, in London in 2015/16 there were 362,000 higher education students studying in London, of which 243,000 were undergraduates and 119,000 postgraduates. 75,000 were studying part time, of which the majority (45,000) were postgraduates. Many students in London come from overseas. In 2015/16, 34,000 students came from elsewhere in the EU, and 71,000 from outside the EU (around half of students from outside the UK are postgraduates). See Figure 7.21 for these data.

<sup>132</sup> HESA students data, 2016/17

<sup>133</sup> London Councils (2017) The higher education journey of Young London Residents December 2017

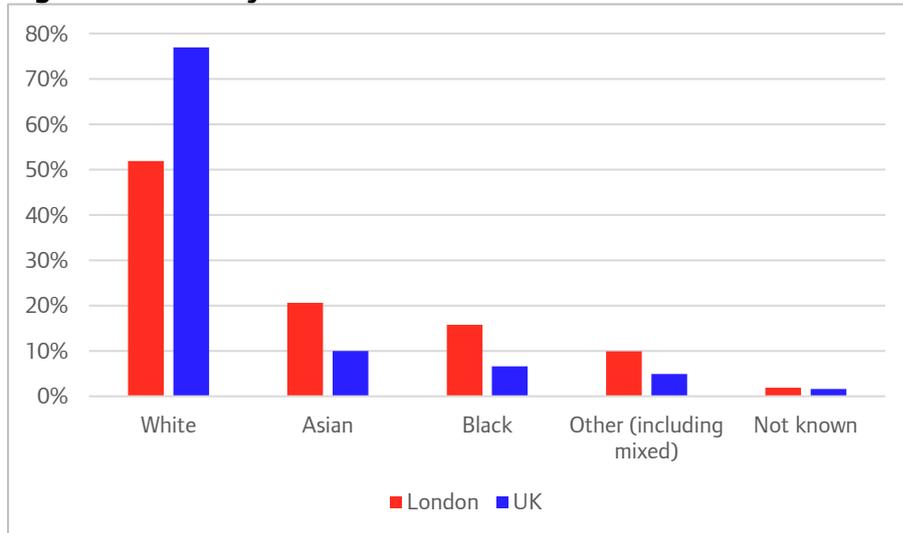
**Fig 7.21: HE students studying in London (2015/16)**



Source: HESA table 1.

London’s higher education students are more ethnically diverse than the overall higher education population. Of students domiciled in the UK (ethnicity data is not available for overseas students), 52% of London higher education students were White in 2015/16, compared to 77% of students in the UK as a whole. In London, 21% of students are of Asian ethnicity (compared to 10% in the UK overall), and 16% are of Black ethnicity (compared to 7% in the UK as a whole), (Figure 7.22).

**Fig 7.22: Ethnicity of UK-domiciled HE students in London and UK, 2015/16**

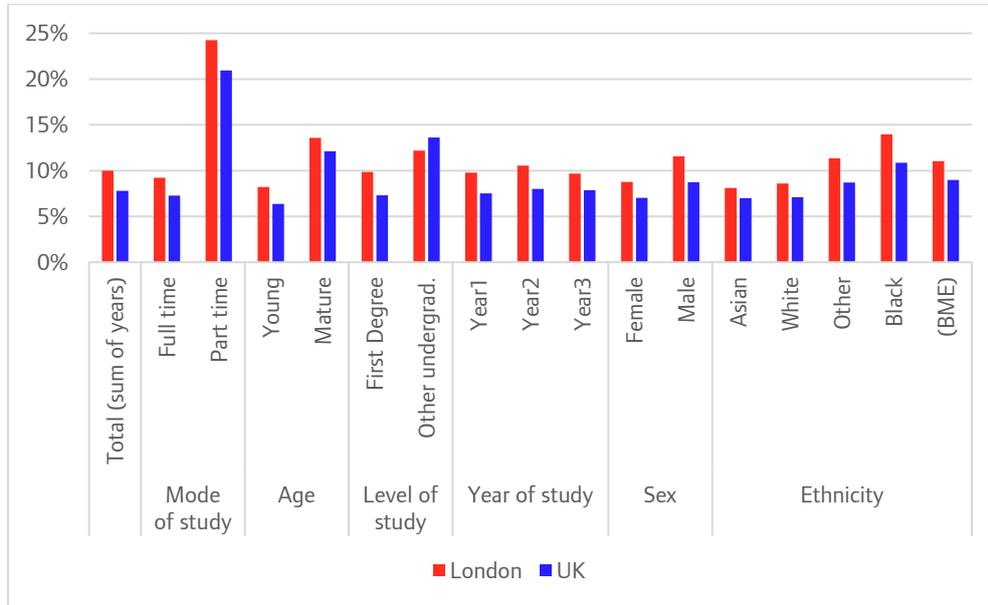


Source: HESA data, table 3. Note: ‘London’ refers to where students are studying, not where they are from. Only applies to UK-domiciled students, i.e. students who lived in the UK prior to starting.

The negative feature of higher education in London is that the rate of non-continuation (the proportion of students that do not complete their course, in a given year) is higher than the rest of the country. In London the non-continuation rate in the second year of Teaching Excellence Framework data was 10%, compared to 8% in the UK as a whole. The non-continuation rate is highest for Black students, whose

non-continuation rate in London was 14%, compared to 11% in the UK overall. Drop out rates are also higher for part-time students, for mature students, and for male students, relative to the average. See Figure 7.23.

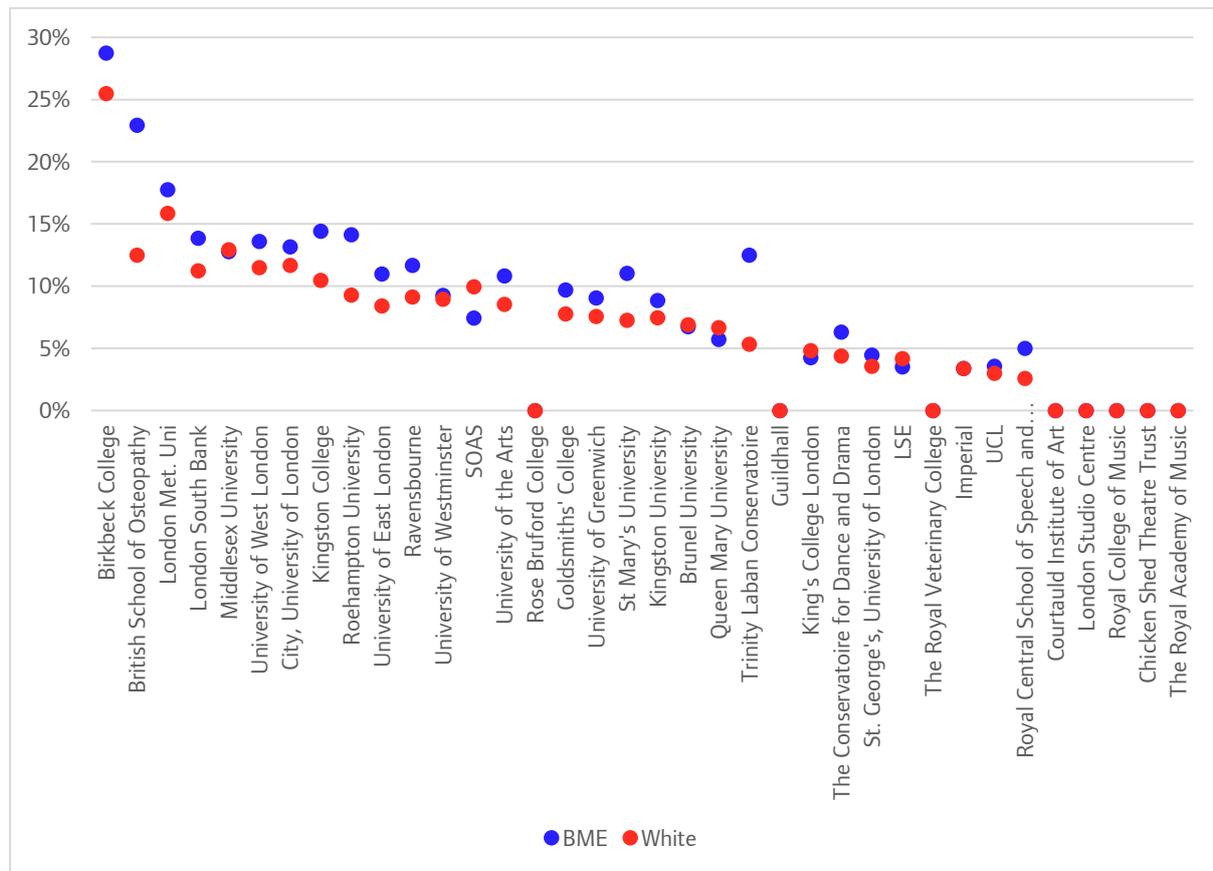
**Fig 7.23: Non-continuation rate across HE institutions by types of study and student background**



Source: HEFCE Teaching Excellence And Student Outcomes Framework Year 2

Figure 7.24 shows non-continuation rates vary by providers in London. Data are presented separately for White and students from a Black or minority ethnic background (BME – defined as all ethnic groups bar the ‘White’ group). This data shows, for example, that the rate of non-continuation is highest in Birkbeck College (likely explained by the large number of mature and part-time students, whose overall drop out rate is higher – see above). Several very small higher institution providers in London have a zero non-continuation rate.

**Fig 7.24: Non-continuation rate at London universities for White and BME students, 2017**



Source: HEFCE Teaching Excellence And Student Outcomes Framework Year 2

The Social Market Foundation recently produced a report on non-continuation in higher education. They found that some of the gap between London and the rest of the UK could be explained by factors relating to student characteristics (including ethnicity, and whether students come from low-participation areas and lower socio-economic backgrounds) and to institutional factors (including satisfaction rates). However, the London gap persists even when controlling for these factors, suggesting either a 'London effect', or the need for a richer analysis of the causes. The authors suggest that cost of living and travel distances could be important factors, and that anecdotally these may be important issues in London<sup>134</sup>.

## 7.6 Lifelong learning (age 25+)

The final stage of the education journey is the study that is undertaken in adulthood. 'Adult' is usually defined as age 19 plus for funding purposes, but at age 19 students are likely to still be in a continuous phase of education. This section presents data for 25-64 year olds, to focus on the learning activities of individuals who have likely finished their main phase of continuous education.

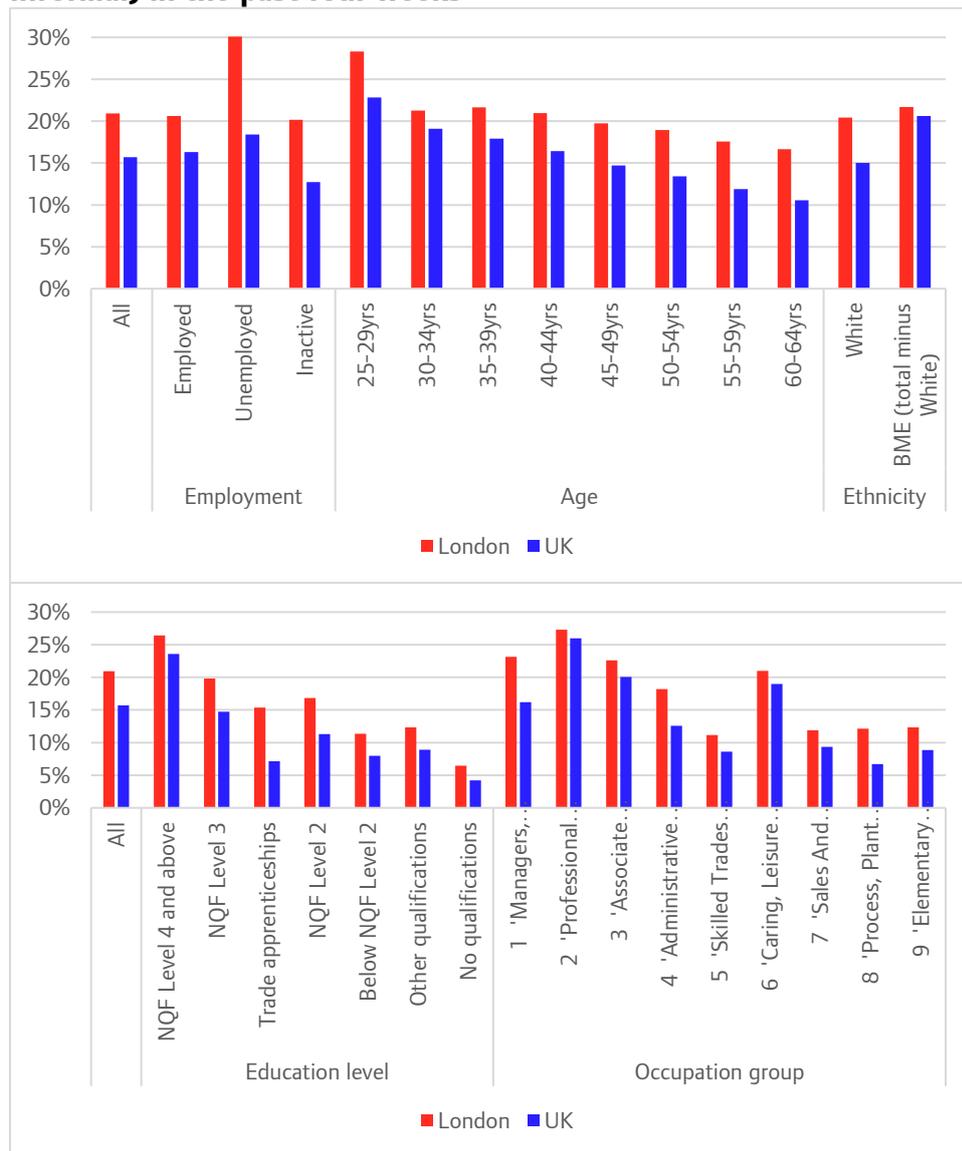
Figures 7.25a and 7.25b show the proportion of people, in London and the UK, that had participated in learning, either formal or informal, in the four weeks prior to taking the survey. The data refers to the 12-month period January to December 2017, and is broken down by employment status, age, ethnicity, prior educational attainment, and occupation group. Firstly, the data shows that overall participation in

<sup>134</sup> Social Market Foundation (2017) '[On course for success? Student retention at university](#)'

learning in London was, at 21%, higher than in the UK as a whole (16%). This higher participation in London is true for every population sub-group. Comparing the population sub-groups, participation in formal learning in London is higher for:

- The unemployed, of whom 30% had participated in some form of learning in the past four weeks, compared to 21% of the employed, and 20% of the economically inactive.
- Younger people: Twenty-eight per cent of those aged 25-29 had recently participated in learning, compared to 21% of the next oldest cohort (30-34 year olds), and 17% for the oldest cohort (60-64 year olds). Note that the drop off in learning activity with age is less steep in London than in the UK overall.
- There is no difference in participation in London by ethnicity in this data, although there is in the UK as a whole, where participation is lower for White adults compared to those from BME backgrounds.
- Those with higher education attainment. In London, 26% of those qualified to degree level were participating, compared to 6% of those with no qualifications. The UK as a whole shows a very similar pattern.
- Those from higher occupation groups. The participation rate of those working in Management and Professional roles is highest. However, participation was also high for those in Caring and Leisure occupations, which in salary terms and in the qualification requirements are considered 'lower level' occupations.

**Fig 7.25a and 7.25b: Adult (25-64 year olds) participation in learning (formal and informal) in the past four weeks**



Source: Labour Force Survey, Jan-Mar 2017

The fact that participation in learning among adults is highest among those with high prior attainment is perhaps the most significant factor of these, as it suggests that inequalities in education that emerge in people’s youth are likely to be exacerbated by participation in learning in later life.

## 8 Employer training

### Key points

- Levels of employer investment in worker training appear to be ‘low’ in London and the UK relative to other countries, and relative to past years.
- London does not differ substantially from the UK in any measures discussed here, so it is not a London effect. Similarly, the fall in training hours does not appear to be attributable to any particular sector.
- Measures as the proportion of employees receiving recent training, training activity in London is highest in Public administration organisations, and lowest in Manufacturing (although not statistically significantly different from the average). On a spending per-employee basis, in the UK, training investment is lowest in Wholesale and Retail, and Manufacturing. Similar data is not available for London.
- It is not clear what explains low employer training, although employers’ responses to questions about their training activity suggest a perceived lack of need may be the most significant issue, rather than any cost or availability barriers.

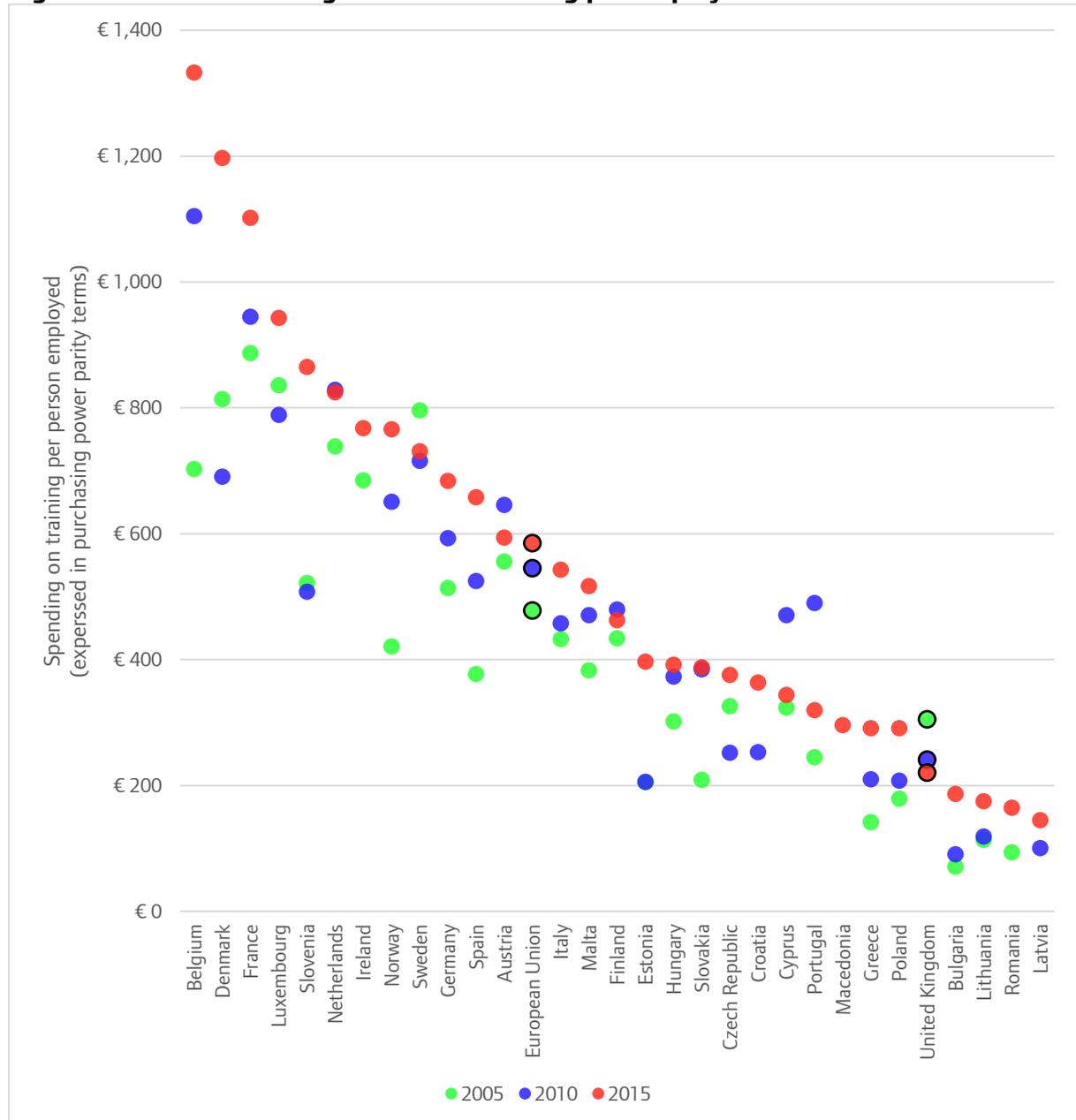
This section looks at employer training, and addresses two key questions. The first is, are employers investing enough in their employees’ skills? This is a hard question to answer because it is not obvious what the ‘right’ level of investment is, but we can compare current investment levels in London with investment in earlier periods and with current investment in other places. We can also look at how much different types of employers train. There is some evidence to suggest that investment by employers in London is low relative to previous levels. Investment in London appears to be similar to the rest of the UK, but the UK itself sees low employer investment compared to some other countries.

