West Yorkshire Combined Authority

Leeds City Region Enterprise Partnership

Working in partnership with the West Yorkshire Combined Authority

Labour Market Report 2018

Introduction: skills and the wider economic challenge

This document aims to provide an understanding of the skills that are needed to support economic growth and enhanced productivity and living standards in Leeds City Region, both now and in the future.

Skills play a central part in addressing the major economic challenges that face the region, around low productivity, lagging living standards and entrenched deprivation at neighbourhood level.

Through our Employment and Skills Plan, we are committed to addressing these challenges in the following ways:

- Increasing the supply of economically-valuable higher level skills in order to drive innovation and productivity growth
- Ensuring that more and better apprenticeships are available to enable employers to grow their own skills to meet the specific needs of their business, particularly in shortage areas
- Providing individuals with the skills they need to get into employment and to fulfil their career potential, as well as to adapt to the changing needs of the labour market
- Supporting engagement between employers and the education system so that young people understand the opportunities available in the local labour market and are well-prepared to make the most of those opportunities
- Encouraging employers to invest in workforce development as a basis for improved business performance.

In each case, an understanding of local skills needs and labour market prospects is crucial to taking our agenda forward. It informs our development of policy and strategy and more importantly it can be used to help individuals to make better careers decisions, to shape the curriculum offer of education and training providers and to provide wider context to employers' thinking about the development of their own talent base.

The assessment of skills needs summarised in this document is based on an analysis of employers' demand for skills, the supply of skills available in the region and the areas of market failure where there is a deficit of the skills needed to drive productivity and growth.

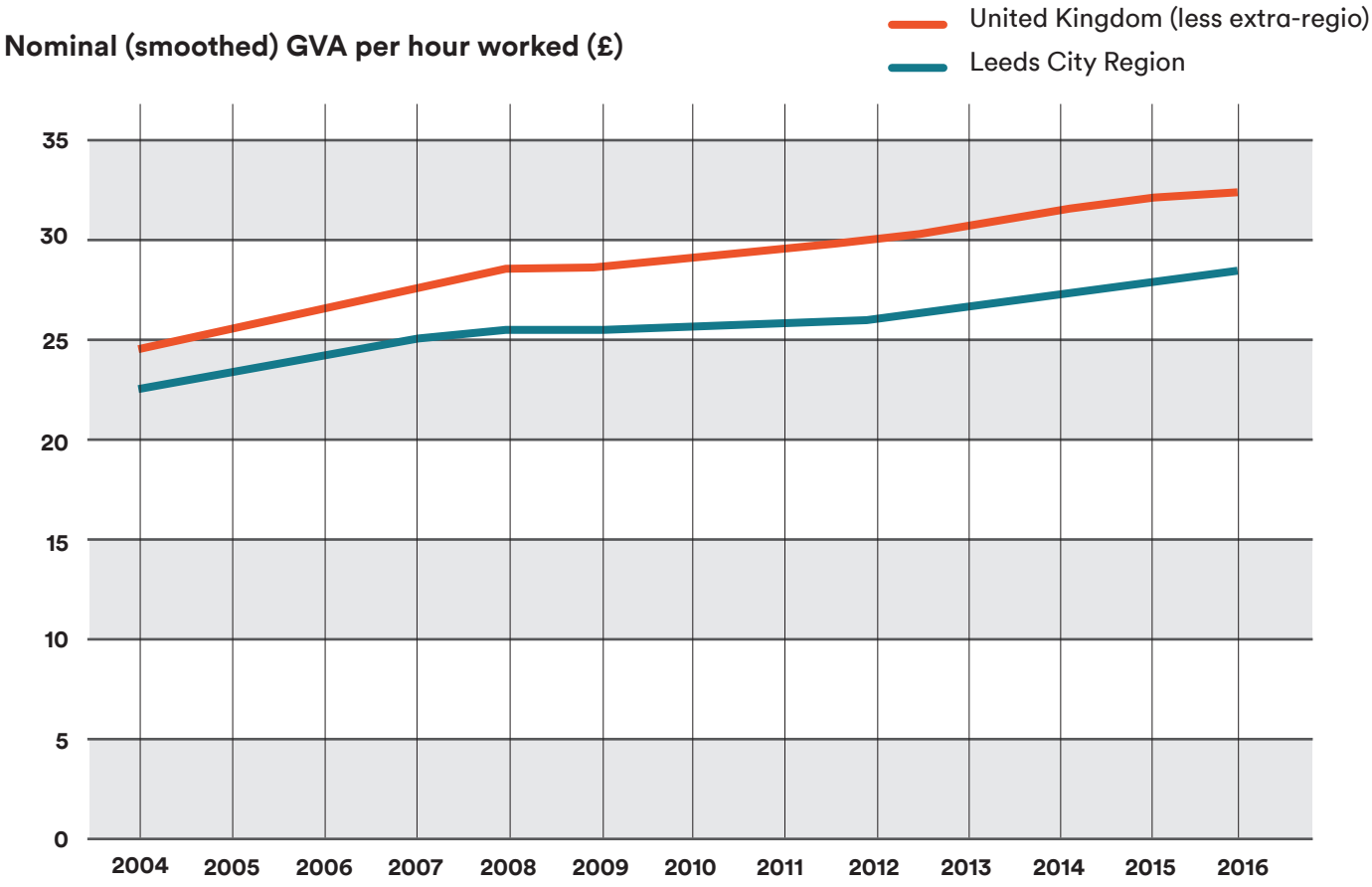
Our Employment and Skills Plan also identifies three key skills priorities within the local economy where shortages are a concern: the skills needed to deliver major infrastructure schemes; digital skills required across a range of sectors to grasp the opportunities around digitalisation; and acute shortages of engineering and manufacturing skills. The report aims to provide a specific focus on the nature of the issues that affect these priority areas.

The City Region's underperformance on productivity and pay is associated with its underperformance on skills

Our position on skills has a direct impact on performance in productivity, pay and employment and hence on the overall level of prosperity in the area.

Productivity growth is the key source of growth in the wider economy and provides the foundation for improvements in living standards.

Nominal (smoothed) GVA per hour worked (£)