The second question concerns the impact of employers’ training activity on skills inequality. Employers’ training is not evenly distributed across the workforce, with more training directed at people with higher level qualifications and, to some extent, working in higher level occupations. This suggests that inequalities in the way skills are acquired in the workplace may exacerbate prior skills inequalities.

### 8.1 Employer investment

Evidence suggests that UK employers spend less on training their employees than their international counterparts. According to Eurostat data, in 2015 spending on continuing vocational education by UK employers per employee (€220 in purchasing power parity terms) was almost two thirds lower than what it spent on average across the EU (€585 in purchasing power parity terms). Spending on training per-employee in Belgium (€1,333), Denmark (€1,197) and France (€1,102) was considerably higher than spending in the UK. This data is presented in figure 8.1 below. This figure also shows data for 2005 and 2010, which shows that, unlike most countries in the dataset, spending in the UK fell over this decade.

**Fig 8.1: Cost of continuing vocational training per employee in EU countries**



Source: Eurostat. Note: costs include ‘direct costs’ (fees paid to providers) and also ‘labour costs’ (value of participants’ time spent not working). Costs are measured in purchasing power parity terms (i.e. account for the fact that prices vary across countries and time).

More recent data on employer spending on training in the UK is available from the Investment in Training Survey, a supplement to the Employer Skills Survey. According to this survey, in 2015, spending on training by UK employers amounted to £45.4bn, or £2,600 per person trained, or £1,600 per employee.<sup>135</sup> Training expenditure has not changed very much in the last few years. It was £43.0bn in 2013 (again £2,600 per person trained and £1,600 per employee) and £43.8bn in 2011 (slightly higher spending per person trained of £3,000 but the same spending per employee).

<sup>135</sup> UKCES (2015) ‘[Investment in Training Survey – Technical Report](#)’

Unfortunately the Investment in Skills Survey has a smaller sample than the full Employer Skills Survey and regional breakdowns of these figures are not published. Figures are published at the country level, and these show that in 2015 spending per person trained in England was slightly higher than the UK (£2,700, compared to £2,600), as was training expenditure per employee (£1,700 compared to £1,600).

For London-level data we must use different data sources. The Employer Skills Survey (ESS) published data on employers' training activities at the regional level, but not on spending levels. These tend to suggest that there are no great differences in investment in training in London compared to the rest of the country. In 2015, 66% of enterprises said they had provided 'any' training over the past 12 months, the same as in England overall.<sup>136</sup> This leaves 33% that did not provide any training. The ESS also asks employers to estimate the number of staff trained over the past 12 months, which enables estimates of the proportion of staff receiving training. In London in 2015 the ESS suggests that 61% of London staff received some training over the past 12 months (2.73 million out of 4.47 million), compared to 63% in England overall.

As well as the amount of training undertaken, the ESS asks questions about the type of training activities undertaken. Under half of employers in London (48%, the same as England again) had provided any off-the-job training in the past 12 months, meaning over half had not. Thirty-eight per cent of London employers reported that more than half of their training activity was health and safety or induction training (compared to 37% in England). Furthermore, of those providing training, a quarter (27%, compared to 26% in England) said they provided on-the-job training only.

## 8.2 Trends

The Investment in Training survey data suggests expenditure on training by UK employers did not change much between 2011 and 2015. However, there is evidence that over the longer term the amount of training activity in London and the UK has declined.<sup>137</sup> There are a number of training related variables available in the Labour Force Survey (LFS), which is used here to look at longer-term trends in employer training.

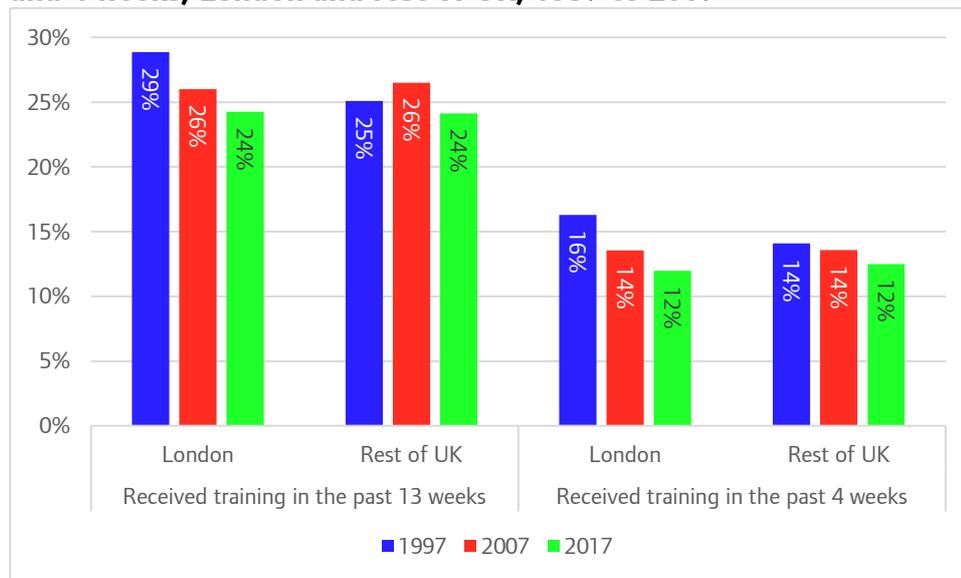
Firstly, the LFS asks people whether they engaged in any 'work related education or training' in the past four and thirteen weeks. We can see in figure 8.2 that the proportion that have undertaken training is currently the same in London as the UK for both time periods, with 24% of 16 to 64 year olds saying they had undertaken training in the past 13 weeks, and 12% in the last four weeks in 2017 in London. The proportion that had recently received training has fallen slightly in London over the two decades. In 1997 29% of employed Londoners had received training in the last 13 weeks, and 26% in 2007. The proportion receiving training has not changed much in the rest of the UK in this period.

<sup>136</sup> UKCES 2015 Employer Skills Survey. Also for other statistics in this and following paragraph.

<sup>137</sup> UKCES (2014) Skills and employment in the UK: The Labour Market Story

<https://www.gov.uk/government/publications/skills-and-employment-in-the-uk-the-labour-market-story>

**Fig 8.2: Those in employment (age 16 to 64) that have received training in the past 13 and 4 weeks, London and rest of UK, 1997 to 2017**



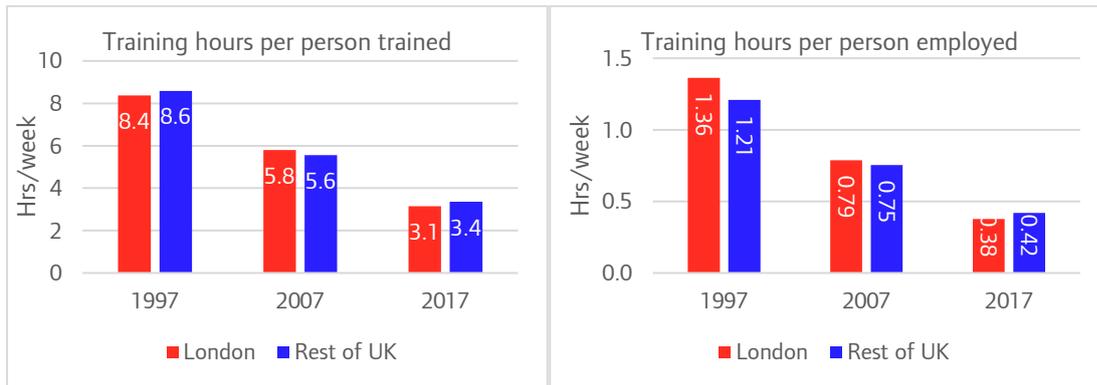
Source: Labour Force Survey

The LFS also asks those that undertook training recently how many hours of training they received. This measure suggests a much larger fall in training volumes over the same two decade period. Figures 8.3a and 8.3b show the number of hours of training undertaken over the past week<sup>138</sup> on a per-persons trained and a per-persons employed basis.

In 2017, there were 3.1 hours of training undertaken in the past week for every person trained, and 0.4 hours for every person employed (limiting the analysis to 16 to 64 year olds). In the rest of the UK these figures were slightly higher per person trained (3.4 hours in the week) but the same per persons employed (0.4 hours in the week). Both London and the rest of the UK have seen steep falls in training volumes over the period, on this measure. In London, training hours per person trained fell by 62% between 1997 and 2017, and by 72% in terms of people employed. In the rest of the UK the numbers are similar, with a 61% fall in the number of training hours per persons trained, and a (slightly lower than London) 65% fall in the number of training hours per people employed.

<sup>138</sup> The question has changed in the LFS over these periods. In 1997 and 2007 respondents were asked how many hours of training they had undertaken in the past week, whereas in 2017 respondents were asked about the past four weeks. To make the numbers comparable the 2017 figures were divided by four.

**Fig 8.3a and 8.3b: Training hours per week per person trained and per person employed, London and rest of UK, 1997 to 2017**

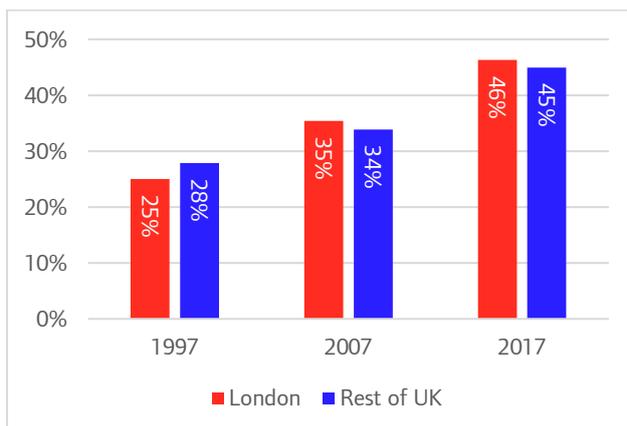


Source: Labour Force Survey

It is worth noting that these estimates of training hours are higher than an estimate that can be produced with ESS data. The ESS data estimates that in 2015 there were on average 6.79 training days offered in the year, per trainee (6.30 in England). This equates to 0.73 hours/week per trainee in London (assuming a training day is worth 6 training hours), compared to 0.78 in England.

The LFS also asks respondents whether the training they have received recently was entirely 'on the job'. The section above noted that training off the job is not necessarily a marker of training quality or effectiveness. However, it is likely to be more costly for employers, and so provides a measure of the amount of employer investment in training. Figure 8.4 shows that the proportion in London of training that is entirely on the job has almost doubled over the last 20 years, from 25% in 1997 to 46% in 2017 (16 to 64 year olds). Figures for the rest of the UK are similar.

**Fig 8.4: Percentage of people in work trained in the last 4 weeks whose training in that period was 'on the job' only, London and rest of UK, 1997 to 2017**



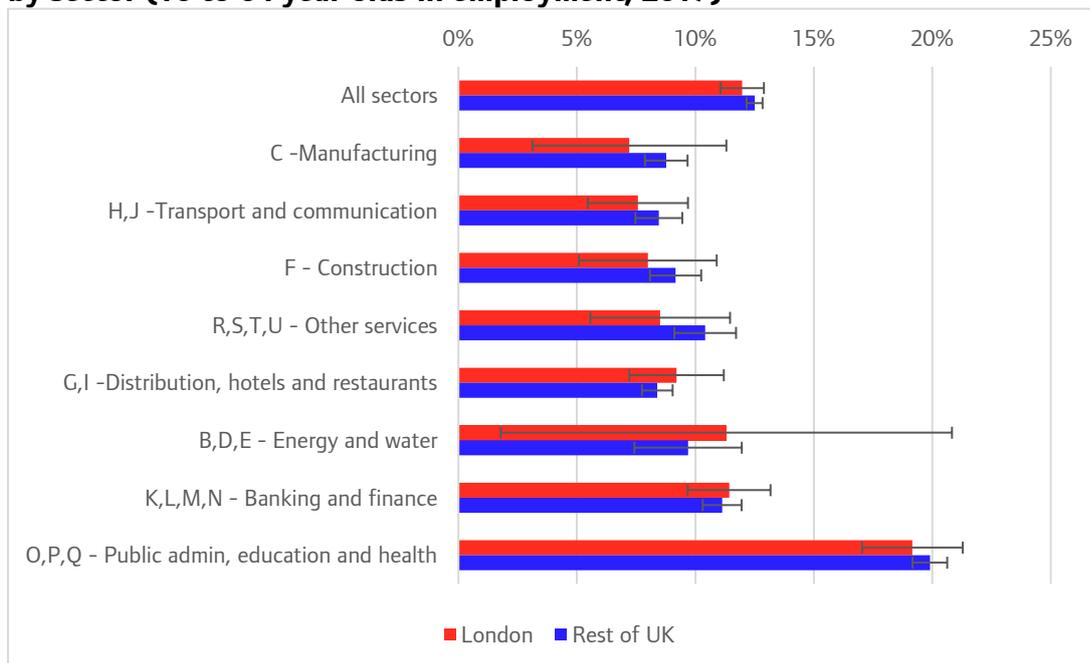
Source: Labour Force Survey

### 8.3 Investment in training by sector and size of employer

Training activity is not the same across all employers, with variation in training levels between industries, as well as between employers of different sizes. The Employer Skills Survey (ESS) provides some of these breakdowns. Unfortunately, in the published data these are not available at the London level. For London data we can use the Labour Force Survey (LFS).

As reported above, across all sectors, in 2017 12% of Londoners had received training in the past four weeks, the same proportion as in the rest of the UK. There is some variation by industry, with training proportions higher in the public service sectors (public administration, education and health) where 19% of Londoners had received training in the last four weeks. All other sector groups had training levels below the London average, with training levels especially low in Manufacturing, Transport and Communication, Construction, and Other Services. Note, however, that in a couple of instances (Manufacturing and Construction, for example) these estimates are based on relatively small sample sizes, and so have larger confidence intervals. However, the difference between training in these sectors and overall training levels for London residents is still statistically significant. Finally, sectoral training patterns in London are similar to the rest of the UK, which also has higher training in the public service sectors.

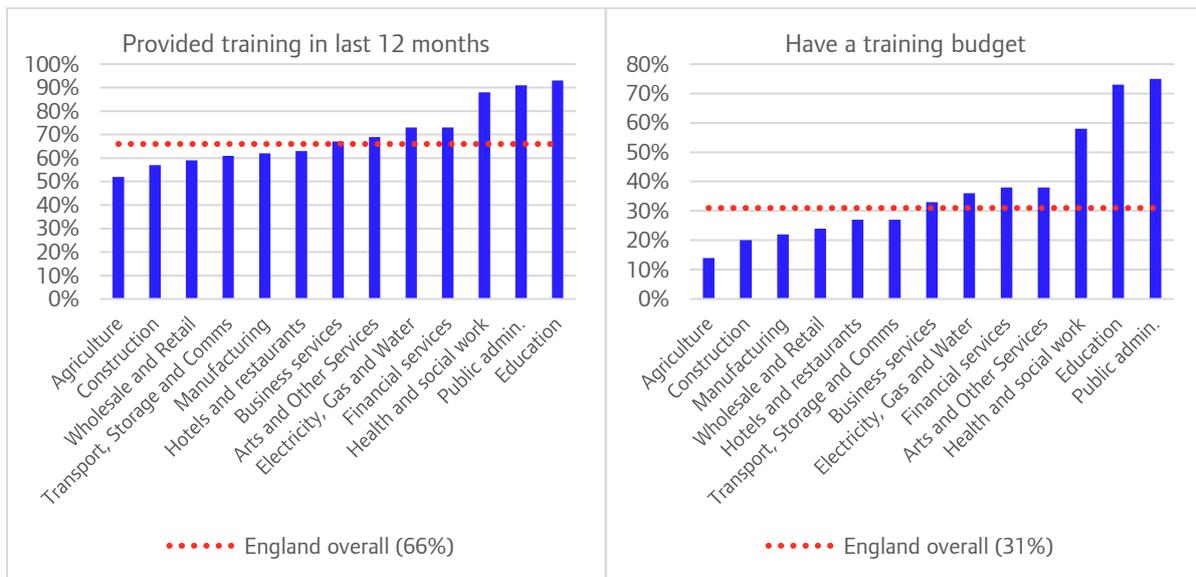
**Fig 8.5: Proportion of employed residents receiving training in the past four weeks, by sector (16 to 64 year olds in employment, 2017)**



Source: Labour Force Survey, April-June 2017. Bars indicate upper and lower confidence intervals. Note, here ‘London’ refers to residents, not jobs.

Turning to England-level data from the ESS, sectors where a smaller than average proportion of establishments had offered training in the last 12 months include Agriculture (not shown in the LFS figure due to sample size), Construction, and Wholesale and retail. There were above-average rates of having offered training in the public sectors of Education, Public administration and Health and social work, which mirrors the London and rest of UK LFS data. Similar sectoral patterns are observable in the proportion of employers that had a training budget. Establishments in Agriculture, Construction and Manufacturing have below-average proportions with training budgets, and public sector organisations again much more likely to have one. See figures 8.6a and 8.6b.

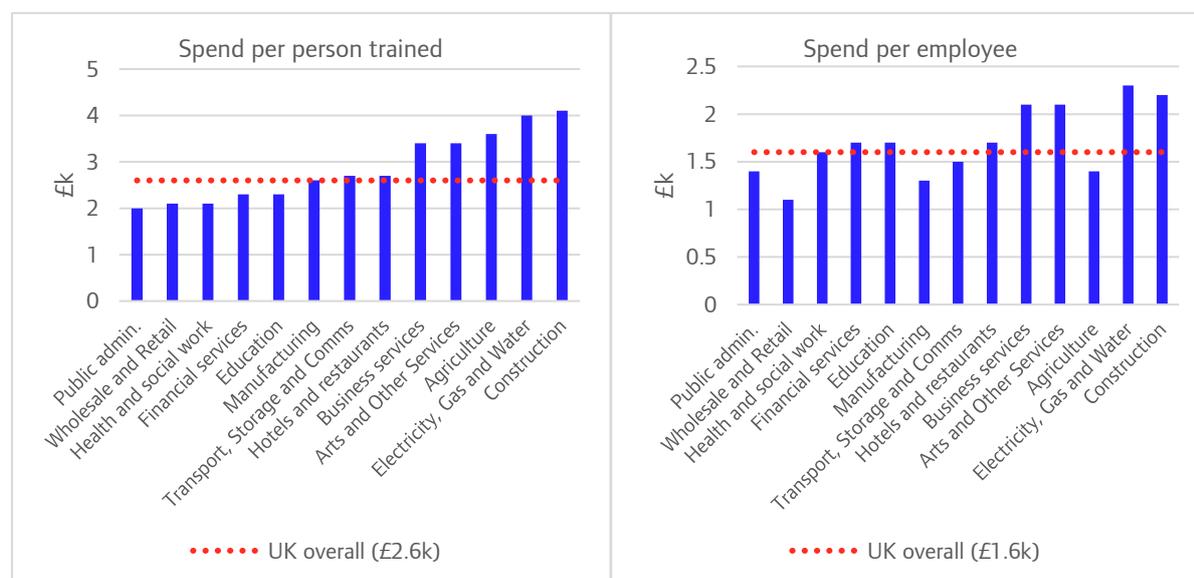
**Fig 8.6a and 8.6b: Percentage of employers that have funded or arranged training in the last 12 months, and that have a training budget (England, 2015)**



Source: Employer Skills Survey 2015.

There is also data, at the UK level, on the amount of investment in training in different sectors available through the Investment in Training Survey (see figures 8.7a and 8.7b). The sectors with the highest spending per person trained are Construction, Utilities, Agriculture, Arts and Other Services and Business Services. Sectors with low spending per person trained are public services (including Public Administration, Education and Health), Wholesale and Retail, and Financial Services.

A slightly different ranking emerges when looking at training spending on a per-employee basis. Here the lowest spending sectors are Wholesale and retail and Public administration (both of which also recorded low investment per person trained) and Manufacturing and Agriculture (which did not).

**Fig 8.7a and 8.7b: Spending on training per person trained and per employee (UK, 2015)**

Source: Investment in Training Survey, 2015

The fact that these two measures do not produce quite the same ranking of sectors suggests that training spending is distributed more evenly in some sectors than others. A sector with a high spend per person trained but a low spend per employee is one where training spending is unevenly distributed. Agriculture is the most obvious example of such a sector.

It is also notable that measuring training activity on a spending per employee basis gives a different picture than measuring it by the proportion of establishments providing or budgeting for training. This could be down to the fact that the latter measures are likely to be skewed by differing employer sizes across sectors. A business with few staff may offer relatively little training *per year*, but with fewer staff they are less likely to have a training need in a particular year. On a per employee basis that small employer may offer just as much training over a suitably long time period. So arguably the establishment-based measures are not the best measures of training activity when comparing across sectors.

We can see this point by comparing the per-establishment and per-employee training measures by employer size groups. Smaller employers were less likely to have offered training in the past 12 months. In 2015, 51% of English establishments employing 2-4 staff had offered training in the past 12 months, compared to 96% of establishments with 100+ staff. Similarly, 20% of English establishments employing 2-4 staff had a training budget, compared to 78% of establishments employing 100+ staff. However, in terms of spending on training per employee, and per person trained, smaller establishments spend *more* than larger establishments. In 2015 in the UK, establishments with more than 100 employees spent £1.1k on training per employee and £1.6k per person trained. Establishments with 2 to 4 employees spent £2.5k on training per employee and £5.8k per person trained.<sup>139</sup>

Similarly, ESS estimates (at the England level) suggest that the number of training days per employee is lowest in the largest employers. This would appear to rule out the idea that small employers are paying more for training (per trainee) because they cannot take advantage of economies of scale, or face higher

<sup>139</sup> UK 2015 Employer Skills Survey report, UKCES <https://www.gov.uk/government/publications/ukces-employer-skills-survey-2015-uk-report>

training costs for some reason. In fact, it simply appears that small employers spend more on training because training volumes are higher (at least, per trainee).

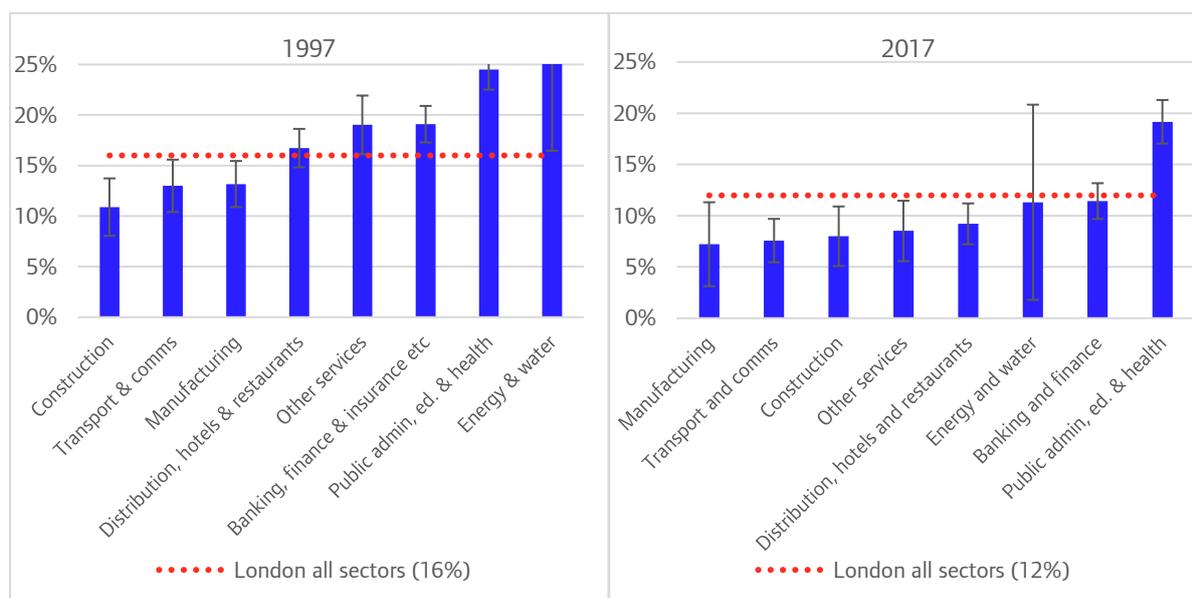
**Fig 8.8: Training days per trainee and per staff over the past 12 months by size of employer (England, 2015)**



Source: 2015 Employer Skills Survey

Finally, using the LFS, we can compare training levels across time, to see whether the fall in training volumes over the last two decades can be explained by trends within industries. It does not appear that it can. All sector groups show a fall in the number of people that had recently received training over the past four weeks over the period, meaning the ranking of sectors in terms of training levels in 2017 was similar to 1997. The large reduction in the Energy and Water sector should be disregarded due to the small sample size (and large confidence interval). Other than Energy and Water, sectors appear to have falls in training levels of similar proportions.

**Fig 8.9a and 8.9b: Proportion of people in work that had undertaken training in the past four weeks, by sector (London, 1997 and 2017)**



Source: Labour Force Survey April-June 1997 and 2017. Note: 'London' refers to residents. Note: sector groupings not exactly the same across the periods as industry classifications were revised.

## 8.4 Reasons for 'low' employer investment in skills in London and the UK

The evidence above suggests that investment in skills by London and UK employers is low by international standards, and low compared to the levels of training activity in past years. What explains this?

Employers have an incentive to minimise costs, and so in one sense it should not be surprising that investment is low. They would prefer to recruit staff who already have the right skills, avoiding the cost of investing in those skills themselves. Relying on others' investment in this way is referred to as 'free riding'. Another disincentive to invest is that employers are not guaranteed to 'capture' the returns of investing in the skills of their employees, as there is a risk that those employees will leave the employer, potentially to work for other employers. This last possibility is referred to as 'poaching', and is a particular variant of the free riding problem. 'Free riding' and 'poaching' are well known as potential issues, and were cited in the Government's justification for introducing an apprenticeship levy.<sup>140</sup> However, it is harder to find evidence for the significance of these factors.

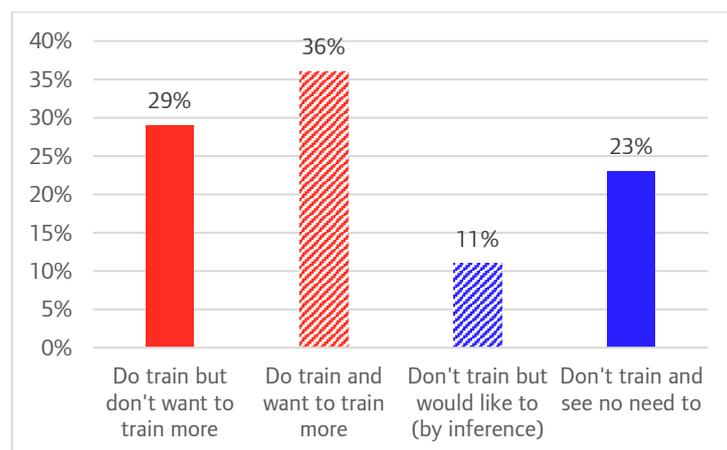
There is some support for 'free riding' as an explanation. Taking a broad view, it could be argued that a situation where skill shortages and gaps are (overall) low, and where levels of training are low, is evidence enough that employers are free riding. Employers in London and the UK are investing less than they used to, and less than employers in other countries, but by and large are still seeing their skill needs met.

The Employer Skills Survey offers more information. In 2015, 66% of London employers (the same proportion as the UK as a whole) said they had undertaken some staff training in the past 12 months. Of

<sup>140</sup> BIS (2015) Apprenticeship levy: Employer owned apprenticeship training  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/455101/bis-15-477-apprenticeships-levy-consultation.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/455101/bis-15-477-apprenticeships-levy-consultation.pdf)

the 33% that had not offered training in the past 12 months, only a third (32%) are classified in the ESS as wanting to offer training.<sup>141</sup> Sixty-eight per cent of non-trainers saw no need for training, amounting to a quarter (23%) of all London employers. A further 34% of employers do train but also don't see any need for greater training levels. Therefore overall, the majority of employers (58%) do not see a need for greater training, referred to as being in 'training equilibrium'. Arguably, the part of this group that is not currently offering any training most readily fit the idea of 'free riding', since they both have the skills they need (by implication – they see no need for training) and have not contributed to the costs of acquiring those skills.

**Fig 8.10: Training equilibrium of London employers, 2015**



Source: 2015 Employer Skills Survey. Note: do/don't train refers to the last 12 months.

However, while free riding may be a factor, there is no evidence that 'poaching' is a reason for low investment. Of London employers that had not trained their staff in the past 12 months, fewer than 1% said this was because they were worried about their staff being poached by other employers. Employers that had trained but trained less than they wanted were not offered poaching as a reason.<sup>142</sup>

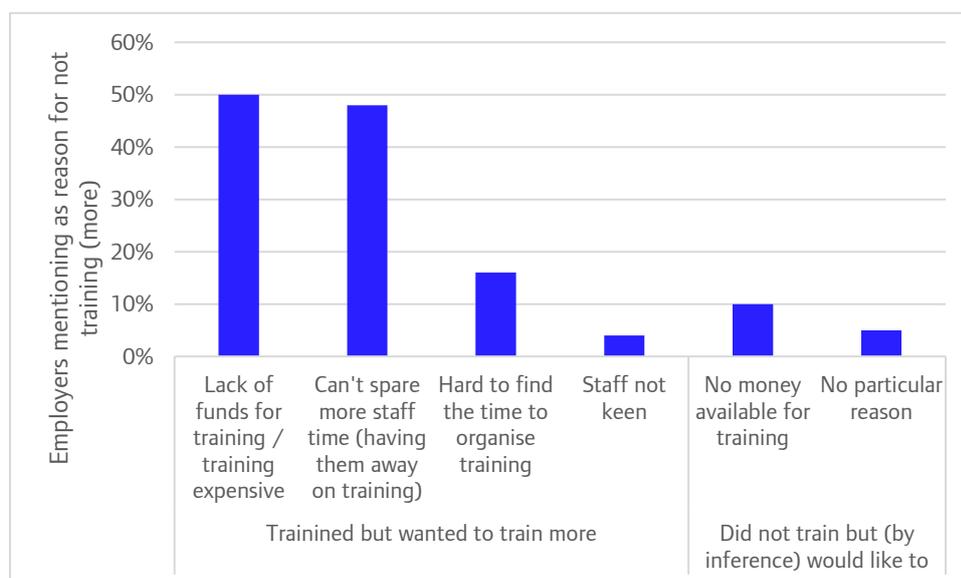
Looking for other explanations, the Employer Skills Survey suggests that other than a lack of perceived need, the main barriers to training relate to cost, either in terms of money or staff time. Fifty per cent of London employers that trained and wanted to train more said they did not do so because of lack of funds, and 10% of those that did not offer any training said this was because there was no money available for training (see figure 8.11). Overall, we could estimate that cost or resource barriers are a training constraint for around a fifth of London employers, although this may be an under-estimate<sup>143</sup>.

<sup>141</sup> Note that, for employers that did not offer training, their desire to offer training is inferred from the reasons they give for not having trained. Employers that mentioned either training not being a priority, or having fully proficient staff, or having no need for training, are classified as not wanting to offer training. All other non-training employers are classified as wanting to train. Arguably, this may overestimate the proportion that want to train, since some other reasons available, such as 'any training has been arranged and funded elsewhere' and 'training not needed due to size of establishment' and 'learn by experience / learn as you go' also suggest that employers do not see a need for training. However, these latter answers do not get very many responses.

<sup>142</sup> UKCES Employer Skills Survey 2015 UK report <https://www.gov.uk/government/publications/ukces-employer-skills-survey-2015-uk-report>

<sup>143</sup> This is calculated as 10% of the 33% of employers that did not train, plus 50% of the employers that did train but wanted to train more (which is 55% or 66%). However, this may be an under-estimate as it assumes that the 50% of training employers that mentioned 'lack of funds' are a similar group to those that mentioned not being able to spare more staff time. In theory those two could be entirely separate, in which case almost all of the 'trained but wanted to train more' would be accounted for by cost or resource reasons.

**Fig 8.11: Most commonly cited reasons why London employers did not train, or did not train more, excluding reasons relating to not having a need to train**



Source: 2015 Employer Skills Survey. Note: reasons implying employer sees no need for training have been removed from the 'did not train' group, as these have been discussed separately. Reasons cited by fewer than 3% of employers have also not been shown. These include reasons relating to the availability, quality and suitability of local training providers and courses, staff turnover, and the availability of information about training opportunities.

Therefore, the available evidence suggests that 'low' training is mainly driven by a combination of a perceived lack of need, alongside resource and cost constraints for some employers that would like to train more. It is likely that the former is the more significant factor, since the 'don't train and see no need' and 'do train but wouldn't like to train more' groups, which jointly are those in 'training equilibrium', amount to 53% of London employers in total (compared to 58% in England as a whole). Whereas, cost and resource constraints are likely to apply to closer to a fifth of employers. Note that in all these figures, there are only marginal differences between London and the rest of England, so there don't appear to be London-specific explanations for levels of training activity.

The idea that the main explanation for 'low' training levels is that employers just don't need to train more chimes with the idea that London is in a 'high skills equilibrium', as discussed in Chapter 5. However, it is less obvious how those factors would explain the trends outlined above, of declining employer investment in training over the past two decades in London and the rest of the UK, and also less investment by UK employers compared to other countries. Why would employers have less need for training than 20 years ago? One possible reason would be that investment from the state and individuals has increased over this period, meaning employers can more easily meet their skill needs by recruiting from the external labour force. Another could be the greater availability of migrant labour, although the evidence is contested. However, these factors are not explored further here.

## Sectors

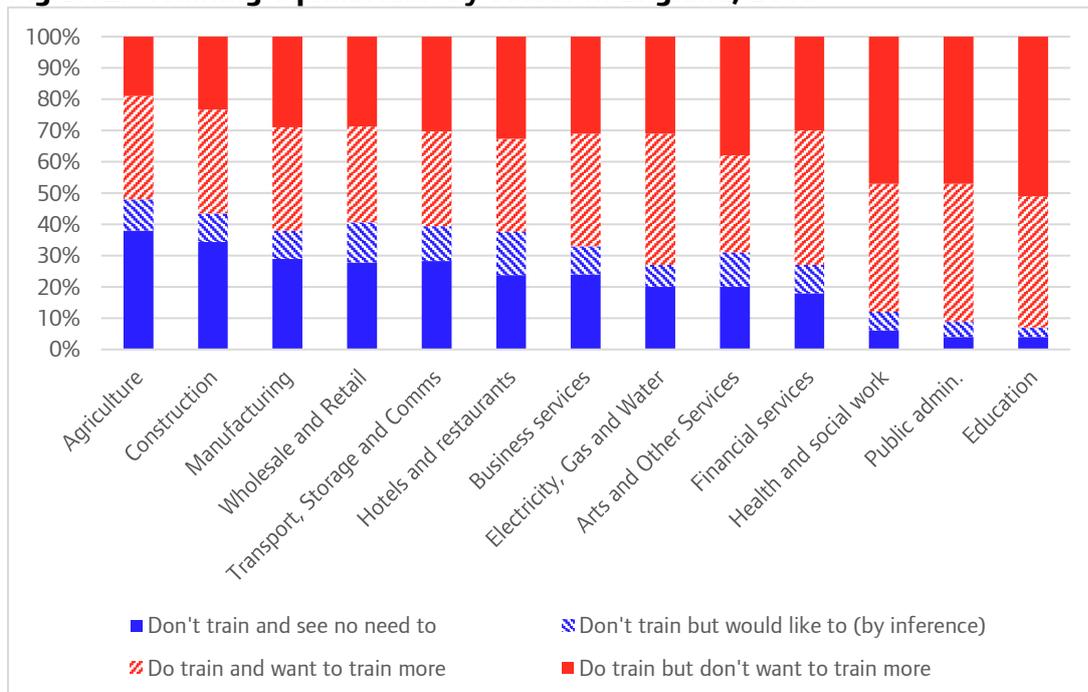
Finally, we can use the ESS to compare reasons for non-training across sectors, but unfortunately again only at the England level. Figure 8.12 provides the training 'equilibrium' breakdown by sector. The solid blue and red bars are those employers who do not see a need for greater training. The blue bars are those that have not trained their staff in the last 12 months and which (by inference) see no need to, which were referred to as 'free riders' above. Such employers are most prevalent (as a proportion of all

employers in the sector) in Agriculture, Construction, and Manufacturing, and least prevalent in the public service sectors of Education, Public Administration and Health and Social Work. There is clear variation across sectors, which suggests that ‘free riding’ as an explanation may be a more important explanation for training levels in some sectors than others.