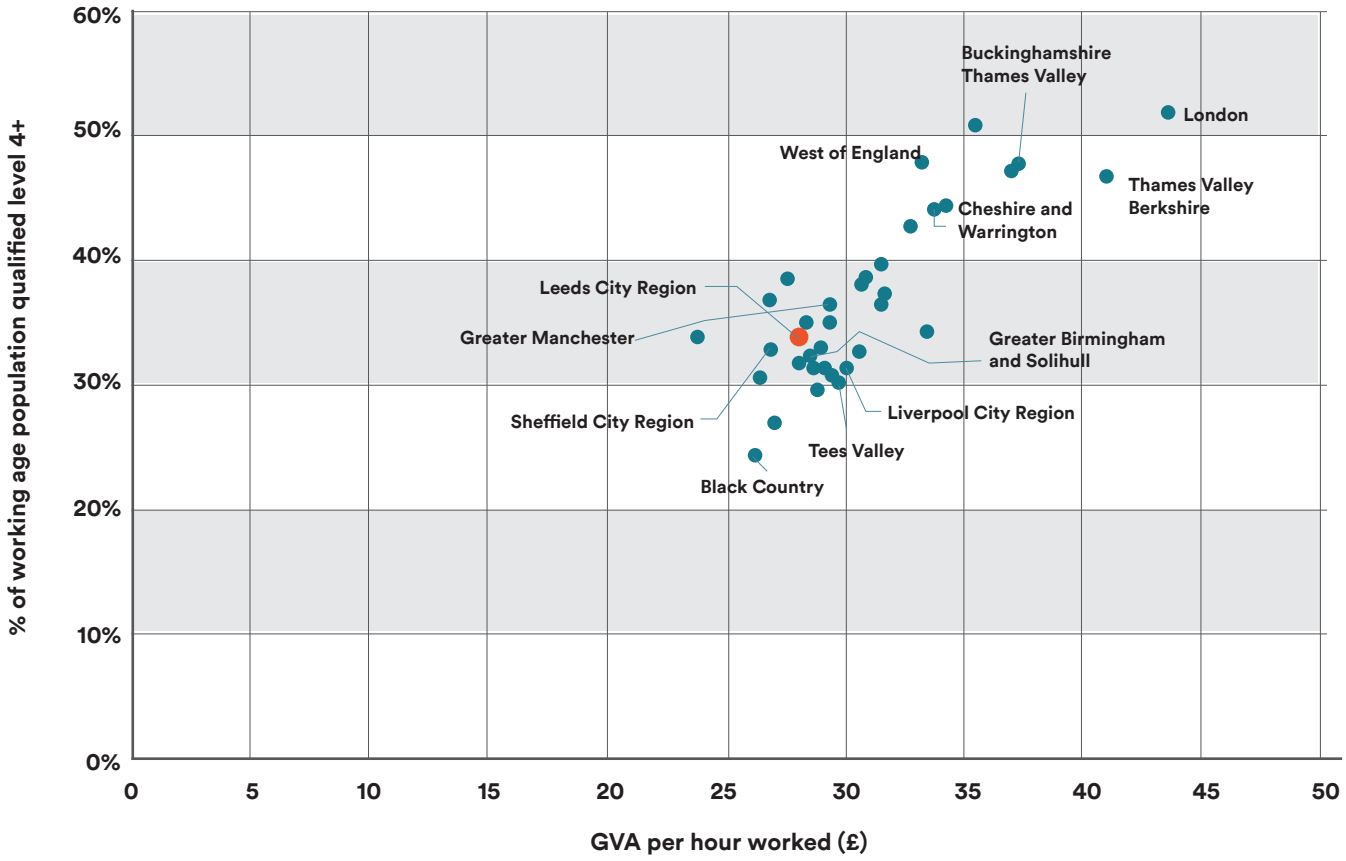
Source: ONS, Sub-regional Productivity

It is a concern that the region's relative position on productivity has not improved in recent years. Output per hour worked fell from 91 per cent of the UK average in 2006 to 86 per cent of the average in 2016. If local productivity could be raised to match the national average it would mean an increase of more than £11bn in the size of the local economy.

Productivity is closely linked to pay and therefore living standards. More productive firms pay higher wages. The local productivity deficit is reflected in the pay situation. Median gross hourly pay for full-time jobs in the region is 91 per cent of the national average, while 23 per cent of local jobs pay less than the Living Wage Foundation's Living Wage rate, which is intended to reflect the level of pay people need to get by. In nominal terms, pay in the region increased by 0.8 per cent between 2016 and 2017 but when adjusted for rising inflation is estimated to have fallen by 1.8 per cent in real terms[1] .

[1] Source for the pay analysis is the Annual Survey of Hours and Earnings 2017 (Office for National Statistics).

High level skills and productivity by LEP area



Source: Annual Population Survey; ONS LEP level estimates of productivity

LEP areas that perform strongly on skills tend to perform strongly on productivity, as the above chart showing the correlation between the two variables demonstrates.

We know that skills contribute in a number of ways:

- Apprenticeships enable employers to develop specialist skills needed to drive the performance of their business.
- A strong supply of high level skills supports the effective use of technology within firms and an increased focus on innovation.
- Management skills are key to implementing positive business practices and more productive business models and strategies.
- A strong skills base is key to attracting inward investment from productive companies who can transfer technology and best practice through supply chains.

Skills deficits also play a part in localised deprivation

As well as improving the performance of the local economy, we also need to ensure that everyone in the local community has the opportunity to participate in high quality employment and benefit from growth.

Leeds City Region is ranked fifth out of 39 LEP areas in terms of the proportion of neighbourhoods that fall among the most deprived nationally on education training and skills.

Analysis of the Indices of Multiple Deprivation 2015 shows that almost nine out of 10 neighbourhoods in the region that face general, acute deprivation are also affected by skills deprivation (essentially a measure of low attainment among both young people and adults).

This supports the view that lack of skills is one of the key factors that reinforces entrenched deprivation in these neighbourhoods and that action on skills is an important part of the solution to this problem.

Demand for skills

This section provides an overview of the demand for skills in the Leeds City Region economy, based on the profile of jobs locally and the skills required to do those jobs. It considers the current picture and the way in which the pattern of demand is expected to develop in the future.

The overall demand for labour continues to strengthen

The level of employment in the region is the main indicator of the overall demand for labour in the area. There has been a continued upward trend in this indicator, reflecting a positive picture at national level. According to the latest data[2] there were 1,411,000 people in employment in 2017, 73.6 per cent of our total resident working age population.

The current level of employment is at its highest since the current data series began in 2004, whilst the employment rate is on a par with the rates seen during the pre-recession period. Nonetheless, we lag behind the national average employment rate of 75.1 per cent. This is a substantial deficit since an additional 29,000 people would be in employment if the employment rate could be raised to the national average.

The main sources of employment growth and skills demand are higher skilled occupations and lower skilled caring occupations

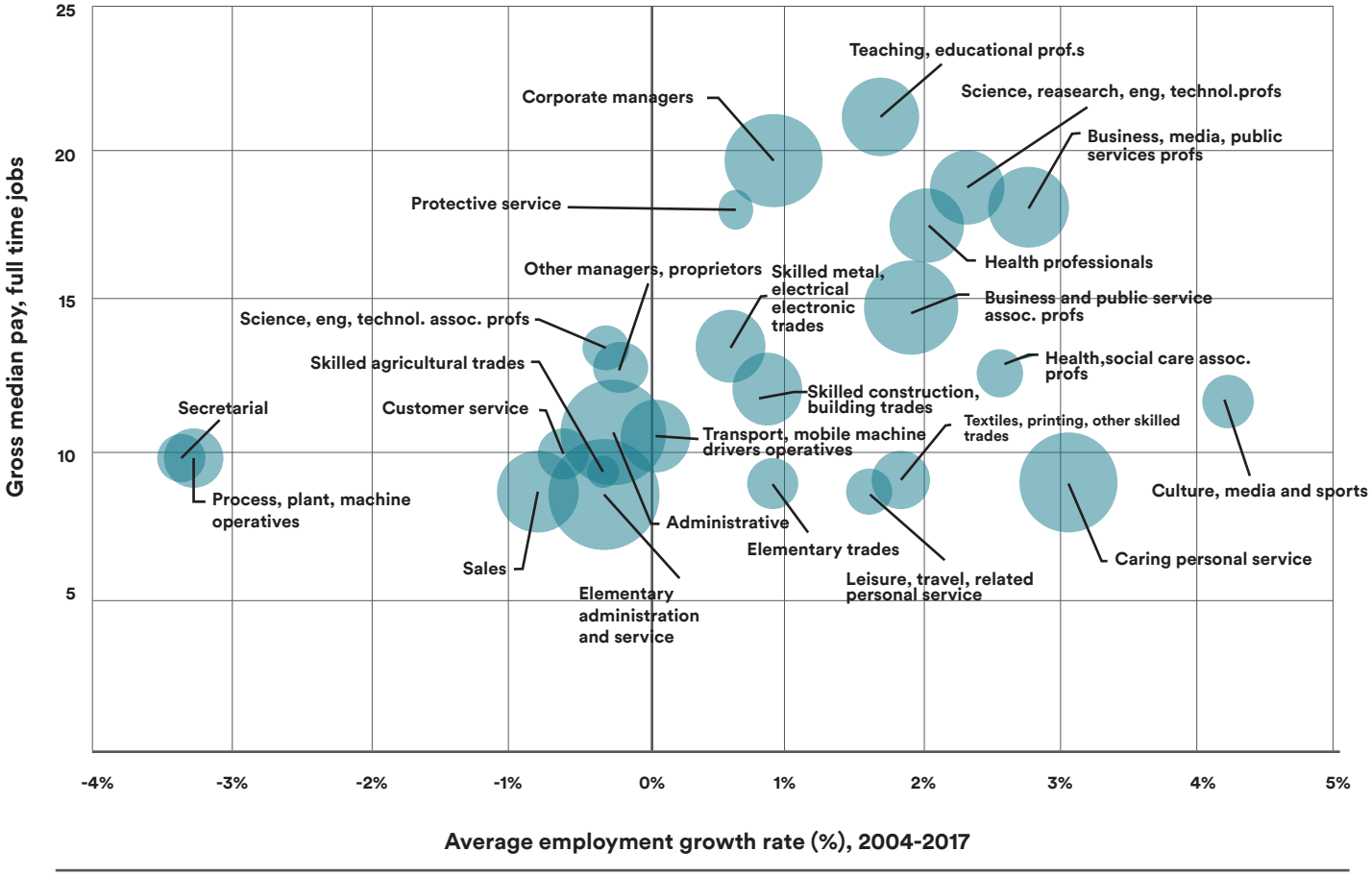
The changing profile of occupational employment provides an important insight into the demand for skills in the local labour market. Occupations are largely defined by the level and type of skills that are required in order to perform work tasks.

If we take into account employment size, level of pay[3] and growth performance of occupational categories, a series of segments can be identified

[2]Annual Population Survey, Jan – Dec 2017

[3]Pay level provides an insight into the approximate contribution to productivity made by a given occupation.

Trends in occupational employment, Leeds City Region



Source: Annual Population Survey , Jan-Dec 2017 and Annual Survey Hours and Earnings, 2017
Note: Pay data is for Yorkshire and the Humber - Bubble size reflects current level of employment in occupation.

The first key segment is high skilled and well-paid occupations of relatively large employment size that are also growing. These occupations are clustered towards the top right of the chart. The skill requirements arising from these occupations are in the following areas:

- Teaching skills at a variety of educational levels
- High level scientific, engineering and technology skills (including digital technology skills)
- High level health practitioner skills (including doctors and nurses)

Business, media and public service occupations at both professional and associate professional level also fall into this segment and cover a diverse range of areas including legal professionals, welfare professionals and media professionals, together with associate professional occupations focusing on sales and marketing, public services, business and finance.

A relatively niche higher skilled area that has seen the strongest employment growth of any occupational category is that of culture, media and sport occupations, although its average level of pay is low relative to most other higher skilled occupational groups.

A second important broad segment is lower-paid occupations that are growing strongly. The main area here is caring personal services which includes childcare occupations, adult care workers and nursing auxiliaries and assistants. This occupational category is large in employment terms and has seen a rapid average growth rate in recent years, as the ageing of the population drives demand for care services.

Middle-skilled / paid occupations that are experiencing ongoing significant contraction constitute a third segment. Employment in secretarial and manual operative roles is in long-term decline as a result of the impact of technology and transfer of routine operations overseas.

It is notable, though, that a number of occupational categories typically considered to be middle skilled, including skilled construction and metal trades have seen modest growth over the period under consideration.

A final broad segment consists of occupations that are moderately or low paid and require a low or intermediate level of skills and have remained static or seen slight decline in their level of employment over the last decade. Some of these occupational areas are of notable size, including administrative / clerical jobs and elementary admin and service jobs, sales jobs and transport operatives. Also included within this segment are customer service jobs.

The recent pattern of employment growth is expected to persist in the future, according to projections

Labour market projections, such as Working Futures, suggest that this broad pattern of change in occupational employment, characterised by growth in higher skilled occupations and in lower skilled caring roles, is likely to persist into the future. For example, Working Futures[4] indicates that employment in higher skilled occupations will grow at three times the average rate for all jobs and that caring personal services will grow even more rapidly.

Such projections also highlight the crucial importance of replacement demands to future recruitment requirements. Replacement demands consist of the job openings that arise when workers leave the labour force due to retirement or other reasons, such as maternity leave. Working Futures estimates that replacement demands will generate 10 times as many job openings over the next decade as net employment growth, equivalent to a recruitment requirement of around 600,000 openings. Moreover, replacement demands are expected to create job openings across all broad occupational areas, in the short to medium term, even in those that are expected to see net employment decline. In the longer term, developments like automation may impact on the career prospects in particular occupational areas (see below).

[4] A fuller analysis of Working Futures is provided in labour market report for 2016/17.

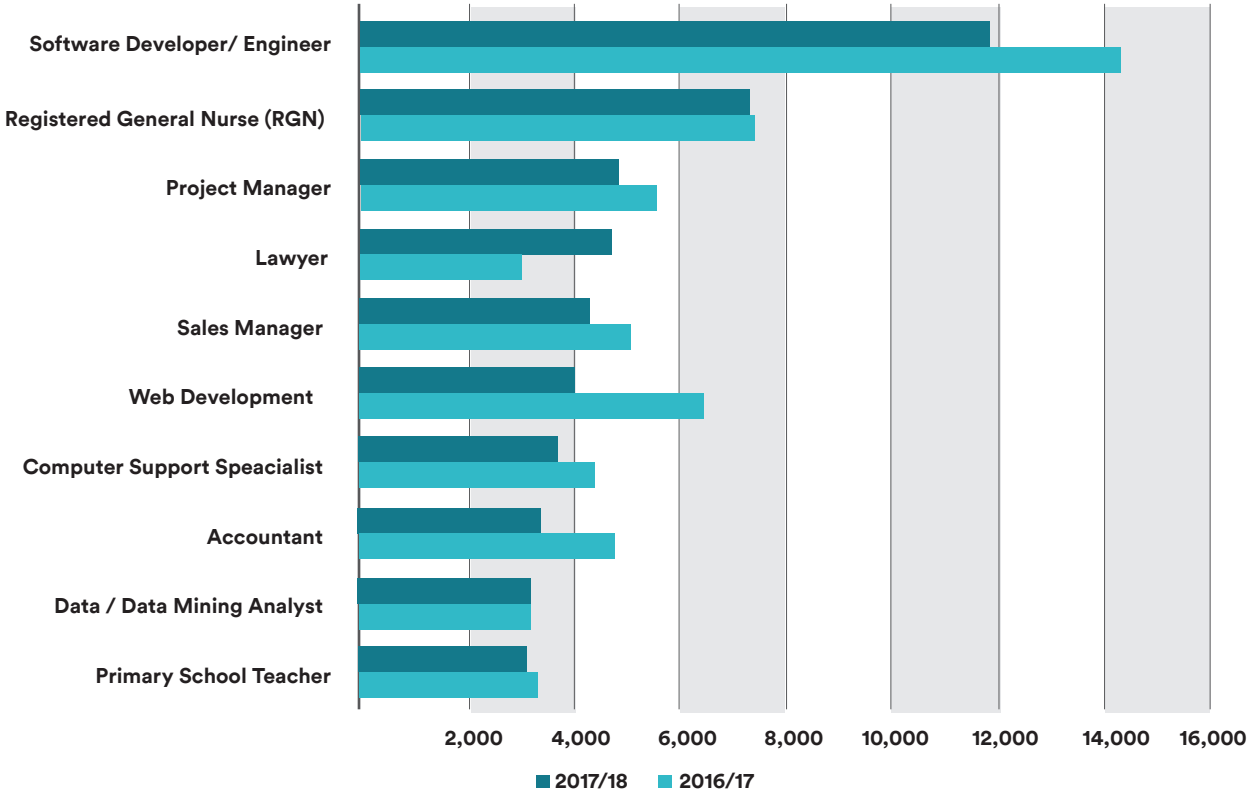
Several digital jobs are among those with the greatest number of online job postings

What types of job are being advertised online? Analysis of online job postings enables us to examine the picture of current local labour demand in detail without the technical limitations of national surveys. However, a key caveat is that lower skilled jobs tend to be significantly under-represented in the data as they are much less likely to be advertised online.