However, the overall proportion of employers in each sector that do not want to train more (including both those that do and don’t offer training) is actually fairly constant across sectors, varying from 48% in Financial Services (the lowest) to 59% in Transport, Storage and Communications. This does not identify a particular sector in need of policy intervention, with a roughly similar proportion of employers across sectors expressing a desire to increase training activity. However, more research would be needed to understand barriers to training across sectors, as these are likely to be different, prompting different policy responses.

In the middle, with diagonal lines, are the employers that would like to train more. This includes employers who don’t train but would like to (with blue diagonal lines), and employers that do train but would like to train more (with red diagonal lines). These are the employers who may face some ‘barrier’ to investing more in staff training.

**Fig 8.12: ‘Training equilibrium’ by sector in England, 2015**



Employer Skills Survey 2015

Of those that don’t train but would like to train more, the most common reasons for not training (putting aside those employers whose response makes clear they don’t see a need for training), monetary cost is the most common cited reason in most sectors, but this is not a large factor. Of those that would have liked to provide more training, a lack of funds or a lack of staff time are mentioned as the main barriers in all sectors. In most cases lack of funds is given similar or higher importance to a lack of staff resources. The two exceptions are Wholesale and Retail, and Financial Services, where lack of staff time is the main barrier to more training.

## 8.5 Is there a ‘business case’ for investment in skills?

The evidence above suggests there are a significant minority of employers (23% in London) who have not recently offered any training to their staff, and who see no need to offer training. This raises the question, what might persuade these employers that investing in their employees’ skills is worth their while?

If employers are to be persuaded to invest more, they will likely need to believe that there is a business case for them doing so. In theory, funding training can have positive ‘returns’ for a business if it increases labour productivity, and if some of these productivity gains are kept by the firm (as opposed to going to workers in the form of higher pay). A business may also have other aims which skills investment could serve, including reducing staff turnover, and associated costs).<sup>144</sup> However, demonstrating that these positive returns exist is hard. The evidence base on employer returns to investment in skills has historically been ‘patchy’ and unfit for the purpose of persuading employers to increase investment.<sup>145</sup> Cedefop’s 2017 literature review on this subject found that, in contrast to a vast body of evidence on the private and aggregate returns on education, there were only a few rigorous studies on firm-level returns, and that ‘empirical evidence of a long-term return on skills investment for employers ... is limited and often inconclusive’<sup>146</sup>.

Evidencing employer returns to investing in skills is hard in part because it is hard to measure the purported benefits, which could include productivity increases. There are some studies which find a positive return. For example, a 2010 literature review for UKCES concluded that ‘higher level skills are essential to support higher levels of firm performance regardless of sector’ and that ‘skills have been shown to increase chances of firm survival’.<sup>147</sup> The review suggested that gains employers make in productivity outweigh increases in wages by two to five times, suggesting that employers capture most of the gains from increasing productivity.

Other studies have attempted to measure the returns on investing in particular types of workforce training. The Department for Business, Innovation and Skills has conducted ‘net benefits’ studies of apprenticeships, comparing the costs of employing and training an apprentice against the benefits. As above, benefits are hard to measure directly, and the study assumes that wages are equal to productivity increases, and moreover that the wage increase only reflects part of the increase since the employer will have retained some of the productivity improvements. This approach is somewhat circular, given that improvements in productivity is what is trying to be measured. Nevertheless, using this methodology the 2012 report suggests that employers can expect to recoup their investment in their apprentices between 2-3 years in most sectors, and in less than one year in certain sectors (specifically: Transport, Business Administration and Hospitality). The report also notes that businesses may enjoy other benefits besides productivity improvements, including securing future skills supply, increasing retention and reducing staff turnover, providing a source of motivation for staff, and also to meet industry training norms.<sup>148</sup>

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<sup>144</sup> UKCES (2010) The value of skills: an evidence review

[http://webarchive.nationalarchives.gov.uk/20140108094305tf\\_/http://www.ukces.org.uk/publications/er22-the-value-of-skills](http://webarchive.nationalarchives.gov.uk/20140108094305tf_/http://www.ukces.org.uk/publications/er22-the-value-of-skills)

<sup>145</sup> Keep (2002) Review of the evidence on the rate of return to employers of investment in training and employer training measures <http://www.skope.ox.ac.uk/wp-content/uploads/2014/04/SKOPEWP34.pdf>

<sup>146</sup> Cedefop (2017) ‘Investing in skills pays off’

<sup>147</sup> UKCES (2010) The value of skills: an evidence review

[http://webarchive.nationalarchives.gov.uk/20140108094305tf\\_/http://www.ukces.org.uk/publications/er22-the-value-of-skills](http://webarchive.nationalarchives.gov.uk/20140108094305tf_/http://www.ukces.org.uk/publications/er22-the-value-of-skills)

<sup>148</sup> BIS (2012) Employer investment in apprenticeships and workplace learning: the fifth net-benefits study

<https://www.gov.uk/government/publications/employer-investment-in-apprenticeships-and-workplace-learning-the-fifth-net-benefits-of-training-to-employers-study>

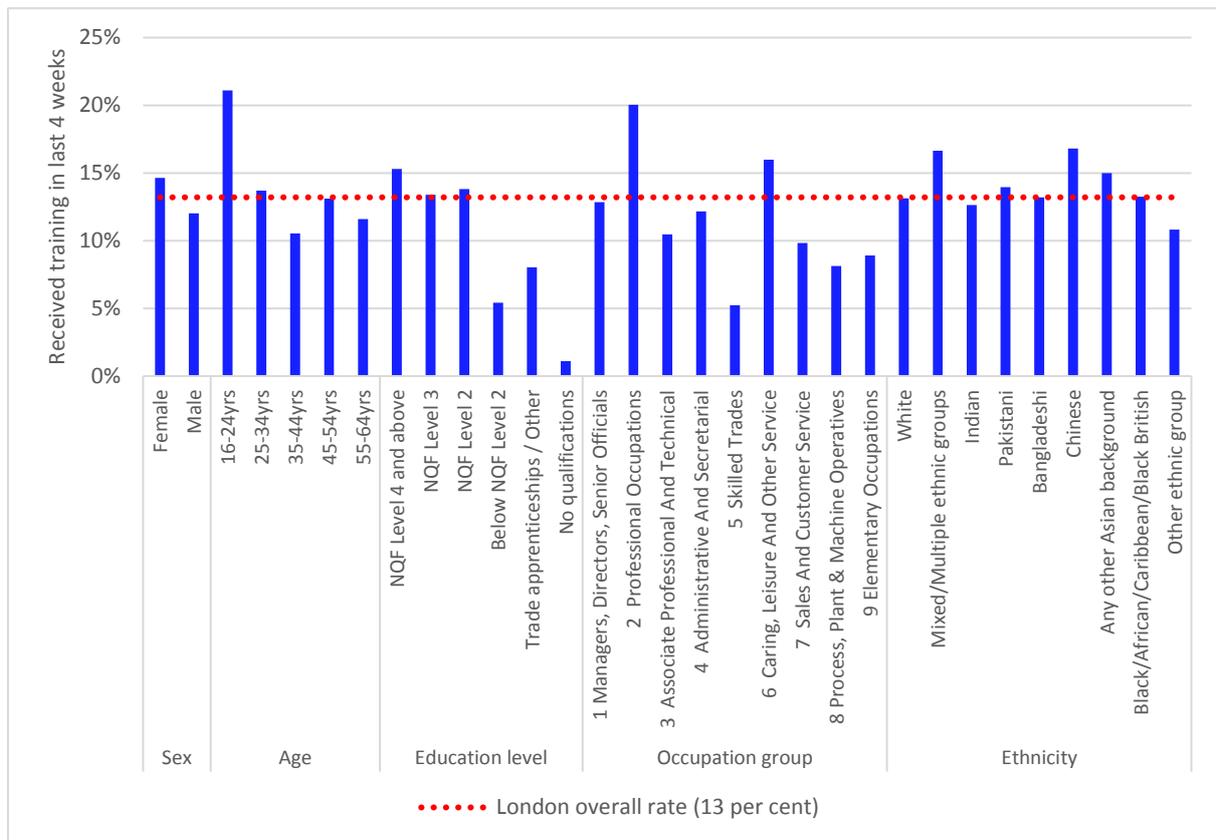
Cedefop's 2017 literature review on this subject does mention a few further papers, one from 2011 showing that in the UK investment in intangible capital stock has a positive effect on labour productivity growth at firm level and firm profitability. However, overall there is surprisingly little evidence on this topic. This makes it harder to make a 'business case' to employers that they should invest (more) in the skills of their workforce.

## 8.6 Inequalities in employer training

As well as varying by the type of business and sector, training activity varies for different groups of employees. Figure 8.13 shows the proportion of employed Londoners that received training in the past four weeks (in the first quarter of 2017). Overall in this period, 13% had received training in the past four weeks. Figure 8.13 breaks training incidence of employed Londoners down by:

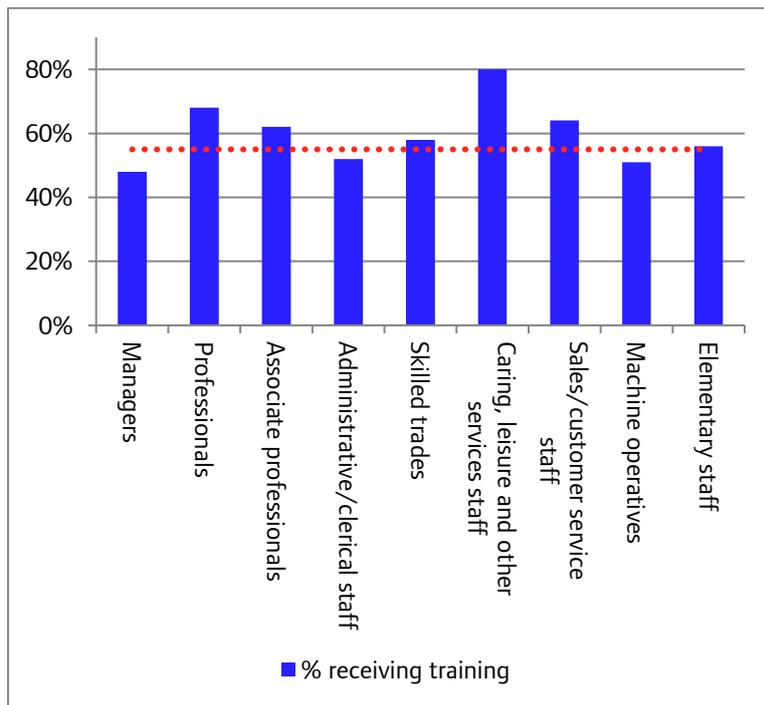
- Gender: training was lower for men - 11% received training, compared to 15% of women,
- Age: training was lower for the 35-44 and 55-64 age groups (11 and 12% had received training) and highest for the 16 to 24 age group (21% had received training).
- Education level: training was lower for those with lower level qualifications. One per cent of those with no qualifications had received training (although, sample size is small for this group), and 5% of those with qualifications at NVQ Level 2 had received training.
- Occupation: people working in some 'lower' occupation groups had lower training incidence. Training was lowest for Skilled Trades (5% had received training), Process, plant and machine operatives (8% had received training), Elementary occupations (9% had received training) and Sales and customer services (10% had received training). Whereas, 20% of people working in Professional occupations had received training.
- Ethnicity: the 'Other' ethnic group had relatively low incidence of training (11%), compared to higher levels for the 'Mixed/Multiple' and Chinese ethnic groups (17%).

**Fig 8.13: Percentage of those in employment in London (age 16 to 64 apart from where specified) that had participated in work related education or training in the past four weeks**



Source: Labour Force Survey, Jan-Mar 2017. Uses variable 'ED4WK'.

In terms of occupation, a somewhat similar pattern is observable at the England level in the 2015 Employer Skills Survey. This shows that a higher proportion of employees received training (over the past 12 months) in the Caring, leisure and other services and Professional occupations as above. However, whereas in the LFS training was lowest among the Skilled trades, here it is lowest among Managers (figure 8.14).

**Fig 8.14: Proportion of employees receiving training, by occupation level, England (2015)**

Employer Skills Survey, 2015

Perhaps the most interesting breakdown from the LFS is the fact that people in work with higher level qualifications are more likely to receive training than people with lower qualifications. The Institute For Fiscal Studies also found this pattern in 2017 analysis of the British Household Panel Survey, which shows that people with university level educations had a relatively high incidence of training compared to those with secondary level education.<sup>149</sup> This is because it suggests that employer training will reinforce existing patterns of inequality in skills and education.

<sup>149</sup> Blundell, IFS (2017) '[Low Wages and Welfare](#)'. Incidentally, this BHPS analysis also confirms the age pattern above, with training incidence declining with age apart from some uplift in people's 40s

## 9 Challenges facing the skills system

### Key points

- The skills system faces a number of challenges, including cuts to funding in some parts of the system (in particular adult education, apart from adult apprenticeships), and substantial policy changes. Initial evidence suggest that the Apprenticeship Levy may have led to a reduction in apprenticeship starts, although this could be a short-term issue.
- There are some examples of ‘market failure’. Both further and higher education are expected (increasingly) to operate on a competitive basis. However, limits to entry and exit in the market, and weak incentives to compete on price and quality, may limit competition.
- There are issues relating to information, with prospective students (particularly in further education) limited in the information available on which to understand and compare learning options. This is exacerbated by the poor quality of the careers advice system.
- Finally, some learners may face particular barriers to learning, in particular relating to finances and time. Parents with childcare costs may especially struggle. There is also a barrier imposed by an individual’s past attainment and experiences with education.

This chapter discusses several challenges facing the skills system. These include funding reductions and policy changes, limits to competition between learning providers and other ‘market failure’ type issues, issues relating to information and decision making, and ‘barriers’ to learning faced by potential learners.

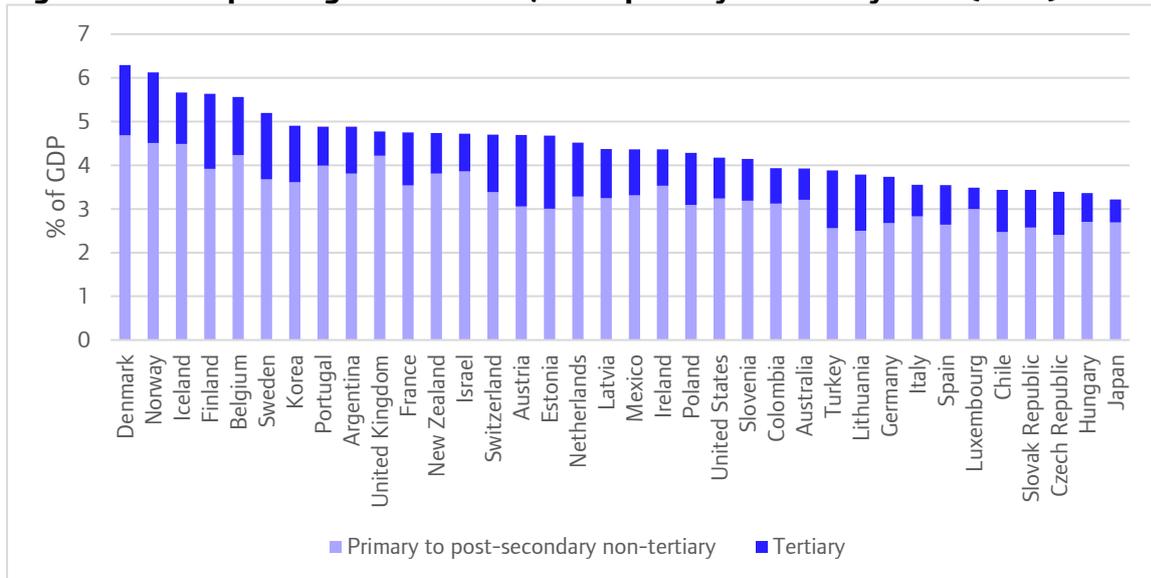
Note that this chapter doesn’t cover all the challenges facing the skill system, since this would be too big a task. After all, ‘the skill system’ can include everything from school education, through to further and higher education, employer training and other adult training. Instead, it highlights the challenges that appear most significant. Moreover, note that some ‘challenges’ have been discussed already in earlier sections. For example, chapter 7 discussed inequalities in education outcomes, as well as London’s relatively low apprenticeship numbers and relatively high non-continuation rate in higher education. Chapter 8 discussed the relatively low levels of employer training in London and the UK.

### 9.1 Funding and policy changes

The further education system has seen reductions in public funding as well as significant policy changes since 2010. Meanwhile, although there have been significant changes in how higher education is funded, with higher tuition fees and cuts to teaching grants, expenditure by UK higher education institutions has increased over this period. This section highlights some of the key funding and policy changes that have taken place in recent years, focusing on changes in further education.