Therefore this analysis focuses on jobs that fall within higher skilled occupational groups – managers, professionals and associate professionals.

There were 176,000 higher level job postings in the last 12 months (between August 2017 and July 2018). This figure represents a slight decline of 6 per cent on the total registered for 2016/17. Most of the occupations in the top 10 saw declines in the number of postings. Whether this reflects a reduction in labour demand that is not reflected in aggregate employment figures is unclear.

Top occupations in greatest demand overall based on volume of job postings, Leeds City Region, August 2017 to July 2018

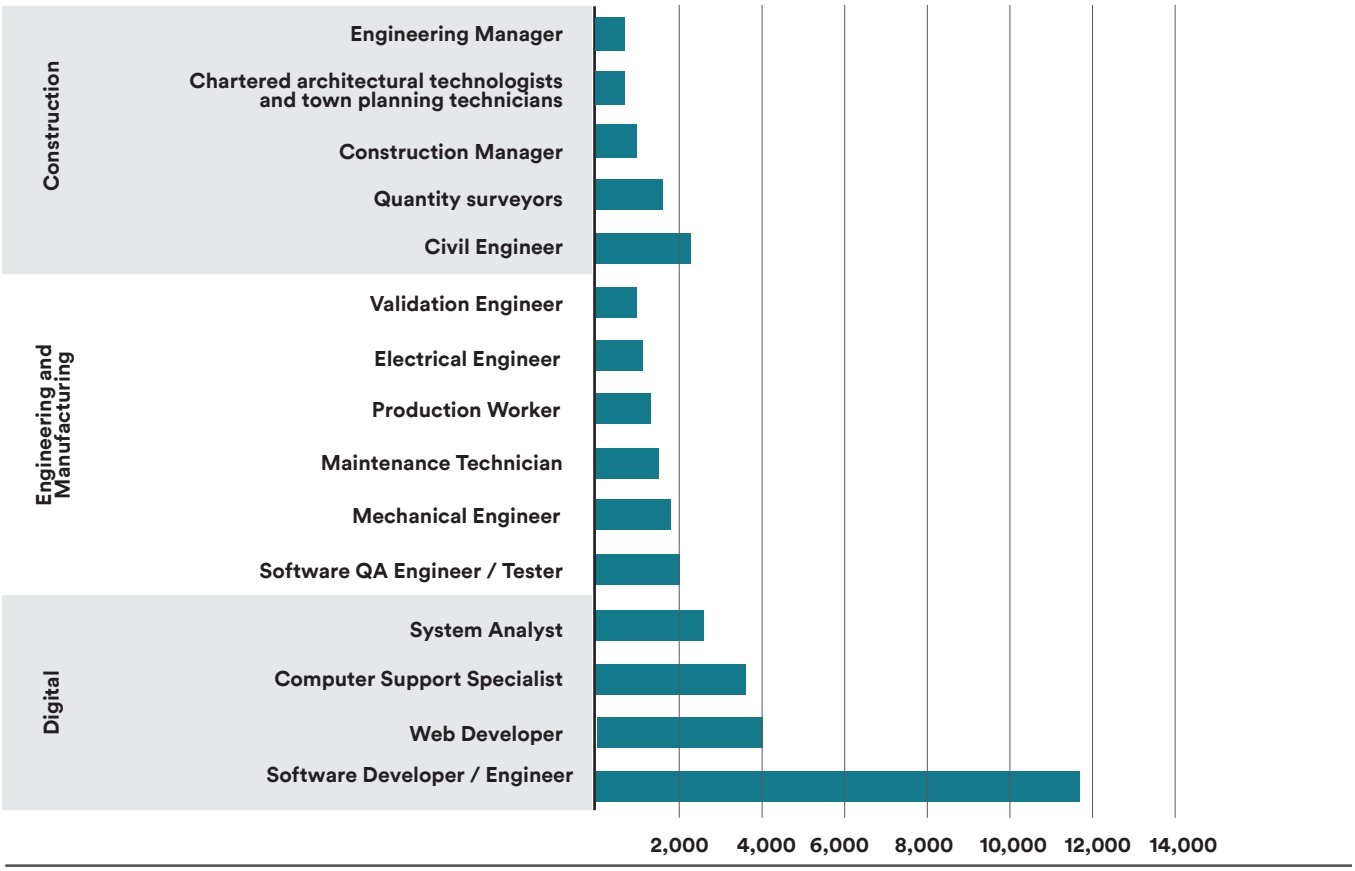


Source: Labour Insight
Note: Analysis limited to jobs classified to SOC major groups 1-3

Digital occupations are prominent, with four out of the top 10 occupations falling into this category. The occupation with by far the greatest number of postings was software developer / engineer but web developer, computer support specialist and data analyst also feature.

The top 10 occupational ranking also highlights the demand for a variety of other skills in the current labour market, including project management and sales as well as accountancy and legal skills. In addition, two public sector jobs are included, in the form of registered nurse and primary school teacher.

Top occupations in greatest demand in priority skill areas based on volume of job postings, Leeds City Region, August 2017 to July 2018



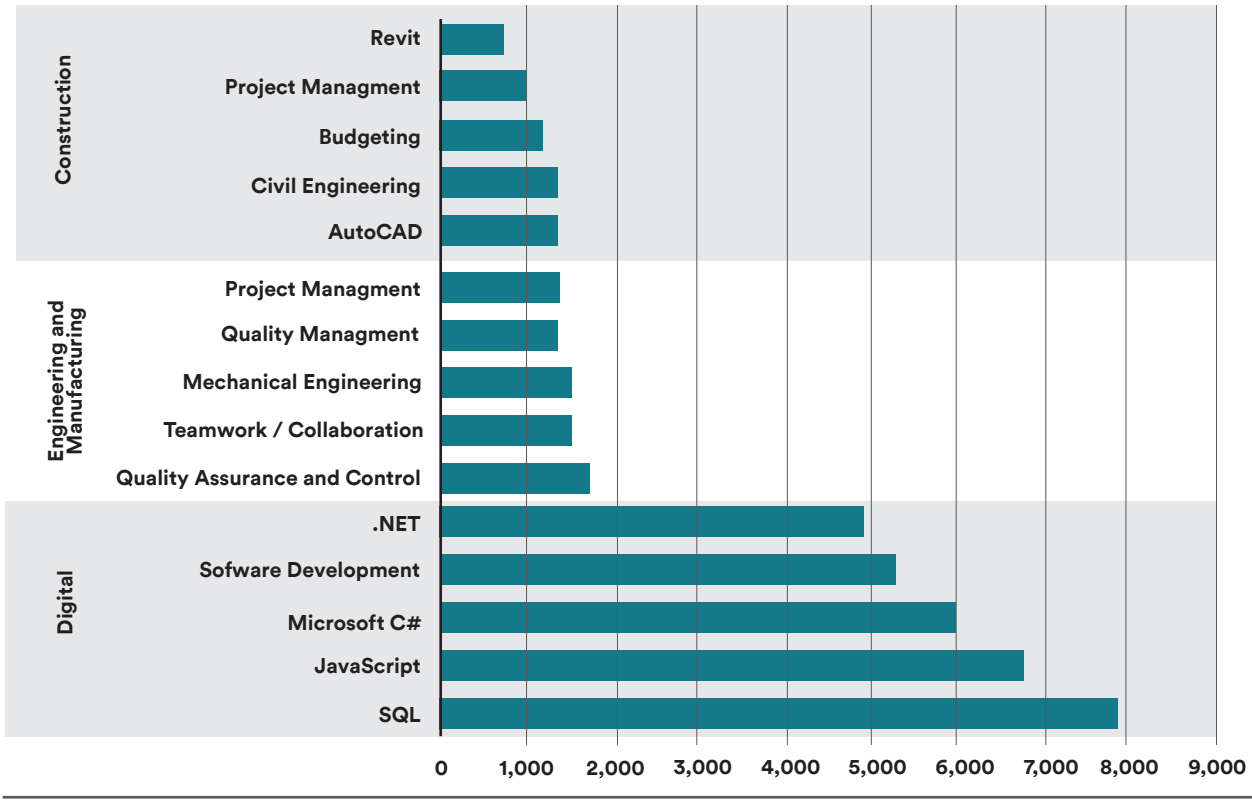
Source: Labour Insight
Note: Analysis limited to jobs classified to SOC major groups 1-3.

Drilling down to the occupations showing the greatest demand in our three priority skill areas provides confirmation that software developer/engineer is the leading occupation in digital and is the focus of several times the number of job postings of any of the other occupations across the three areas. Mechanical engineer is the leading occupation in engineering/ manufacturing, while civil engineer shows the greatest demand among higher level construction occupations. Labour Insight also supports analysis of the types of skill that employers ask for in their job postings, enabling us to profile the skills in greatest demand, differentiating between specialised and baseline skills – the skills needed for specific jobs and more generic skills required across a range of jobs.

Skills like project management and teamwork / collaboration feature alongside core technical skills as the most in-demand for our three priority areas

Looking at skills for digital jobs it shows that the most in-demand skills are exclusively technical in nature and mostly relate to software development; in some cases specific languages and platforms such as SQL and Javascript, in others broader principles of development.

Top skill types in greatest demand in priority skill areas based on volume of job postings, Leeds City Region, August 2017 to July 2018



Source: Labour Insight
Note: Analysis limited to jobs classified to SOC major groups 1-3.

The profile of the most in-demand skills in construction demonstrates the importance of technical skills in respect of civil engineering and also with regard to design technologies, in the form of autocad and Revit (a type of building information modelling software). But it also shows the importance of business-related skills to these roles in the form of project and budget management, both of which are becoming increasingly important to evolving engineering roles.

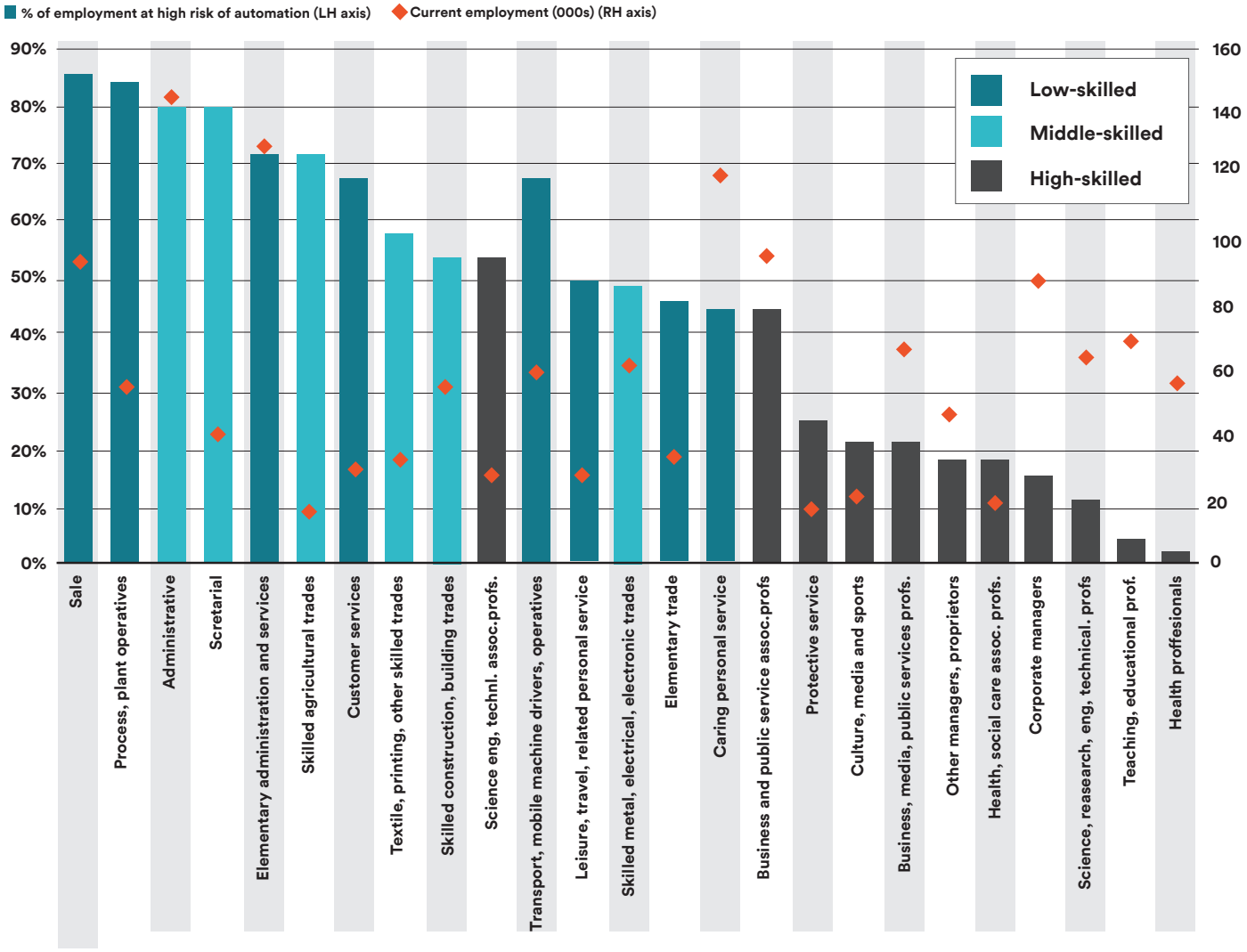
As for construction, data from job postings suggests that the most in-demand skills in engineering and manufacturing cover a diverse range and extend beyond core technical skills. Although mechanical engineering and quality control / management feature, teamworking and collaboration ranks second and project management is again among the most in-demand skills.

Just over a third of jobs in the City Region are estimated to be at high risk of automation with lower-skilled and routine jobs most susceptible

A key study by Frey and Osborne[5] (2013) and related analysis found that 35 per cent of existing jobs in the UK are at high risk of computerisation over the next 20 years. The authors calculate susceptibility to automation of each job based on the extent to which a range of nine key skills, which are difficult to automate, are required to perform it. These skills include social perceptiveness, persuasion, assisting and caring for others and manual dexterity.

The chart applies Frey and Osborne's analysis to the employment base of Leeds City Region. Overall, 34 per cent of jobs are projected to be at high risk of automation, similar to the national average.