#### Current spending on skills and education in the UK

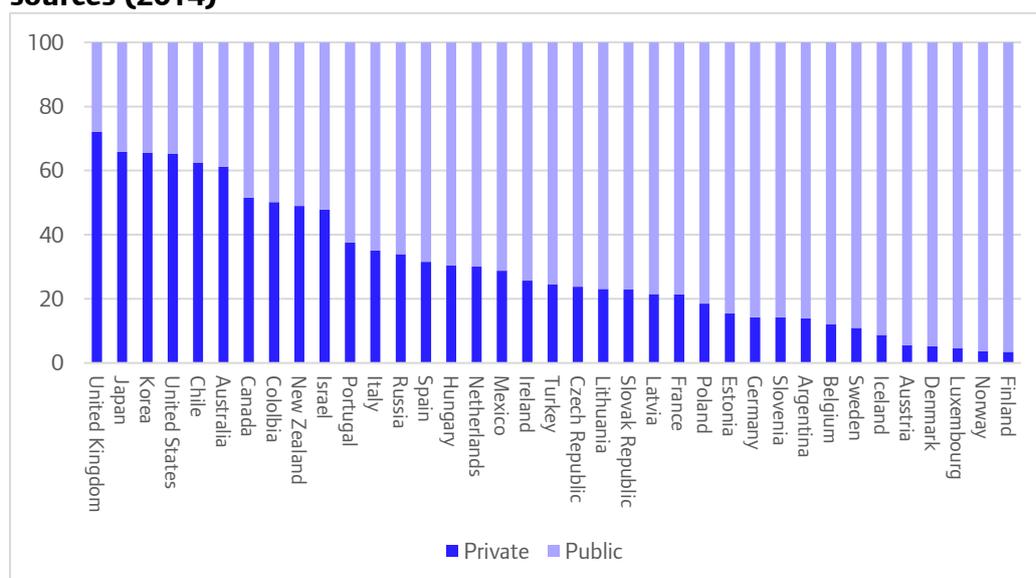
Overall, public spending on education in the UK is relatively high compared to other rich countries. In 2014, public spending on education in the UK amounted to 4.8% of GDP. This was lower than some countries - for example, public spending on education amounted to 6.3 of GDP in Denmark. However, as a proportion of GDP spending in the UK is higher than many other countries in the OECD’s comparator dataset, some of which are associated with good education and skills systems such as Japan and Germany (see figure 9.1).

**Fig 9.1: Public spending on education, from primary to tertiary level (2014)**

Source: OECD, Education at a Glance. 'Primary to post-secondary non-tertiary' refers to ISCED Levels 1-4 (up to A-Level and equivalents in the UK), and 'Tertiary' refers to ISCED Levels 5-8 (above A-Level and equivalents).

Another way of contextualising education spending is as a proportion of public spending (as opposed to as a proportion of GDP). On this measure the UK does slightly worse amongst these countries. In 2014 12.5% of the UK's public spending went to education, which places the UK 16<sup>th</sup> among OECD countries, compared to 10<sup>th</sup> when spending is measured as a proportion of GDP.

It is also worth noting that total spending on education comprises both public and private spending. In the UK a high proportion of spending comes from private sources compared to other countries. This is especially true at the tertiary level, where 72% of spending in the UK is from private sources, the highest in the OECD's comparator dataset (see figure 9.2). The large spending from private sources contributes to high overall spending on tertiary education in the UK. On a spending-per-student basis, the UK spent \$24,500 in 2014, third behind Luxembourg and the United States.

**Fig 9.2: Proportion of spending on tertiary education that is from public and private sources (2014)**

Source: Source: OECD, Education at a Glance. 'Primary to post-secondary non-tertiary' refers to ISCED Levels 1-4 (up to A-Level and equivalents in the UK), and 'Tertiary' refers to ISCED Levels 5-8 (above A-Level and equivalents).

However, while overall spending in the UK is high compared to most countries in the OECD's dataset, the UK spends relatively less on vocational education compared to other countries. At upper secondary level, spending on vocational education amounted to 0.5% of GDP in the UK, compared to 0.6% across the OECD (equivalent to \$11,500 per pupil in the UK, compared to \$10,500 across the OECD). At tertiary level, in 2013 spending on 'short-cycle tertiary' education amounted to 0.1% of GDP in the UK compared to 0.2% across the OECD.<sup>150</sup>

Most public spending on skills is controlled by the Department for Education, to whom spending on further and higher education was transferred in 2015/16. Much of this, including funding for apprenticeships and further education courses, is routed through the Education and Skills Funding Agency (ESFA). Some funding is also provided by the Department for Work and Pensions, for the unemployed and economically inactive.<sup>151</sup>

Data published by the House of Commons library shows that UK public expenditure on education and training fell in the years since 2010/11, in cash terms from £93.5 billion in 2010/11 to £87.2 billion in 2016/17. In real terms this is a 13% fall.<sup>152</sup> However, different parts of the education and skills system have seen different funding changes over this period:

- Funding for **16-19 education** (not including apprenticeships) fell by 17.5% in real terms between 2010/11 and 2016/17 (from £6.39 billion to £5.79 billion).<sup>153</sup> Expenditure on 16-19 further education (including sixth form colleges and general FE colleges) fell by 16.3% over the period, and by 19.6% in school sixth forms.

<sup>150</sup> 2014 data not available for breakdown of tertiary spending in the UK.

<sup>151</sup> Policy Connect (2017) '[Guide to the Skills System](#)'

<sup>152</sup> Data published in: House of Commons Library (2017) '[Social Indicator 2631](#)'. Note, this report shows year-on-year percentage change in education spending in real terms, using Treasury data. These were added together cumulatively to produce the 13% figure used above.

<sup>153</sup> House of Commons Library (2018) '[16-19 education funding in England since 2010](#)'.

On a per-pupil basis, funding fell from £6,046 to £5,639 in sixth form and further education colleges, and from £6,212 to £5,121 in school sixth forms.<sup>154</sup> Note these figures do not include spending on learner support. The period saw the replacement of the Education Maintenance Allowance (worth £555 million in 2010/11) with the less generous 16-19 bursaries (worth £167 million in 2016/17).

Public funding for 16-19 learning is less, on a per-pupil basis, than at either secondary school or higher education learning. In 2017, the national per-student funding rate was £4,000 in 16-19 education (and set to remain so until at least 2019/20), compared to £4,600 for secondary school students (in 2018/19) and maximum tuition fees at university of £9,250 (in 2018/19). Representatives from the sector have argued against the 16-19 'funding dip', noting that it funds 15 hours of tuition time per week, less than what is offered in other leading economies.<sup>155</sup>

- **Higher education** funding (i.e. university education) has undergone significant change in recent years, with the increase in tuition fees and reduced grant funding shifting the funding burden onto individuals. According to the Institute for Fiscal Studies (IFS), 96% of up-front Government support for higher education is now in the form of loans.<sup>156</sup> Overall, funding for higher education institutions has increased, in real terms, every year since 2011/12. In 2015/16 prices, total income for the higher education sector (including both grant funding and from student fees) increased from £9.3 billion to £12.5 billion in 2017/18. Note there was a small drop between 2011/12 and 2012/13, with increases thereafter.<sup>157</sup>
- Overall, public funding for teaching and learning in **adult education** fell between 2010/11 and 2015/16, even accounting for the fact that some grant funding has been replaced by the Advanced Learner Loans<sup>158</sup>. Budget allocations for teaching and learning in adult education (in England) fell from £3.18 billion in 2010/11 to £2.94 billion in 2015/16, a fall of 14% in real terms. Skills Funding Agency (SFA) spending, on the other hand, fell from £3.63 billion to £2.48 billion (a 36% fall in cash terms).

There was variation in the spending allocated to different parts of adult education over this period. Whereas allocations for adult apprenticeships increased (from £0.36 billion to £0.77 billion between 2010/11 and 2015/16, a 100% increase in real terms), allocations in other areas fell. The non-apprenticeships part of Adult Skills Budget, classroom-based further education and non-apprenticeship work based learning, saw allocations fall from £2.48 billion to £1.82 billion (a 31% fall in real terms). Actual spending via the Skills Funding Agency on this part of the Adult Skills Budget fell from £2.50 billion to £1.14 billion (a 54% fall in cash terms). The fall in non-apprenticeship workplace based training was particularly steep, falling by 87% in cash terms to 2014/15 (from £0.74 billion to £0.09 billion). Classroom based further education for adults saw spending fell by 17% over this period, from £1.73 billion in 2010/11 to £1.43 billion in 2014/15. Meanwhile, funding for community learning and offender learning allocations were relatively unchanged over the period, and were worth £216 million and £129 million,

<sup>154</sup> House of Commons Library (2018) '[16-19 education funding in England since 2010](#)'

<sup>155</sup> House of Commons Library (2018) '[16-19 education funding in England since 2010](#)'

<sup>156</sup> Institute for Fiscal Studies (2017) '[Higher Education Funding in England: Past, Present and Options for the Future](#)'

<sup>157</sup> House of Commons Library (2018) '[Higher education funding in England](#)'

<sup>158</sup> 'Adult further education' refers to education for those aged 19 plus apart from higher education. It includes apprenticeships, other workplace learning, classroom based further education, and community and offender learning, as well as (since 2013/14) Advanced Learner Loans.

respectively, in 2015/16. Finally, spending on Advanced Learner Loans, introduced in 2013/14, rose from £116 million in the first year, to £250 million in 2016/17.

The overall trend in adult education is therefore both a substantial shift from grant funding to funding based on learner borrowing (as has been seen in higher education), alongside an overall reduction in funding (unlike higher education). Some elements of adult education funding increased (apprenticeships), while others were stable (community learning and offender learning), and others saw steep reductions (classroom based further education and non-apprenticeship workplace based training).

Note that all the statistics above refer to England overall, not London specifically. This is because, at least until the Adult Education Budget is devolved in 2019/20, funding for skills is not allocated on a per-area basis, and there are no readily available statistics on spending at the regional level<sup>159</sup>. However, London statistics on participation in higher and adult education, set out in chapter 7, reflect the changes to funding at the national level outlined here. The proportion of young people going to university has steadily increased over the past eight years (as has overall funding to higher education institutions). Similarly, in line with funding patterns, in adult education overall participation has gone down, but adult apprenticeship numbers have increased in recent years.

### Policy changes in further education

On top of the reductions in funding outlined above, further education has been subject to a number of policy changes in recent years. These include<sup>160</sup>:

- the creation of Advanced Learner Loans (in 2013/14)
- various changes in eligibility and level of public funding for different learners and courses<sup>161</sup>
- a requirement that students age 16-19 without A\*-C GCSE in English and Maths must continue in those subjects, alongside other changes to study requirements for this age group (in 2014)<sup>162</sup>
- funding for 16-19 education changed from a per-qualification to a per-learner model (in 2014)
- 'Area Reviews', which took place between 2015 and 2017, and reviewed the financial stability of further education providers across 33 areas in England. London was divided into four sub-regions for the purposes of these reviews. The Government expected the reviews would lead to fewer, larger colleges through mergers. And many reviews did recommend college mergers, including the reviews in London.<sup>163</sup> For example, in 2016, colleges in Bexley, Greenwich and Bromley merged to form London South East Colleges.
- the creation of the Apprenticeship Levy (in 2017)

The implementation of the Government's post-16 Skills Plan will see further reforms in the coming years:

- the Adult Education Budget is being devolved to the Greater London Authority and Mayoral Combined Authorities (in 2019/20)
- technical education options will be reconfigured, with students taking 'T-Levels' across 15 occupational 'routes' (in 2020)

<sup>159</sup> Although, these could be computed by aggregating the income and expenditure of individual institutions.

<sup>160</sup> Recent changes outlined in: Department for Education (2017) '[Evaluation of the FE Reform Programme 2015](#)'

<sup>161</sup> The ESFA updates its funding rules on an annual basis, but there have also been changes to the eligibility for Advanced Learner Loans, for example.

<sup>162</sup> More detail is provided in: House of Commons Library (2018) '[Technical Education Reforms](#)'

<sup>163</sup> FE area reviews were published on the [Government website](#)

An evaluation of this reform programme (not including the Apprenticeships Levy and reforms to come) found that, while providers are ‘wearied by the history of change in the sector’, they are broadly supportive of the reforms and their underlying principles. Nevertheless, the reforms were found to be ‘extremely challenging’ to organisational culture, financial budgets and management, and to delivery structures and processes.<sup>164</sup>

This assessment was produced before the Apprenticeships Levy came into force, and so does not comment on the policy. However, this is arguably the most notable of the recent reforms due to its ambition to shift the burden of funding onto employers, whereas other funding reforms have replaced grant funding with learner fees. For this reason, this policy is discussed in more detail.

### The Apprenticeship Levy

The apprenticeships funding system has been overhauled recently, with the introduction in April 2017 of the Apprenticeships Levy<sup>165</sup>. Large employers (with a pay bill above £3 million) now pay a ‘levy’, which is placed in a training account that the employer can spend on apprenticeship training costs. Smaller employers, who don’t pay the levy, are required to pay 10% of training costs.

The government’s contribution towards training costs is mainly allocated based on the type and level of the apprenticeship. Each apprenticeship ‘standard’ and ‘framework’ is attributed a funding level, which is the maximum contribution the government will make<sup>166</sup>. For example, a Level 6 apprenticeship as an Aerospace Engineer (an apprenticeship ‘standard’) is eligible for maximum funding of £27,000, compared to £2,500 for a Level 3 apprenticeship in Licensed Hospitality Management (an apprenticeship ‘framework’).

There are also extra contributions if the learner is age 16 to 18, or age 19 to 23 and who has previously been in care or who has a Local Authority Education, Health and Care plan. For both these groups, the employer and provider receive an additional £1,000. For the 16 to 18 age group providers are also paid an additional 20% of the funding band amount.

Although the system has been in place for a year, there is as yet only limited data on which to assess its impact. The latest data on apprenticeships available on the government’s FE data library (at the time of writing – March 2018) is for the second academic quarter of 2017/18, which covers up to January 2018, nine months after the scheme’s introduction<sup>167</sup>. Unfortunately data for the second-quarter of the previous year does not appear to be available on the FE Data Library, but there is data for the first quarter of the previous year<sup>168</sup>.

Comparing the number of apprenticeships starts in the first academic quarter of 2016/17 (the three months to October 2017) with the same quarter the next year (the three months to October 2018) suggests there has been a fall. There were 9,860 starts in London in Q1 2017/18, compared to 12,460 in 2016/17 (a fall of 21%). There was a larger (26%) fall in apprenticeship starts in the rest of England, from 143,840 in Q1 2016/17 to 104,520 in Q1 2017/18. A firmer assessment of the impact of the

<sup>164</sup> Department for Education (2017) ‘[Evaluation of the FE Reform Programme 2015](#)’

<sup>165</sup> Department for Education (2016) ‘[Apprenticeship funding in England from May 2017](#)’

<sup>166</sup> ESFA (2018) ‘[Apprenticeship funding bands](#)’

<sup>167</sup> See ‘Apprenticeships geography and sector subject area PivotTable tool: starts and achievements Q2 2017 to 2018’ and ‘Apprenticeships geography and sector subject area PivotTable tool: starts and achievements Q1 2017 to 2018’ on FE data library: <https://www.gov.uk/government/statistical-data-sets/fe-data-library-apprenticeships>

<sup>168</sup> See ‘Apprenticeships by geography, equality & diversity and sector subject area: starts 2002/02 to Q1 2016/17’ on the FE data library: <https://www.gov.uk/government/statistical-data-sets/fe-data-library-apprenticeships>

Apprenticeship Levy on apprenticeship numbers, as well as on trends in terms of age, level and subject area will be possible when more data becomes available.

## 9.2 Market failure

In some respects, the skills system resembles a 'market' (in economic terms), because individuals (and employers) can choose between different providers, with funding following these choices. Providers are therefore 'competing' with one another for customers, which in theory provides an incentive to better meet learners' and employers' needs, and more generally to improve quality and/or lower costs. Because the skill system has these 'market' features, some challenges facing the system can be described as 'market failures', which is the term used in economics when a market is not operating effectively.<sup>169</sup>

Although the systems are different in many respects there are some common issues across higher and further education (for example barriers to entry and exit, and a lack of competition on price). Furthermore it is worth noting that even *within* these systems there are areas that resemble a market to a greater and lesser extent. For example, a guide to further education by Policy Connect suggests it can be viewed as 'two overlapping systems', a private system led and funded by employers and individuals which meet market need, and a public system supported and funded by government focused on wider social and economic aims.<sup>170</sup>

This section discusses the evidence of market failures in higher and further education, as well as some negative aspects of having a market-oriented system. Unfortunately, the literature on market failures in the skills system has been described as 'weak', in particular relating to how market failures affect different types of individuals and employers.<sup>171</sup> This means it is hard to quantify the impact of these different issues, or to design appropriate policy responses.

### Higher education

In higher education, recent governments have tried to introduce greater market forces to the sector. A key change was the increase in tuition fees and the reduction in grant funding, which means a greater proportion of up front funding now 'follows' student choices - 85% in 2017/18, compared to 23% a decade ago<sup>172</sup>. Further reforms in 2017 saw the creation of a new regulator (the Office for Students) with greater emphasis on competition, choice and graduate outcomes.

In 2017 the National Audit Office (NAO) reviewed the higher education market, and concluded that 'it has a number of points of failure'<sup>173</sup>. These include:

- No meaningful price competition between providers. In 2016, 87 of the 'top' 90 English universities charged the maximum possible tuition fees. The NAO suggest this is because price is used as a proxy measure for quality, and providers do not want to signal poor quality by lowering prices. NAO also point out that in higher education the seller (the provider) 'chooses' the buyer, unlike in most markets.

<sup>169</sup> Note that several issues raised in this chapter could potentially be framed as market failures. For example, perfect competition, the conditions under which economic theory says a market delivers 'efficient' outcomes, requires that participants are all perfectly (and equally) informed, and perfectly rational in their decision making. Arguably, therefore, information problems discussed in the next section could be framed as a type of market failure. However, these issues would also apply under a non-market system; even under a system without competition between providers individuals and employers would still need information to make good learning decisions. These and other issues are therefore discussed separately, because they are broader than market failures, even if they could be framed as such.

<sup>170</sup> Policy Connect (2015) '[Guide to the Skills System](#)'

<sup>171</sup> Keep (2016) '[Market Failure in Skills](#)'

<sup>172</sup> National Audit Office (2017) '[The higher education market](#)'

<sup>173</sup> Amyas Morse, head of National Audit Office (December 2017), in introduction to: '[The higher education market](#)'

- Providers have weak incentives to compete for students on course quality, as there is little relationship between quality and student numbers (and therefore tuition fee income). Moving five places up a 'well-known' league table (NAO do not say which), only increases student numbers by 0.25% on average.
- Instead, providers appear to be competing on the basis of investment in facilities (capital investment in HE has increased since 2011/12, which the NAO argue may be of 'little overall benefit to educational quality'), and by spending on marketing.
- Learners lack good information on which to compare providers and courses, and what information exists. Issues relating to information is discussed in more detail in section 9.3.
- It is not extensively discussed in the NAO report, but barriers to entry and exit are likely to be significant in higher education, for example relating to the sunk costs involved in setting up a new institution, and in the importance of reputation in attracting students. The government's recent reforms which, for example, make it easier for new institutions to get degree awarding powers and permission to call themselves universities, seek to increase entry<sup>174</sup>.