Proportion of jobs at high risk of automation by occupational sub-major group, Leeds City Region



Source: LEP estimates based on Frey and Osborne (2013) and EMSI employment data

[5] Carl Benedikt Frey, Michael A. Osborne (2013) The future of employment: How susceptible are jobs to computerisation? Oxford Martin School, University of Oxford.

In line with recent trends, routine clerical and manual roles are expected to continue to be the most susceptible to automation, together with sales roles (such as checkout operators). With some exceptions, higher skilled jobs are expected to be the most resistant to automation, along with caring occupations, reflecting the importance of skills such as creativity and social intelligence to these jobs, which are more difficult to computerise.

A key departure from past trends is the increased potential for automation of lower-skilled, non-routine occupations, mostly in services. Advances in mobile robotics combined with machine learning mean service robots can perform tasks like vacuuming, mopping, lawn mowing. This development is reflected in high risk factors for the elementary and sales and customer service categories.

Past experience suggests that the main impact of automation will be in shaping the range of tasks within jobs rather than displacing jobs completely. Nonetheless, it is lower-skilled jobs that have the greatest potential to be fully automated.

Automation is expected to mean that many workers will face skills obsolescence, particularly in routine and lower skilled occupations. In some cases workers will need to reskill for a different career but in others they will need to develop new skills to take account of a change in the demands of their existing job. The skills system will need to increase its responsiveness in the face of these developments.

The Supply of Skills

Getting the right skills in place is key to achieving inclusive growth. Employers need workers with the right skills in order to meet market requirements and drive productivity growth, while individuals need a range of skills to get a job and to progress in employment.

The following section provides an assessment of the current profile of skills and qualifications in the region and the quality of the skills "pipeline" provided by apprenticeships, higher education, workforce development and other sources of skills supply.

2017 saw an increase in the proportion of people in the City Region qualified at level 4 and above

One of the key challenges facing us is a deficit in its skills base relative to other parts of the UK. As we have seen, there is a strong link between the skills profile of local areas and their relative productivity performance.

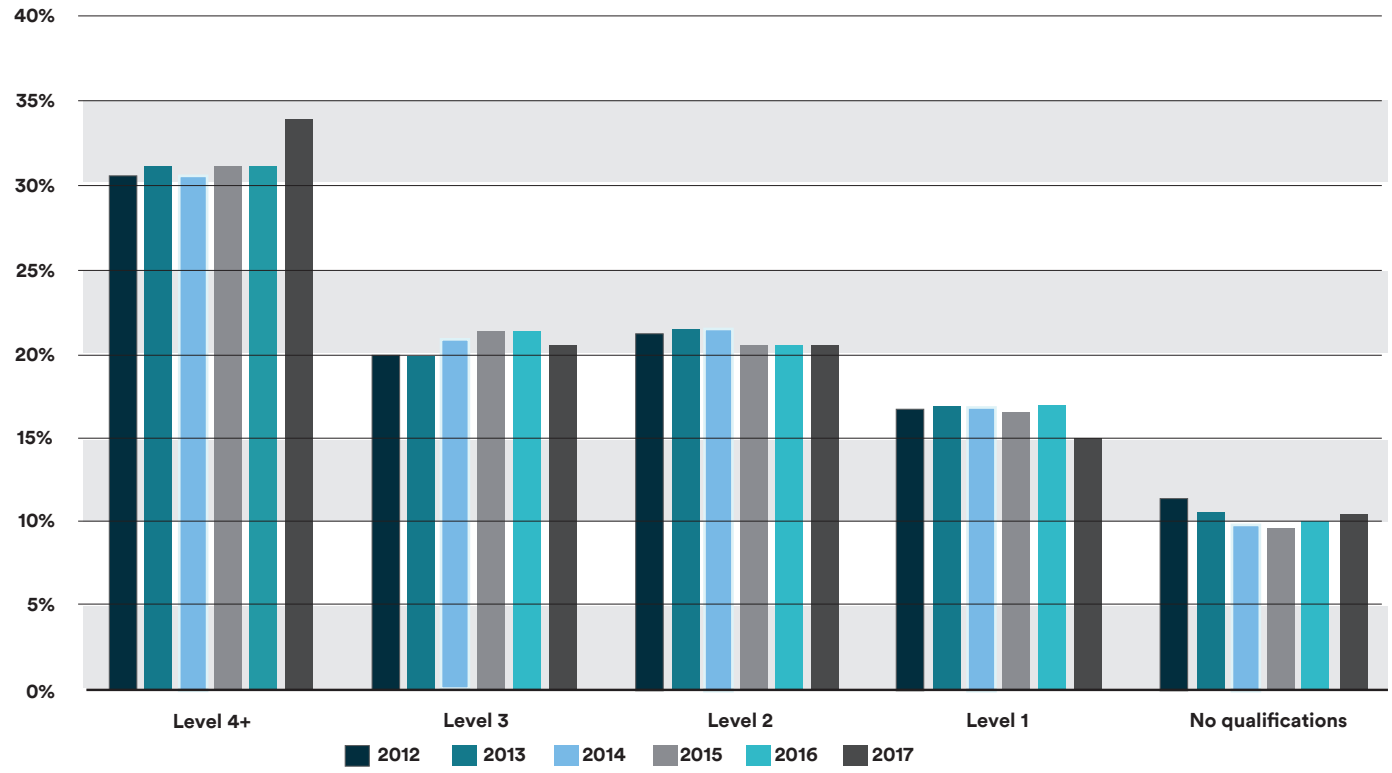
Following five years without improvement, 2017 saw an increase in the proportion of working age people qualified at level 4 and above of 3 percentage points, from 31 to 34 per cent. There was no change in the national average position over the same period. Although this therefore represents a narrowing of the gap, at 38 per cent the national average is still 4 percentage points higher than the City Region figure.

The proportion of the population with no formal qualifications or qualified below level 2 is another key indicator of skills supply, since level 2 is widely considered to be an indicator of basic employability. There has also been an improvement against this indicator, with the percentage falling from 27 to 25 percent. At the same time the national average fell slightly from 23 to 22 per cent, leaving a continuing gap of 3 points.

For the fourth consecutive year there was no improvement in the share of the population who lack formal qualifications, which remains at 10 per cent in the region (equivalent to almost 200,000 people) and two points higher than the national average. This lack of recent progress suggests that the position may have plateaued and that further improvement may prove difficult to achieve.

The region's relatively weak skills profile is largley due to underperformance in particular districts. For example, only 26 per cent of the population in Bradford is qualified to level 4 while 13 per cent hold no qualifications. The comparable figures for York are 49 and 4 per cent.

Profile of highest qualification held by working age (16-64) population, Leeds City Region residents