### Further education

Providers also 'compete' for learners in further education, and as with higher education there is evidence of market failure. A 2016 report by the Department for Business, Innovation and Skills on the further education market outlined a number of market failures<sup>175</sup>:

- Lack of competition on price. As with higher education, many further education providers do not compete on the price of their services, but rather on the quality and relevance of their provision. Some may not 'compete' with others at all; and in some parts of the market where providers are selective, providers choose learners.
- Compared to higher education, where it is common to move to study, learners' choices in further education are localised, with 70% traveling less than 10km from their home to the site of the provider, and 50% traveling less than 6km. This may limit the effective choice available, meaning providers have fewer effective competitors. However, only 20-30% of learners use their nearest provider, suggesting they are still exercising some choice. Furthermore, there are a large number of providers in London, so it seems likely that choice 'localisation' is less of an issue than elsewhere in the country.
- The complexity of the further education market (with many types of qualification, modes of provision and type of provider) may inhibit competition by making it harder for learners to find directly comparable options. The BIS report finds that while there is generally good choice available for general courses, this is not true for specialist courses. On the other hand, however, the sheer quantity of further education providers may work in the other direction. In London there are approximately ten times as many further education as higher education providers, suggesting learners in FE may have more choices than HE learners, especially for general courses<sup>176</sup>.
- Barriers to entry and exit. As with higher education, there are obvious large costs to setting up a new learning provider. However, the BIS report suggests the funding system may also limit entry and exit, with direct contracts 'rolled on' as long as providers are meeting minimum standards.
- Many learners do not pay to learn, and some are participating in learning because they are required to do so by government programmes (for example, as a result of JobCentre Plus

<sup>174</sup> Department for Business, Innovation and Skills (2016) '[Higher education: success as a knowledge economy – white paper](#)'

<sup>175</sup> Department for Business, Innovation and Skills (2016) '[Understanding the further education market](#)'

<sup>176</sup> In 2016/17 there were 307 FE providers in London and 39 higher education providers, according to Department for Education data.

referrals). Both these factors may reduce the desire or ability to be ‘active consumers’, and exercise choice.

However, despite these issues, the BIS report did find that further education was considered to work well in some respects, with most providers ‘very responsive to employers, learners and policy’ and able to adapt their offer, and with learners exercising some choice.

Finally, it is worth noting that there are also downsides to greater competition. For example, if rates of entry and exit in the market were increased, this could have negative consequences for students. As well as the obvious risks to students of institutional failure, the NAO report notes that it is unclear what value degrees would have from new higher education institutions with probationary degree-awarding powers (as is intended in the government’s reforms)<sup>177</sup>. Moreover, a more unstable system with high entry and exit might discourage prospective learners from embarking on courses in the first place.

Other downsides to competition (or really, of having a market-based approach, rather than the fact of having high levels of competition within a market-based system) are the effect this has on the ability to coordinate provision and to plan for the longer-term. Under a market-oriented system policy makers can influence what courses are undertaken by setting financial subsidies and incentives to reflect their priorities.

However, this is not easy to get right. For example, in higher education, the fact that tuition fees are mostly flat means that providers face a disincentive to offer courses that involve higher costs. The government tries to correct for this by offering grant funding for teaching courses that have higher costs, such as courses in the sciences. However, according to the NAO’s report, the grants the government provides for high-cost courses do not adequately cover costs in some cases, meaning providers are disincentivised from providing these. Apparently, say the NAO, this has resulted in ‘significant gaps’ in priority areas such as engineering and technology<sup>178</sup>.

Similarly, in further education there is some evidence that the financial and regulatory incentives faced by providers encourage the provision of lower level, shorter courses – ‘easier’ courses that individuals are most likely to complete, as opposed to the courses that would be most valuable for them<sup>179</sup>. In 2011 Alison Wolf argued that because of funding on a per-qualification basis, many students were placed on courses that have ‘little to no labour market value’, with 35,000 students getting ‘little to no benefit from the post-16 education system’.<sup>180</sup> In response to this, in 2013/14 the funding for 16-19 education was changed, so that providers are funded on a per-student rather than a per-qualification basis<sup>181</sup>. There does not appear to have been any similar change in the funding of adult further education.

Apart from the challenge policy makers face of setting up funding and regulatory systems that incentivise providers and learners to undertake the ‘right’ courses, ultimately learners and providers are free to choose what to study and what courses to offer. Policy makers’ influence over skills supply under a market-led system is necessarily limited. This is (arguably) a negative feature, since policy makers may be better placed than individuals or providers to anticipate future skills needs, or to spot current skill needs the market is not meeting.

<sup>177</sup> National Audit Office (2017) [‘The higher education market’](#)

<sup>178</sup> National Audit Office (2017) [‘The higher education market’](#)

<sup>179</sup> See discussion in fourth chapter of: IPPR (2017) [‘Skills 2030’](#)

<sup>180</sup> Alison Wolf (2011) [‘Review of vocational education: the Wolf report’](#)

<sup>181</sup> House of Commons Library (2018) [‘16-19 education funding in England since 2010’](#)

Finally, another downside to a market-based system is that the emphasis on providers being ‘responsive’ to learner and employer needs implies a reactive rather than proactive system. In practical terms, providers may be less able to plan long term, for example to meet new developments in the system, such as the introduction of T-levels in 2020<sup>182</sup>.

### 9.3 Issues relating to information

One important set of issues relates to information. Actors within the skills system (individuals, providers, employers) need various types of information to make good decisions (about what to study, about what courses to offer, and about what training to invest in). Where this information is lacking this is liable to lead to suboptimal decision making. A recent report by the Centre for Progressive Policy (CPP) suggests prospective learners, policy makers and employers all face an information ‘deficit’ when it comes to skills.<sup>183</sup>

There are two key information failures highlighted in the CPP report. The first is that individuals are poorly informed about the wage returns associated with different qualifications. They challenge the ‘myth’ that higher education necessarily leads to higher earnings than technical qualifications, and estimate that every year 90,000 higher graduates would have found higher earnings by pursuing a technical education instead. This is related to the sections that follow, which discuss information shortages facing prospective learners, affecting their ability to understand and assess learning and career options.

A second failure highlighted in CPP’s report is broad, and speaks to policy makers’ ability to compare supply and demand in skills. CPP suggest that policy makers lack an understanding of demand and supply because they lack appropriate data, particularly at the local level. They suggest that policy makers should compare the number of local vacancies in a particular occupation against the number of relevant courses being completed, and that where course completions fall short of vacancies, supply is failing to meet demand.

One reason such analysis is hard is that demand and supply of skills are not measures in the same way. Demand for skills is typically measured in terms of occupations, whereas skill supply is typically measured in terms of qualifications, and there is not necessarily a straightforward ‘map’ of one to the other. In some cases there is a clear relationship between occupations and qualifications. Nursing, teaching, and dentistry, are occupations that can be easily ‘mapped’ to qualifications, since those occupations require people that have specific qualifications. However, there are many occupations which do not tend to require a specific qualification, and so it is not obvious how to ‘map’ these occupations onto qualifications, and therefore how to assess whether there is a ‘gap’ (or ‘shortage’, or ‘mismatch’) in what the skill system is producing.

Any assessments about skill gaps are therefore highly sensitive to how the ‘map’ is constructed. If the occupation-qualification groups are defined too narrowly, this may overstate skill ‘gaps’, since demand could be met by people with similar qualifications. On the other hand, if occupation-qualification groups are defined too broadly, this may understate the extent of skill ‘gaps’ since not all the qualifications within the group actually constitute adequate supply. Nevertheless, CPP do use such a ‘map’, for ‘technical’ occupations and qualifications, in their report, and use this to examine skills shortages for Local Enterprise Partnership areas. Similarly, a similar ‘map’ is central to the 15 technical occupation

<sup>182</sup> This point was made by Ewart Keep in an April 2018 [article](#) in FE week

<sup>183</sup> Centre for Progressive Policy (2018) [‘The Data Deficit: Why a lack of information undermines the UK skills system’](#)

routes that will underpin future ‘T levels’, which is being developed by the Institute for Apprenticeships on behalf of the government<sup>184</sup>.

Difficulties in pinning down the relationship between occupations and qualifications are exacerbated by the fact that many labour markets (especially London’s) are dynamic, with movement between occupations and industries, and into and out of the locality. This means that even if a clear mismatch exists between local vacancies and courses being undertaken, this is not necessarily a problem if the demand can be met from other sources, such as migrants into the area, or moves between jobs within the local labour market.

### Information about learning options

The remainder of this section on information failures discusses issues facing prospective learners. Prospective learners need information about the available learning options – both in terms of what their options are, but also information on which to judge the relative quality of the options available. This section discusses these in relation to both higher and further education.

### Awareness of options

Partly this is a set of (relatively) simple information about what courses are available and where, and information about these courses and their entry requirements, and so on. Even here, however, there are challenges, due to the number of options available, a particular problem in technical education. For example, the Sainsbury Review of technical education found that there are currently over 13,000 different qualifications available for 16 to 18 year olds, and that the system is ‘extraordinarily complex and opaque by European and international standards’.<sup>185</sup> Students pursuing technical education must also choose between work- and classroom-based education.

As well as selecting a course, in both technical and academic pathways students must choose from a wide range of providers. In 2016/17 there were 307 further education providers in London. The largest of these are the 76 Further Education Colleges (with 312,940 students in total, 4,120 each on average), and the 13 sixth form colleges (with 51,910 students in total, 3,990 each on average)<sup>186</sup>. In addition, in 2016/17 there were 39 higher education institutions in London. These also vary in size, from University College London (with 37,905 students), down to 8 institutions that have fewer than 1,000 students<sup>187</sup>.

Finally, as well as information about the different courses and providers available, learners also need some knowledge about the admissions and funding system, to enable them to access learning. In the case of higher education the process is reasonably well understood, with UCAS providing a centralised admissions process (although, research suggests that pupils from disadvantaged backgrounds may find this system harder to navigate<sup>188</sup>). There is no such centralised service when it comes to further education, although there are services that help individuals find courses, both for further education

<sup>184</sup> Institute for Apprenticeships: Occupational Maps: <https://consult.education.gov.uk/apprenticeships/institute-for-apprenticeships-occupational-maps/>

<sup>185</sup> Sainsbury Review of technical education <https://www.gov.uk/government/publications/post-16-skills-plan-and-independent-report-on-technical-education>

<sup>186</sup> According to the FE achievement rate tables published by the Department for Education: <https://www.gov.uk/government/statistics/national-achievement-rates-tables-2016-to-2017>

<sup>187</sup> According to HESA data:

<sup>188</sup> Sutton Trust (2017) ‘[Rules of the Game: Disadvantaged students and the university admissions process](#)’

courses overall (via the ‘National Careers Service’<sup>189</sup>) and apprenticeships specifically (via the ‘Find an apprenticeship’ service<sup>190</sup>).

Furthermore, given the recent creation and expansion of Advanced Learner Loans, students should also have some knowledge of this system, given some may rely on these loans to fund their study. Research one year into the existence of the loans found that most learners (64%) were not aware of these loans when they first started thinking about studying, although this may have improved since then<sup>191</sup>.

### Assessing quality

Even if individuals are aware of the available learning options, they also face the task of choosing between these learning options, and also of weighing these against non-study options. This involves some assessment of the relative costs and benefits of different learning options, but often the information to make these assessments is not readily available.

In higher education there is a variety of data available on which to compare the quality of providers and courses, in part because the government sees this as central to its drive to increase competition and choice in the sector<sup>192</sup>. Certainly, compared to further education, there is a greater range of data and it is more easily available. The two main ways of accessing such data are the Teaching Excellence Framework (TEF)<sup>193</sup> and the ‘Unistats’ website<sup>194</sup>. Both draw on similar data sources:

- the National Student Survey (which asks final year undergraduates about teaching quality, academic support, overall satisfaction, among other things),
- administrative data on student attainment and retention,
- and the Higher Education Statistics Survey of graduates, which provides information on graduate destinations.

TEF assigns universities an ‘award’ (of gold, silver, or bronze), based on a selection of measures from these sources, including measures of teaching quality, student support, and graduate outcomes. This has the benefit that institutions can be easily compared without delving into the data.<sup>195</sup> However, the metrics underlying these awards are also published, which provides a rich source of data. Figure 9.3 shows the awards higher education institutions received in the second year of the TEF. Of 36 higher education institutions in the dataset in London, seven received a ‘gold’ award, 18 received a ‘silver’ award, and 11 a ‘bronze’ award. The proportion of London institutions receiving a ‘gold’ award (7 out of 36 - 19%) was slightly lower than the overall figure for the UK (25%).

<sup>189</sup> See: <https://nationalcareersservice.direct.gov.uk/course-directory/home>

<sup>190</sup> See: <https://www.findapprenticeship.service.gov.uk/apprenticeshipsearch>

<sup>191</sup> Department for Business, Innovation and Skills (2016) ‘24+ Advanced Learning Loans: assessment of the first year’

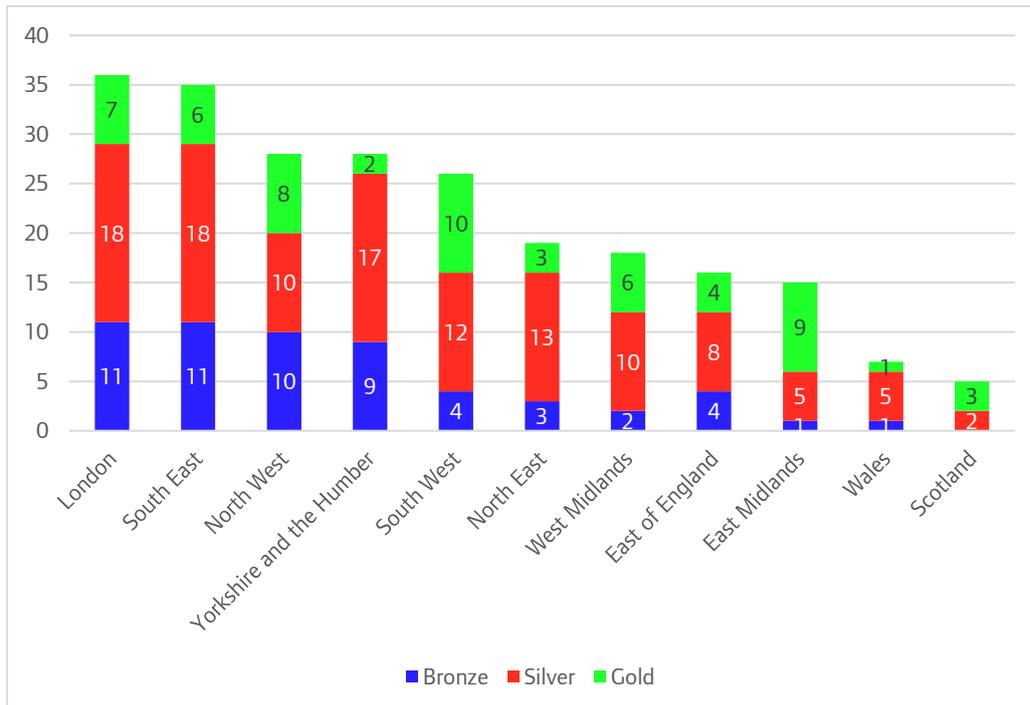
<sup>192</sup> Department for Business, Innovation and Skills (2016) ‘Success as a Knowledge Economy: Teaching Excellence, Social Mobility and Student Choice’

<sup>193</sup> Office for Students, Teaching Excellence Framework data: <https://www.officeforstudents.org.uk/advice-and-guidance/teaching/tef-data/get-the-data/>

<sup>194</sup> ‘Unistats’ website: <https://unistats.ac.uk/>

<sup>195</sup> These awards matter as in future they will affect the maximum tuition fees universities can charge. The award takes into account contextual information about the student population, including gender, age, ethnicity, a proxy for prior attainment, and subject of study. Universities are given ‘benchmark’ scores, which are the outcomes the universities would be ‘expected’ to achieve given their student population. However, it has been argued that the awards fail to take into account some relevant factors which influence outcomes, such as region of domicile, social disadvantage, disability, and type of degree. See discussion in 2016 ‘Wonkhe’ blog: ‘Three important questions about TEF metrics’.

**Fig 9.3: Higher education institutions by award given in Teaching Excellence Framework year 2 (2015/16)**

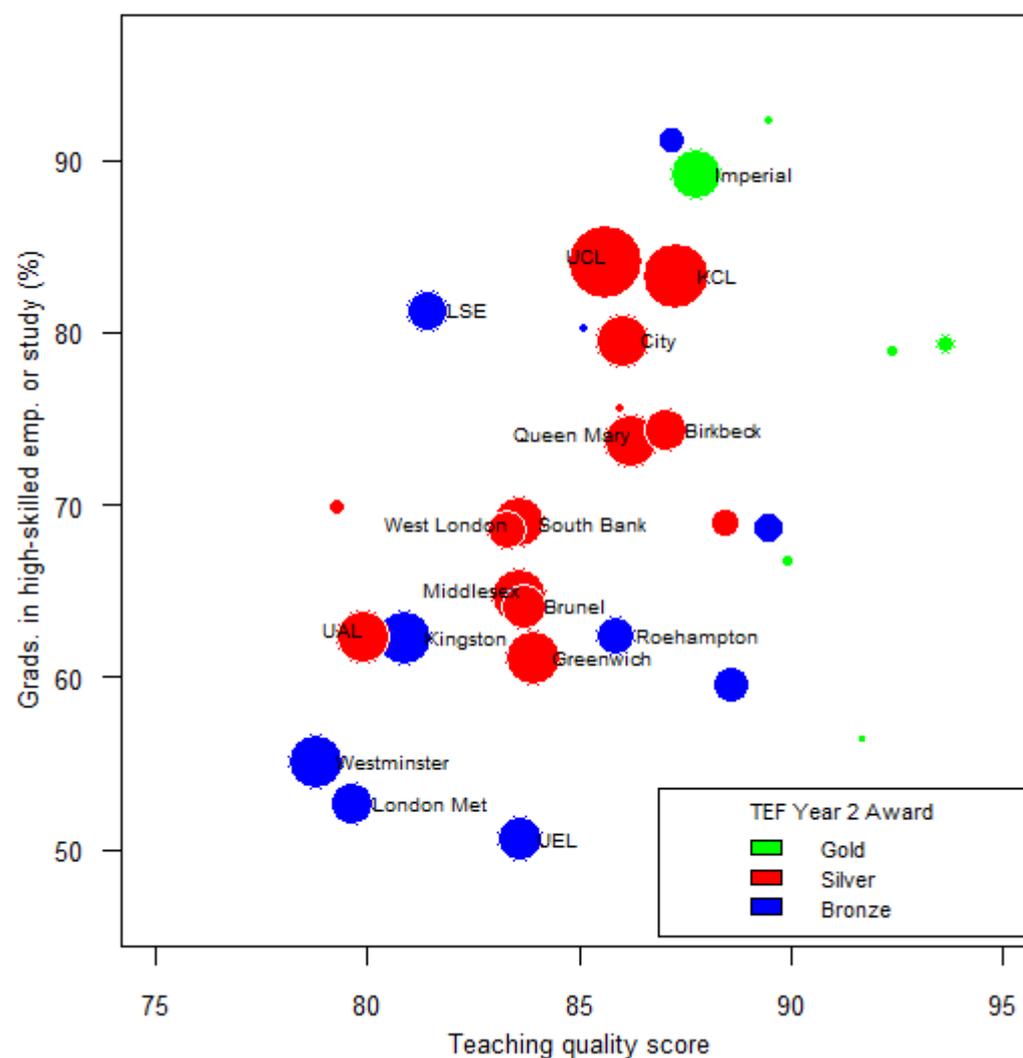


Source: Hefce TEF Year 2

To give an example of the comparisons that are possible with the underlying metrics in TEF, Figure 9.4 shows London higher education institutions and their overall award in TEF year 2, along with two metrics: the quality of teaching score, and the proportion of graduates in ‘high skilled’ employment or further study six months after graduation. The size of each university (as measured by the number of students) is indicated by the size of the bubbles. Figure 9.4 shows that both in terms of teaching quality (based on student surveys) and graduate outcomes, there is a range across London universities. For example, looking at the larger universities, Imperial College was awarded a ‘Gold’ award in TEF Year 2 and scored well on both graduate outcomes and teaching quality. Whereas the University of Westminster and London Metropolitan University both received a ‘Bronze’ award, and had low scores. It is notable that Imperial was the only ‘large’ London university to receive a ‘Gold’ TEF award. Another notable result is that the London School of Economics, a Russell Group university, and ranked 25<sup>th</sup> best university in the world in 2018<sup>196</sup>, was given a ‘Bronze’ award, with a relatively low score for teaching quality.

<sup>196</sup> Times Higher Education (2018) ‘[World University Rankings](#)’

**Fig 9.4: London higher education institutions by two TEF metrics (teaching score, and graduate outcomes), TEF award, and size**



Notes: bubble size corresponds to the number of students at the university. Universities with > 10,000 students are labelled. Only universities with data available across all fields shown (this removes Chicken Shed, Royal College of Music, London Studio Centre Ltd, the British School of Osteopathy, and Kingston College). X-axis cropped for clarity (this removes Courtauld Institute of Art). The 'teaching on my course' score is based on average agreement with four questions in the National Students Survey. Full details available in [Annex E of the TEF guidance](#). Source: Office for Students.

As mentioned above, in addition to TEF there is the 'Unistats' website. This publishes data from a similar range of sources to TEF, although unlike TEF comparisons are available for specific courses at each provider<sup>197</sup>. The website enables comparison of undergraduate courses as taught at different providers. For example, one can compare data on the Bsc (Hons) Chemistry degree as taught in London Metropolitan University and Queen Mary University. Comparison measures include:

- Student satisfaction (and other measures from the National Student Survey)
- Graduate destinations and salaries, after six months and 3.5 years
- Completion rates and level of attainment
- The prior attainment of students doing the course, and UCAS Tariff scores

<sup>197</sup> Note that in future years TEF will be expanded to cover courses as well. See: <http://www.hefce.ac.uk/news/newsarchive/2018/Name,116509,en.html>

In higher education, therefore, there is a rich range of data on which to compare providers. In further education, there is data available on which to compare providers, but it is less extensive, and seemingly less easily accessible than higher education data.

One source is the ‘Achievement rates’ tables published by the Department for Education, which cover both apprenticeships and classroom-based further education<sup>198</sup>. Three metrics published: the overall achievement rate, the pass rate, and the retention rate. Data is available at the institution level, and a number of breakdowns are available, including learner characteristics (ethnicity, gender, age, and disability) and the type of qualification (breakdowns are available by qualification level, sector subject area).

This data does provide some basis on which to compare institutions, as overall there is substantial variation in the metrics. For example, focusing on the non-apprenticeship part of the data, in 2016/17 out of 307 further education providers in London there were 64 institutions with an overall achievement rate above 95%, and 32 with an overall achievement rate of below 50%. Similarly, 20 institutions had a retention rate of 50% or below, and 38 institutions had an achievement rate of 100%. This suggests the data is good at showing a difference between well- and poorly-performing institutions.

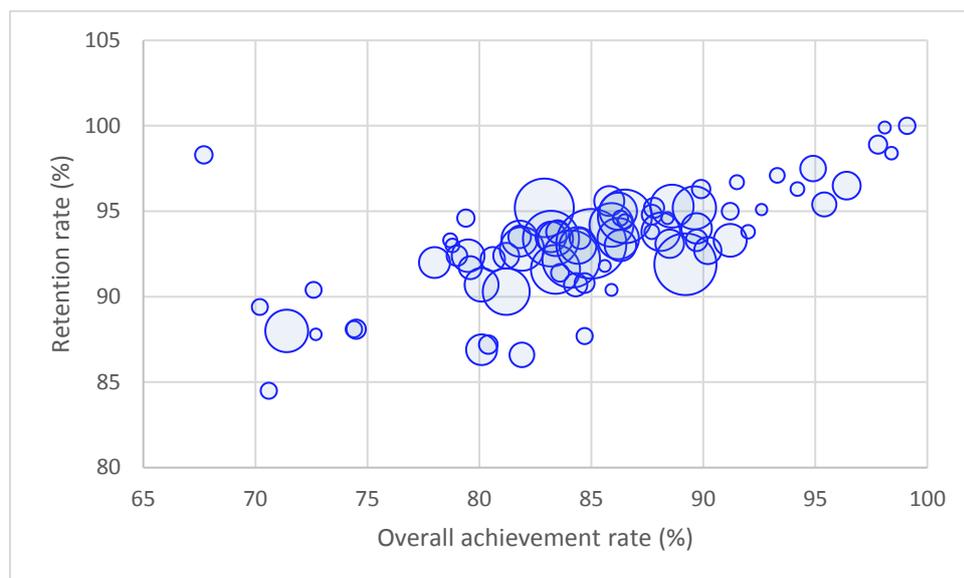
However, much of this variation is due to the presence of very small providers (while the 10 largest institutions make up a third of the total student cohort, there is a long tail of smaller providers. Out of the 307 London providers, 228 had fewer than 1,000 students, and 121 institutions had fewer than 100 students). Smaller institutions will naturally offer a smaller range of courses, and so many students will primarily be deciding between the larger providers. Looking at just the larger providers, the variation in the metrics is smaller. This is a good thing in that it suggests the worst performing institutions are still doing reasonably well. However, it means the data is less good at distinguishing well- from poorly-performing institutions.

Figure 9.5 shows the overall achievement rate and pass rates at the 78 London further education providers that had more than 1,000 students in 2016/17. The size of the bubbles indicates the size, in cohort, of the institutions. The data shows that most of these larger providers are clustered together, with overall achievement rates between 80 and 90%. Institutions are even more closely clustered in their retention rate, with most institutions showing a retention rate of between 90 and 95%. This means it may be harder, on the basis of this data, to assess the relative quality of the different institutions. However, as noted above, the data is available on a highly granular level, with the option to compare institutions’ achievement rates for specific types of qualifications, and for specific groups of learners. This might provide a more informative comparison.

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<sup>198</sup> Achievement rate tables are published at: Department for Education (2018) [‘National Achievement rates tables 2016 to 2017’](#)

**Fig 9.5: Achievement rate and pass rate at London further education providers with more than 1,000 students, 2016/17**



Source: National Achievement Rate Tables, 'Education and Training' (i.e. does not refer to apprenticeships). Axes are cropped for clarity, which removes 2 providers from the figure.

Another source of information on provider quality is available from Ofsted, who inspect further education providers and publish the outcomes<sup>199</sup>. There is some detail available in the data. As well as 'overall effectiveness', institutions are also scored on 'outcomes for learners', quality of teaching, learning and assessment, personal development, behaviour and welfare, and effectiveness of leadership and management. These scores are all published, and as with the achievement rates tables provide some basis on which to compare institutions. For example, of the 64 providers in London in Ofsted's dataset with more than 1,000 students, and for whom data is available, six institutions were awarded an 'overall effectiveness' score of 1 ('outstanding'), 44 a score of 2 ('good'), and 14 a score of 3 ('requires improvement'). No large providers received a score of 4 ('inadequate').<sup>200</sup> However, there are limitations of this data. One is that institutions are not assessed separately for different types of qualifications or courses. Secondly, some of the inspections are quite old. The inspection for the largest provider in London, 'Capital City College Group' (now 'WKCIC colleges'), was undertaken in 2011.

One further source of data is the 'Find and compare schools in England' website<sup>201</sup>. This only covers education up to age 18, and so cannot be considered a resource for all further education. However, for the 16-18 element of further education it provides a number of performance indicators for providers, and enables easy side-by-side comparison. Indicators include the average attainment for different types of qualification (but not specific courses), and students' destinations two terms after finishing this period of study (specifically, whether in employment or further study).

Overall, therefore, individuals pursuing further education are much less well served when it comes to information on which to compare learning options. Higher education courses and providers may be compared on the basis of student satisfaction (across various domains), earnings and specific employment destinations of leavers. This is not possible in further education. Some comparisons are

<sup>199</sup> Ofsted FE inspection data published at <https://www.gov.uk/government/statistical-data-sets/monthly-management-information-ofsted-further-education-and-skills-inspections-outcomes-from-december-2015>

<sup>200</sup> Note – Ofsted data was matched to DfE's achievement rate tables using the provider UKPRN to find cohort size, but this only produced a match for 149 of the 242 London institutions in Ofsted's dataset.

<sup>201</sup> Website: <https://www.gov.uk/school-performance-tables>

possible at the provider level, for example on the basis of pass and retention rates, and for 16 to 18 further education study there is some limited information on student destinations. But relative to higher education, information on which to assess learning options in further education is poor.

In addition to the availability of data (which in further education, at least, is poor), students must actually access and use the data for it to contribute to their decision making. In higher education the TEF and 'Unistats' in theory provide good accessibility to information by collating data in one place, by providing summary 'awards' (in the case of TEF), and by enabling easy side-by-side comparison (in the case of 'Unistats'). However, in 2015 Hefce found that only 20% of prospective students were using the 'Unistats' website, although 97% of those that did use it found it useful<sup>202</sup>.

Finally, and potentially a more significant issue is that, even if there was high quality and accessible data on the *relative* quality of different providers and qualifications, individuals may still lack an understanding of the benefits of undertaking different learning options, and therefore an ability to weigh these against the costs. There is some data available on learning outcomes. For example, one of the TEF measures is the proportion of graduates in high skilled employment six months after graduation, and in the past the government has commissioned work estimating the economic benefits associated with both higher education<sup>203</sup> and vocational qualifications<sup>204</sup>. However, these measures are limited. For one thing, the estimates of 'returns' are fairly broad – they do not apply to specific institutions or to specific courses, which might be useful for individuals. They also do not allow easy comparison between further and higher education, meaning a 'myth' persists that higher education is always the best route to prosperity.<sup>205</sup> Secondly, estimates of 'economic return' often do not capture what type of work people are doing, or in what field. An individual with a specific career path or occupation in mind might want to know which learning option would most support their specific ambitions, or whether they should instead enter employment.

In general, the evidence base on the returns to further education is 'patchy', according to a recent report on the topic by the Centre for Progressive Policy.<sup>206</sup> This is partly due to the availability of data, with studies generally reliant on survey-based data, such as the Labour Force Survey, which given its sample size limitation does not allow comparisons of highly specific courses, or of different institutions. However, new sources of data are becoming available, including the 'Longitudinal Education Outcomes' dataset, which links education administrative data with administrative data on tax and employment. This enables more reliable and detailed analysis. Already researchers have used such datasets to build on the evidence on returns to vocational qualifications.

### 9.3.1 Disseminating information through advice and guidance

Young people are, the evidence suggests, not very well informed when it comes to decisions about careers and future study. A 2016 enquiry by a parliamentary subcommittee concluded that 'too many young people are leaving education without the tools to help them consider their future options or how their skills and experiences fit with opportunities in the job market'.<sup>207</sup> In higher education specifically, the government has argued there is a 'lack of competition and informed choice' in the sector, and that 'applicants are currently poorly-informed about the content and teaching structure of courses, as well as

<sup>202</sup> National Audit Office (2017) '[The higher education market](#)'

<sup>203</sup> Department for Business, Innovation and Skills (2011) '[Higher education qualifications: returns and benefits](#)'

<sup>204</sup> Department for Business, Innovation and Skills (2011) '[Intermediate and low level vocational qualifications: economic returns](#)'

<sup>205</sup> Centre for Progressive Policy (2018) '[The Data Deficit: Why a lack of information undermines the UK skills system](#)'

<sup>206</sup> Centre for Progressive Policy (2018) '[The Data Deficit: Why a lack of information undermines the UK skills system](#)'

<sup>207</sup> Sub-committee on Education, Skills and the Economy (2016) '[Careers advice, information and guidance inquiry](#)'

the job prospects they can expect'.<sup>208</sup> This was also a conclusion of the National Audit Office report on the higher education market [discussed in section 9.2]<sup>209</sup>.

One explanation is that there are problems with the data, as set out in the above sections. However, in some cases (such as in higher education) there is data available, and yet young people are still, in the government's view, poorly informed. Therefore, part of the explanation also relates to the mechanisms by which information is disseminated. Essentially, this relates to the quality of the careers, information, advice and guidance (CIAG) available to prospective learners.

For young people (under the age of 19) responsibility for careers advice lies with schools and colleges, who since 2012 have had a duty to provide independent careers advice to students from age 12 to 18. There has been much criticism of provision under this system. An early report by Ofsted found that only 1 in 5 schools inspected were providing adequate careers advice, which it defined as students having sufficient information to consider a wide range of career options<sup>210</sup>. In advice to the Commons Education Committee in 2015 the head of Ofsted described careers advice as 'a disaster area' in schools.<sup>211</sup> In 2014 the Government itself admitted that provision was 'inadequate' and 'patchy', while the Commons Education Select Committee in 2013 voiced concerns about the 'consistency, quality, independence and impartiality' of careers advice, and then in the summer of 2014 said it was clear that quality was not improving.<sup>212</sup> A further report from that committee in 2016 again argued that provision was inadequate.<sup>213</sup>

For young people not in school, and adults (age 19 or above) there is the National Careers Service. A 2017 evaluation of this service identified 'a relatively strong positive effect in relation to education and training' of those that had used the service.<sup>214</sup> However, awareness of the service was low, which means it is unlikely to be able to make up for shortcomings (above) at the school level.<sup>215</sup>

The poor quality of careers advice services is likely to particularly affect people from disadvantaged backgrounds. Firstly, people from affluent backgrounds may be able to access CIAG through family networks, providing awareness of different career options and of how to access these. Young people without these networks will be more dependent on careers services for such information. Remarkably, pupils with access to advice from personal networks may even have *better* access to CIAG services – according to the National Audit Office, 'pupils who already discuss their future with teachers and parents were 40% more likely to also have access to an external careers adviser than those who do not'<sup>216</sup>. Secondly, pupils from poorer backgrounds may be more likely to be pursuing further education than their affluent peers, and as outlined above the information about options and quality in further education is poor compared to higher education. There is also some suggestion (perhaps for this reason) that careers advisers and schools may lack knowledge or provide less information about non-university options.<sup>217</sup>

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<sup>208</sup> Department for Business, Innovation and Skills (2016) '[Success as a Knowledge Economy: Teaching Excellence, Social Mobility and Student Choice](#)'

<sup>209</sup> National Audit Office (2017) '[The higher education market](#)'

<sup>210</sup> Ofsted (2013) Going in the right direction? [Careers guidance in schools from September 2012](#)

<sup>211</sup> Sub-committee on education, skills and the economy (2016) [Careers education, information, advice and guidance](#)

<sup>212</sup> House of Commons Library (2017) [Careers guidance in schools, colleges and universities](#)

<sup>213</sup> Sub-committee on education, skills and the economy (2016) [Careers education, information, advice and guidance](#)

<sup>214</sup> House of Commons Library (2017) [Careers guidance in schools, colleges and universities](#)

<sup>215</sup> Department for Business, Innovation and Skills (2013) [Evaluation of National Careers Service Partnership Delivery](#)

<sup>216</sup> National Audit Office (2017) '[The higher education market](#)'

<sup>217</sup> Sub-committee on education, skills and the economy (2016) [Careers education, information, advice and guidance](#)

## 9.4 Barriers to learning faced by potential learners

The final ‘challenge’ in the skill system discussed in this chapter are barriers to participation in learning faced by prospective learners. Such barriers represent a wasted opportunity for the individual. Factors discussed here include financial and time constraints and an individual’s prior educational attainment. Note also that the issues relating to information discussed in the previous section are not repeated here but are a significant type of barrier in their own right. These barriers will vary depending on the individual’s position and background, as well as the type of learning they are considering pursuing. Finally, note that the evidence on barriers to learning is fairly limited, because surveys may struggle to identify individuals who would have studied but did not due to the presence of a barrier.<sup>218</sup>

### Financial costs and time constraints

The most obvious barrier to participating in further learning is the cost of learning. There are direct financial costs to learning in the shape of tuition or course fees. But there are also indirect costs associated with many courses, for example relating to transport and course materials. Finally, there is an opportunity cost of learning – time spent learning is, apart from work-based learning, time that the individual cannot spend working, which means sacrificing income. Some learners may be able to combine full time work with study, but this will not be possible for many learners, for example those with caring responsibilities. The Institute for Public Policy Research (IPPR) note that the government support available for some learners will mean that for some, any financial barriers must be indirect or opportunity costs<sup>219</sup>. For example, courses are fully funded for individuals that have not yet achieved a Level 2 qualification. However, unless individuals are aware of the financial support available, or that courses are free for them, they may still perceive that there are financial barriers and be put off. As mentioned earlier, for example, awareness of Advanced Learner Loans is low.