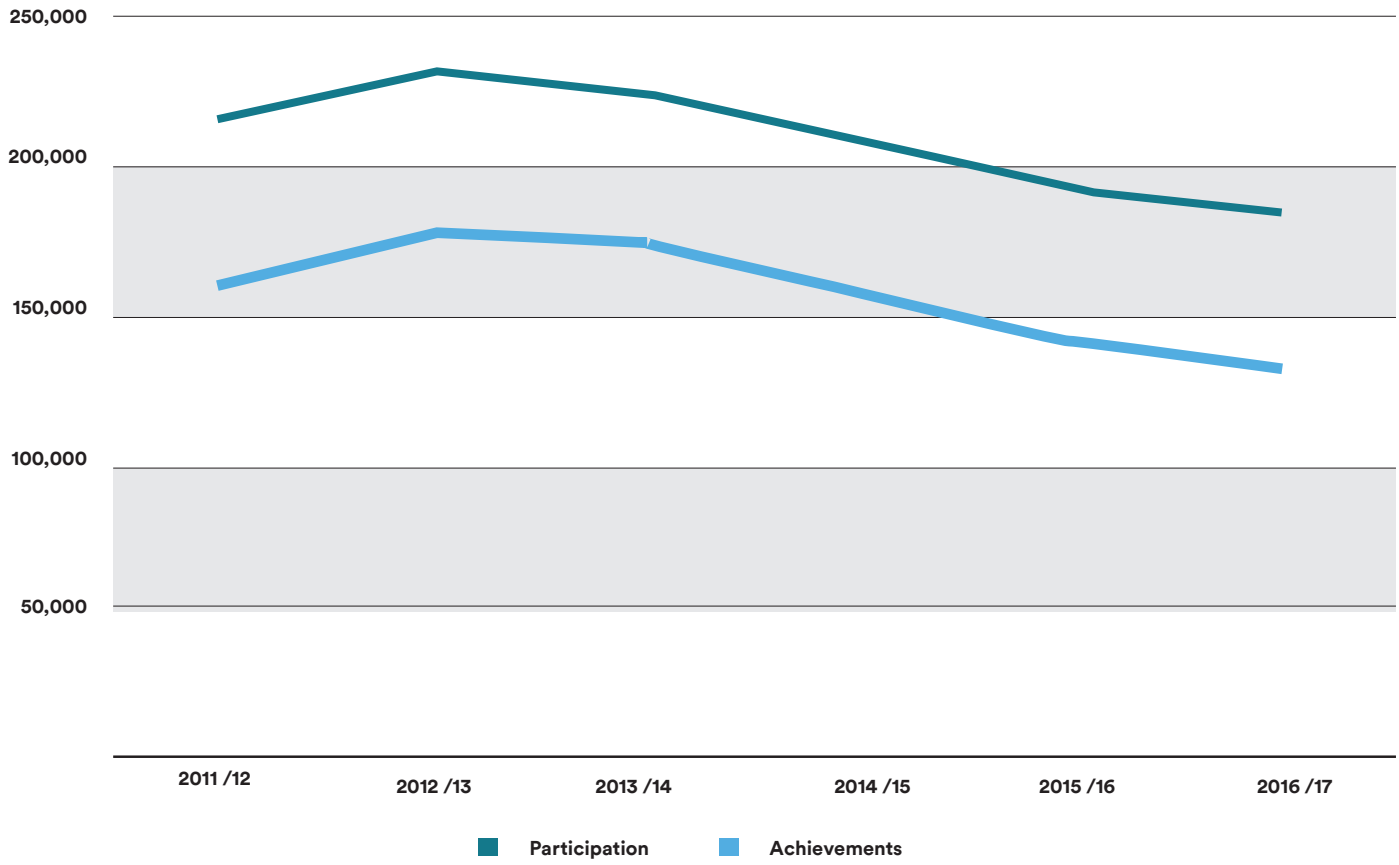
Source: Annual Population Survey

The level of participation in FE and Skills programmes has continued to fall

Turning to the pipeline of skills delivered through the local skills system, between 2015/16 and 2016/17 academic years the number of participants on FE and Skills programmes[6] fell by four per cent per cent from 190,000 to 183,000. Looking at the period from 2012/13 to 2016/17 the decline amounted to 26 per cent. Achievements on these programmes saw a similar rate of decline. The picture for the region broadly reflects the pattern of decline at national level.

[6]Participation is defined as the number of funded learners undertaking learning in an academic year. The FE and Skills category includes learners who are studying a course in an FE College, training provider or within their local community; and employees undertaking an Apprenticeship or otherqualification in the workplace.

Participation on FE and Skills programmes, Leeds City Region



Source: Department for Education

All broad areas of provision saw a degree of decline in participation over this period but with some variation:

- In spatial terms, Leeds district saw the least decline, falling by 11 per cent between 2012/13 and 2016/17 and growing by 1 per cent between 2015/16 and 2016/17.
- Full level 2 courses saw pronounced decline of 32 per cent between 2015/16 and 2016/17 alone whilst Full level 3 courses fell by only 2 per cent over the same period.
- Participation fell by 4 per cent for both adults (19+ years) and young people (under 19) between 2015/16 and 2016/17 but over the longer period from 2012/13 the fall was more much more pronounced for adults, at 31 per cent, compared with 12 per cent for under-19s.

Apprenticeship starts fell in 2016/17, reflecting the introduction of reforms

Apprenticeships are a key means for employers to grow their own skills and to address their specific needs, particularly in areas of shortage. There were around 30,000 apprenticeship starts in Leeds City Region during the 2016/17 academic year.

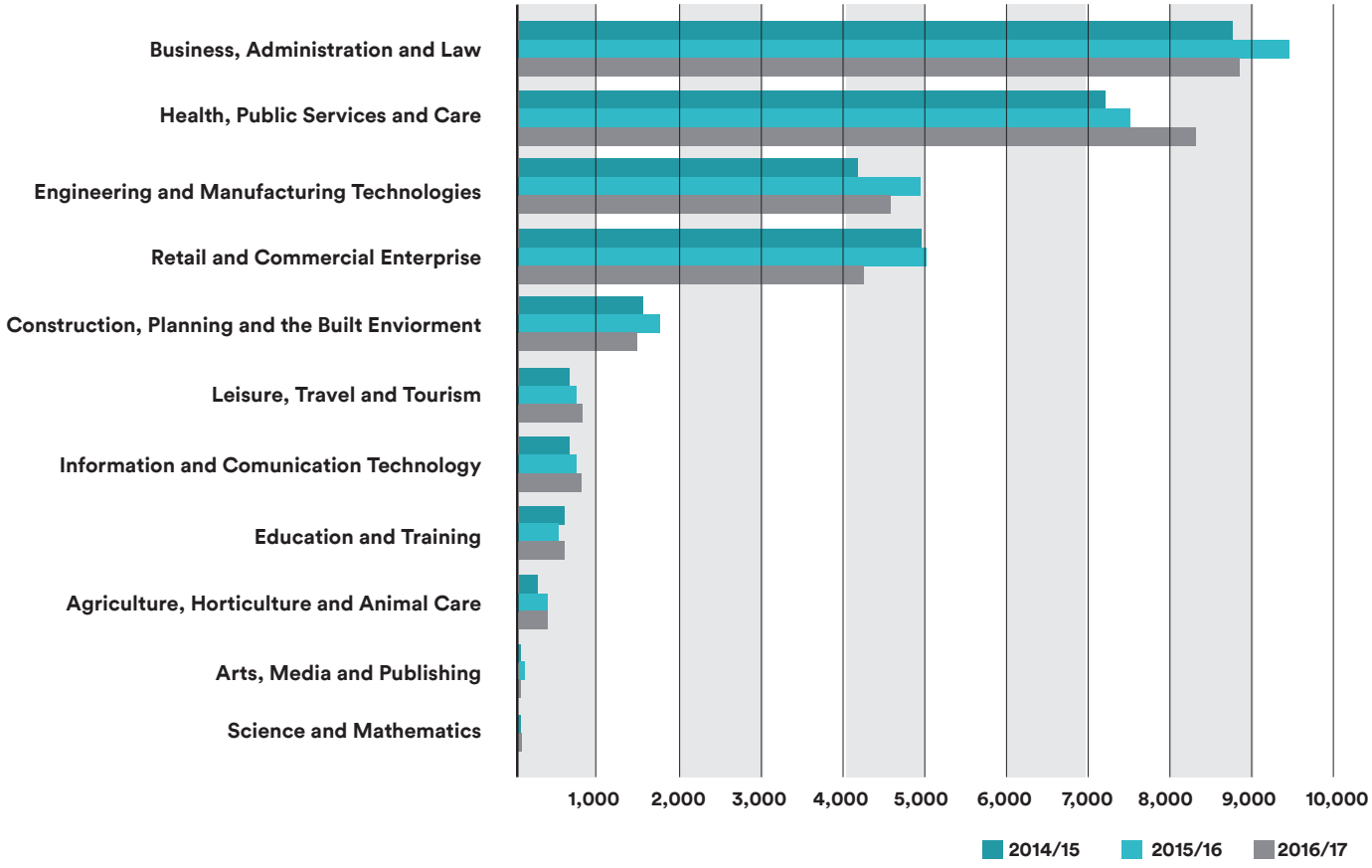
Based on provisional figures the region saw a fall in the overall number of apprenticeship starts in the 2016/17 academic year of around three per cent, following growth of eight per cent in the previous year. The decline was linked to the introduction of the apprenticeship reforms during the latter part of the academic year, as larger employers came under the new levy arrangements while smaller employers were affected by the introduction of co-investment arrangements, which place a greater onus on them to meet the training costs of apprentices they recruit.