In the 2010 National Adult Learner Survey (the latest available), respondents reported that the factors most likely to prevent them from taking part in learning or training were cost (mentioned by 58%), a lack of time (mentioned by 42%), not being able to fit it round a job (mentioned by 29%), not being able to fit it round caring responsibilities (mentioned by 25%), and courses not available locally or at the right time (mentioned by 19%)<sup>220</sup>. Another survey, of adults that were participating in learning, found that the most commonly cited obstacle was financial, with low confidence and self-esteem also mentioned.<sup>221</sup>

There are also particular financial constraints that will affect certain groups of learners. The most obvious are childcare costs, which can be considered a form of indirect cost for those that do not have alternative childcare options. The government has increased the support for childcare costs in recent years (parents in England are now eligible for 30 hours free childcare per week for 3 and 4 year olds<sup>222</sup>), but childcare may still present significant costs for some parents. For example those with younger children may not be eligible under the 30 hours entitlement, and the 30 hours entitlement only applies to 38 weeks of the year. Furthermore, London parents face higher childcare costs than other parts of the country (in 2017 the price of a part time nursery place in London was a third higher than the national average), and there are also issues relating to availability in some areas of London<sup>223</sup>.

There are funds available to support learners with childcare and other costs, but these funds are not large. One is the Discretionary Learner Fund, to which learners aged 20 or over can apply for help with

<sup>218</sup> As noted in: IPPR (2017) ‘[Skills 2030](#)’. Please note that much of the evidence in this section is taken from IPPR’s report.

<sup>219</sup> IPPR (2017) ‘[Skills 2030](#)’

<sup>220</sup> Department for Business, Innovation and Skills (2012) ‘[2010 National Adult Learner Survey 2010](#)’

<sup>221</sup> IPPR (2017) ‘[Skills 2030](#)’

<sup>222</sup> House of Commons Library (2018) ‘[Childcare: “30 hours” of free childcare – eligibility, access codes and charges \(England\)](#)’

<sup>223</sup> Family Childcare Trust (2017) ‘[Sky high London childcare costs are a third more than national average](#)’

childcare, accommodation, travel, and course materials costs. However, in London the total amount of support delivered through this was fund in 2015/16 was £27.6 million, a relatively small amount given the number of learners in London. Furthermore this fund has reduced in recent years, down from £36.9 million in 2013/14.

Another support fund is the ‘Flexible Support Fund’, available from the Department for Work and Pensions’. Nationally, this budget was worth £70 million in 2017/18. Data from 2014 showed that only £1.5 million of the then £122 million budget was spent on helping people with childcare costs<sup>224</sup>. Furthermore, as with other types of support, this support is only useful if potential learners are made aware of it, otherwise the cost will still present a barrier. A survey in 2013 found that just 19% of Jobseeker’s Allowance (JSA) claimants with children were offered any information or help with childcare by Job Centre advisers<sup>225</sup>. This was higher for single parents (36%) but still low.

### **Prior attainment**

Another type of barrier is an individual’s prior attainment in education. In some senses this is an obvious point, since most learning courses have entry requirements relating to prior attainment. But it is worth mentioning because there may be situations in which an individual’s prior attainment does not represent their ‘true’ educational ability. Or for the reason that there are significant inequalities in educational outcomes, notably between some ethnic groups at GCSE level [see section 7], and the fact that the ability to participate in future learning is in part determined by past attainment means these inequalities will feed through into higher stages of education. A government paper researching the factors affecting the propensity to learn throughout the life course starts with the observation that ‘the single best predictor of later participation in education is earlier participation’<sup>226</sup>.

To emphasise the point that school age attainment matters, a recent study found that, for students pursuing a Level 2 qualification at age 17 (which is a low-level qualification for that age – Level 2 is equivalent to 5 GCSEs, which at 17 the students should have completed already), there is ‘no clear trajectory’ to higher levels of learning.<sup>227</sup> Those students taking Level 2 qualifications at age 17 are much more likely to be from disadvantaged backgrounds than those undertaking higher level qualifications at this age.<sup>228</sup> Another recent piece of research suggested that failure to achieve a grade C in English at GCSE level, even by a small margin, has a significant impact on individuals’ futures, with those just missing the grade 9 percentage points less likely to enrol in a higher level qualification by age 19, and 4 percentage points more likely to drop out of higher education by age 18. The researchers concluded that ‘the marginal student [those just missing out on the C grade] would have performed significantly better in the longer term had he or she not been so unlucky at this point’<sup>229</sup>.

### **Choices and attitude to learning**

Research also suggests that choices in education are shaped by an individual’s background, even accounting for prior attainment. Tracing the paths of students who sat GCSEs in 2010, the Social Mobility Commission found that over a quarter of the difference in higher education participation between students eligible for free school meals (a measure of disadvantage) and their counterparts

<sup>224</sup> Hansard, [6 February 2014, c379W](#)

<sup>225</sup> DWP (2013) ‘[The Jobcentre Plus Offer: Final evaluation report](#)’

<sup>226</sup> Government Office for Science (2016) ‘[Factors and Motivations affecting attitudes towards and propensity to learn through the life course](#)’

<sup>227</sup> Hupkau et al (2017) ‘[Post compulsory Education in England: Choices and Implications](#)’. National Institute Economic Review, vol 240.

<sup>228</sup> Hupkau et al (2017) ‘[Post compulsory Education in England: Choices and Implications](#)’. National Institute Economic Review, vol 240.

<sup>229</sup> CVER (2018) ‘[Missing the mark at GCSE English: the costly consequences of just failing to get a grade C](#)’

*remains* after controlling for GCSE attainment. Therefore, socio-economic background influences learning trajectories both through its impact on pupil attainment at a young age, which feeds through to later ages, but also through its effect on learning choices independent of attainment.

Finally, there may be learners who face a barrier to learning due to their attitude towards learning or their motivation. Government research with young people that were NEET found that many had poor previous experiences of education and so were not motivated to re-enter education, and those 'furthest away' from learning were less likely to have clear aspirations for the future<sup>230</sup>. Attitudinal factors are important throughout the life course, with propensity to participate 'strongly influenced by family experience of and attitudes towards education [and] by earlier education experience'<sup>231</sup>.

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<sup>230</sup> Department for Business, Innovation and Skills (2013) '[Motivation and barriers to learning for young people not in education, employment or training](#)'

<sup>231</sup> Government Office for Science (2016) '[Factors and Motivations affecting attitudes towards and propensity to learn through the life course](#)'

## Appendix A: analysis of groups in skill ‘need’ by London sub-regional partnership areas

	London	Central SRP	East SRP	South SRP	West SRP
Qualification level	<p>In London, 24% of residents age 16 to 64 have qualifications at Level 1 or below. 37% have qualifications at level 2 or below.</p> <p><i>Ethnic groups</i> Little variation across broad ethnic groups on the first low qualification measure, but more on the second, where ‘Mixed’ (41%) and ‘Black’ (43%) have higher low qualification rates than ‘Asian’ (33%), and ‘White’ (36%).</p> <p><i>Family structure</i> Lone parents (both with and without dependent children) have higher rates of low qualification. 39% of lone parents (age 16+) with and without dependent children have qualifications of level 1 or below, compared to 28% of all Londoners age 16+. Lone parents are also less likely to have high level (Level 4+) qualifications.</p> <p><i>Industry (not available for SRPs)</i> There is substantial variation in the qualification level of people employed in different industries. 17% of Londoners age 16 to 64 in employment had qualifications at Level 1 or below. This was lower in ICT: 7%, Professional Services: 7%, Finance: 9%. And higher in Transport and Storage: 35%, Manufacturing, Utilities, Construction, Retail and Wholesale, Accommodation and Food Services and Administrative Services (all close to 25%). Differences are more pronounced for older workers (age 50 to 64). Older workers have overall higher rates of low qualification (28%, vs 15% for those aged under 50). In some sectors, a large number of workers over 50 have low qualifications. This includes Wholesale and Retail (44%), Transport and Storage (42%), Accommodation and Food Services (43%).</p>	<p>Overall lower rates of low qualification vs London.</p> <p><i>Ethnic groups</i> Low qualification somewhat lower in Central SRP vs London for White, Other, and Mixed. Higher than London for Asian and Black.</p> <p><i>Family structure</i> SRPs have similar rates of low qualification for lone parents.</p>	<p>Overall higher rates of low qualification vs London.</p> <p><i>Ethnic groups</i> Same rates of low qualification for Asian and Black, (significantly) higher rates of low qualification for all other groups.</p> <p><i>Family structure</i> SRPs have similar rates of low qualification for lone parents, but slightly higher in East SRP.</p>	<p>Overall similar rates of low qualification vs London.</p> <p><i>Ethnic groups</i> Lower rates of low qualification for Asian, Black and Other groups.</p> <p><i>Family structure</i> SRPs have similar rates of low qualification for lone parents.</p>	<p>Overall similar rates of low qualification vs London.</p> <p><i>Ethnic groups</i> Does not differ notably from London across broad ethnic groups.</p> <p><i>Family structure</i> SRPs have similar rates of low qualification for lone parents.</p>
English ability	<p>In London overall, 3.0% of people aged 16 to 64 said they could not speak English or could not speak it well (henceforth: ‘poor English’).</p> <p><i>Sex</i> The rate for those age over 65 was similar (3.1%). Within the 16-64 group, men are slightly more likely to have poor English (3.2%, vs 2.9% for women).</p> <p><i>Occupation</i> English proficiency is not even across occupation levels. Broadly speaking, people working in ‘higher level’ occupations are less likely to have poor English, going by the SOC 2010 classification. Occupations with higher rates of poor English are Elementary Occupations (9.3%), Skilled Trades (8.4%) and Process, Plant and Machine Operatives (6.1%).</p>	<p>2.8% of 16-64 year olds have poor English, slightly lower than London.</p> <p><i>Sex</i> Slightly lower than London for both men and women.</p> <p><i>Occupation</i></p>	<p>3.1% of 16-64 year olds have poor English, similar to London.</p> <p><i>Sex</i> Similar to London for both men and women.</p> <p><i>Occupation</i></p>	<p>1.8 of 16-64 year olds have poor English, lower than London.</p> <p><i>Sex</i> Substantially lower than London for both men and women.</p> <p><i>Occupation</i></p>	<p>4.0 of 16-64 year olds have poor English, substantially higher than London.</p> <p><i>Sex</i> Substantially higher than London for both men and women.</p> <p><i>Occupation</i></p>

	<p>The highest rates of poor English are for women in the key occupations identified. For example, 13.0% Process, Plant and Machine Operatives have poor English, and 12.7% of women in Elementary Occupations.</p> <p><i>*note, this data looks at occupation but includes people both in and outside employment. Therefore, because there is a relationship between economic activity and English proficiency (see below), this data skewed to extent that patterns of economic activity vary by occupation level.</i></p> <p><i>Industry</i> Of Londoners in employment, 2.7% have poor English (note, lower than the overall rate of 3.0%). This varies by industry. There are three sectors that have noticeably higher rates of poor English: Accommodation and Food Services (8.2%), Construction (6.9%), and Administrative services (7.2%).</p>	<p>Similar pattern to London. Higher rate of poor English in Skilled Trades.</p> <p><i>Industry</i> Similar patterns to London. Rates don't differ widely from London by industry.</p>	<p>Similar pattern to London, although <i>lower</i> rates of poor English in the key occupation groups identified for London.</p> <p><i>Industry</i> Similar patterns to London but slightly lower rate in Construction.</p>	<p>Similar pattern to London, although <i>lower</i> rates of poor English in the key occupation groups identified for London, even more so than for East SRP.</p> <p><i>Industry</i> Similar patterns to London, but rate of poor English substantially lower in the key sectors.</p>	<p>Similar pattern to London, although <i>higher</i> rates of poor English in the key occupation groups identified for London.</p> <p><i>Industry</i> Similar patterns to London, but higher rates of poor English for the key sectors.</p>
Employment	<p><i>Ethnic groups (APS)</i> There is variation in the employment rate across ethnic groups. In 2016/17 the employment rate was 79% for the 'White' ethnic group, and 65% for the 'Mixed / Other' and 'Indian / Pakistani and Bangladeshi' groups.</p> <p><i>Ethnic groups (census)</i> This dataset covers all age 16+, meaning the overall employment rate of 61% is lower than if it were just the 16-64 age group. The employment rate varies substantially across ethnic groups. For example: White: Gypsy or Irish Traveler have an employment rate of 37%. Other low rates are found among: Arab (45%), Bangladeshi (46%), Pakistani (50%), White and Black Caribbean and Other Black (53%). Note: low employment rates for Bangladeshi and Pakistani groups are driven by very low rates for women in those ethnic groups.</p> <p><i>Disability</i> Employment rates are substantially lower for those with disabilities (in the census this is the group whose day to day activities are 'limited' 'a lot' or 'a little'). The employment rate for those with a disability, on this measure, was 22%. Note, however, that this will include many people of pensionable age. The dataset does not include an age variable. Therefore, those that reported themselves as retired are excluded from the rest of the figures. Excluding those retired, the employment rate was 39% for those with a disability, compared to 75% for those with no disability.</p> <p><i>Care providers</i> The employment rate for those providing unpaid care was 56%, lower than the overall rate. Note, however, that age is again likely to be a confounding factor. Not possible to remove from the analysis as no age variable in this dataset.</p> <p><i>Nationality</i> Employment rates vary by nationality, here captured by passports held. The 16+ employment rate for those with a UK passport was 63%, compared to 71% for those from elsewhere in the EU. Note age will be a factor here, as young people have higher</p>	<p><i>Ethnic groups (APS)</i> Similar employment rates across ethnic groups to London, apart from lower for the Ind./Pak./Bang. group.</p> <p><i>Ethnic groups (census)</i> Similar patterns to London. Employment rate for Bangladeshi group lower than London.</p> <p><i>Disability</i> The employment rate (excl. retirees) was 35% for those with a disability (lower than London) vs 74% for those without.</p> <p><i>Care providers</i> Employment rate of 55% for care providers, similar to London.</p> <p><i>Nationality</i> Similar patterns to London. Employment rates almost identical for all passport groups.</p>	<p><i>Ethnic groups (APS)</i> Similar employment rates across ethnic groups to London</p> <p><i>Ethnic groups (census)</i> Similar patterns to London. Employment rate for Bangladeshi group lower than London.</p> <p><i>Disability</i> The employment rate (excl. retirees) was 40% for those with a disability (similar to London) vs 74% for those without.</p> <p><i>Care providers</i> Employment rate of 54% for care providers, similar to London.</p> <p><i>Nationality</i> Similar patterns to London. Slightly lower rates for those from Oceania/Australasia and Americas/Caribbean.</p>	<p><i>Ethnic groups (APS)</i> Higher employment rates across ethnic groups.</p> <p><i>Ethnic groups (census)</i> Similar patterns to London. Employment rates higher for the various Black ethnic groups, and also for Pakistani and Bangladeshi groups.</p> <p><i>Disability</i> The employment rate (excl. retirees) was 46% for those with a disability (higher than London) vs 79% for those without (also higher than London).</p> <p><i>Care providers</i> Employment rate of 59% for care providers, higher than London.</p> <p><i>Nationality</i> Similar patterns to London, but higher rates across all passport groups.</p>	<p><i>Ethnic groups (APS)</i> Similar employment rates across ethnic groups to London</p> <p><i>Ethnic groups (census)</i> Similar patterns to London across ethnic groups.</p> <p><i>Disability</i> The employment rate (excl. retirees) was 41% for those with a disability (similar to London) vs 75% for those without.</p> <p><i>Care providers</i> Employment rate of 58% for care providers, higher than London.</p> <p><i>Nationality</i> Similar patterns to London. Employment rates almost identical for all passport groups</p>

	employment rates, and immigrants are in general young. Therefore, remaining data focuses on the 25 to 49 age group. In the 25 to 49 age group, UK passport holders had an employment rate of 80%, compared to: 82% from other EU countries, 69% for African countries, 92% from Oceania and Australasia, 67% from the Middle East and Asia, and 74% from the Americas and Caribbean.				
Working part-time (NB: PT = worked 30 hours or fewer).	<i>Sex</i> Of those in employment, women are twice as likely as men to be in part time employment (31%, compared to 15%). This difference is not evident for the 16 to 24 age group, i.e. differences observed for 25 to 49 and 50 to+ age groups.  <i>Disability</i> People with disabilities in employment are more likely to be working part time (36%, vs 21% of those without a disability). The rates of PT working of those with a disability are similar across SRPs.	<i>Sex</i> Women less likely to be in PT employment than in London (26%, vs 31% in London).	<i>Sex</i> Women less likely to be in PT employment than in London (36%, vs 31% in London). Pronounced for prime age group.	<i>Sex</i> Women somewhat more likely to be in PT employment as in London (34%, vs 31% in London).	<i>Sex</i> Women similarly likely to be in PT employment than in London (32%, vs 31% in London).
Income	In 2017 mean gross weekly pay in London for full time workers was £817 (note: had to use mean rather than median for construction of the SRP data). Pay was higher for men (£896) than women (£712). Full time female pay is 79% that of men. For part-time workers, gross weekly pay in London in 2017 was £245, with £237 for men and £249 for women.	Mean pay of full time workers living in Central SRP is lower than London - £732. Almost £100 less per week.  Full time female pay is 84% that of men.	Weekly pay of full time workers (£814) is similar to pay in London.  Full time female pay is 81% that of men.	Weekly pay of full time workers (£805) is similar to pay in London.  Full time female pay is 83% that of men.	Weekly pay of full time workers (£851) is higher than in London.  Full time female pay is 79% that of men.
Occupation <i>High: SOC 1-3</i> <i>Medium: SOC 4,5,8</i> <i>Low: SOC 6,7,9</i>	There is only limited demographic breakdown available of ASHE data (the source of the above data). But because of the strong relationship between pay and occupation level (using the SOC 2010 classification) occupation can be used as a proxy for pay. Occupation is also a measure of labour market outcomes in its own right. The nine SOC major groups have been categorised into high, medium and low paying occupations.*  In London overall, 25% of those in employment worked in low paying occupations. This is higher for women (31%).  <i>Ethnic groups</i> There is also occupation variation between ethnic groups: Asian/Asian British: 30%. (women: 34%). Black / Black British: 37%. (women: 34%). Mixed / Multiple: 29%. (women: 33%). White: 21%. (women: 28%).	22% working in low-pay occupations, slightly lower than London.  Slightly higher proportion (compared to London) working in low-pay occupations in the Black ethnic group.	29% working in low-pay occupations, higher than London.  Higher proportion (compared to London) working in low-pay occupations in all ethnic groups <i>apart</i> from the Black ethnic group.	23% working in low-pay occupations, slightly lower than London.  Lower proportion (compared to London) working in low-pay occupations in all ethnic groups.	26% working in low-pay occupations, similar to London.  Rates are similar to London across ethnic groups.

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