The academic year saw a significant fall in intermediate apprenticeships, from 59 per cent of total starts in the City Region in 2015/16 to 53 per cent in 2016/17. In absolute terms this is a decline of more than 2,000 starts. At the same time advanced apprenticeships increase their share from 37 to 40 per cent of the total, an increase of 600 in absolute terms.

The two largest subject areas for apprenticeships locally are Business, administration and law and Health, public services and care, accounting for 30 per cent and 28 per cent of total starts respectively. Engineering and manufacturing is the largest priority subject area with 15 per cent of starts but Construction (5 per cent of the total) and Information and communication technology (3 per cent) are both relatively small.

Two of the three priority subject areas shared in the decline in apprenticeships seen during 2016/17: Engineering and manufacturing starts fell by 6 per cent while Construction starts fell by 20 per cent. In contrast, ICT starts grew slightly by 5 per cent. Some subjects saw significant growth, however. Health, public services and care grew by 11 per cent and Leisure, travel and tourism by 17 per cent.

Trend in apprenticeship starts by subject area, Leeds City Region



Source: Department for Education.
Note: Figures are provisional

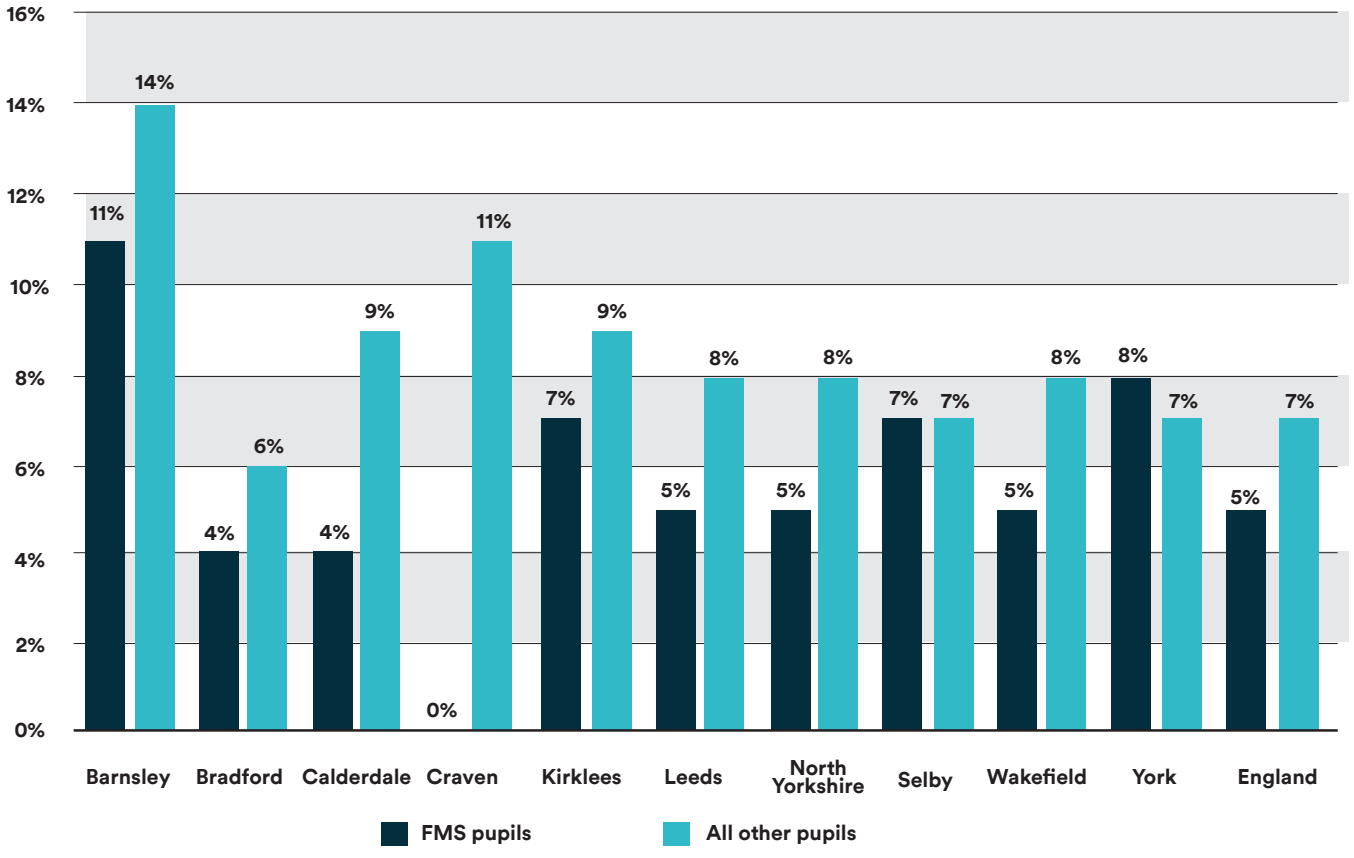
As higher skilled jobs increasingly dominate the employment scene, higher apprenticeships have become increasingly important. Starts at this level have continued to grow, albeit from a low base and accounted for seven per cent of total apprenticeship starts (around 2,000 starts in total) during 2016/17.

A concern is that higher apprenticeship availability is currently narrowly concentrated in a few subject areas, with 90 per cent of higher level starts falling within the two subject areas of Business, administration and law and Health, public services and care (within these broad subject areas starts are mainly for management and care leadership apprenticeships). With regard to priority skill areas, higher apprenticeship provision is currently limited to the Information and Communication Technology subject area, with no higher apprenticeship take-up in construction and the built environment and engineering and manufacturing.

Disadvantaged pupils are less likely to enter an apprenticeship in most parts of the City Region

In considering the supply of skills, we need to take account of the inclusiveness of the skills pipeline, as well as the extent to which it is sufficient to meet needs. In the case of apprenticeships, which should provide an important mechanism for social mobility, there are issues about the degree to which they are inclusive.

Proportion of pupils entering apprenticeships following completion of key stage 4, by free school meal status



Source: Department for Education.
Note: Analysis shows 2015/16 destinations for the 2014/15 cohort (state-funded mainstream schools)

Across all districts (with the exception of York and Selby) disadvantaged pupils are less likely to enter an apprenticeship than other pupils on the completion of key stage 4. The national average figures also show a gap but this is less pronounced than for a number of districts in the region.

With regard to diversity, females accounted for a small majority (53%) of apprenticeship starts in 2015/16 however, take-up of apprenticeships is highly segmented by subject. For example, 85 per cent of starts on health, public services and care apprenticeships were for females but the proportion for construction, planning and the built environment was only 2 per cent. National research shows that male-dominated apprenticeships such as construction and engineering offer better pay and prospects than those in which women are concentrated.

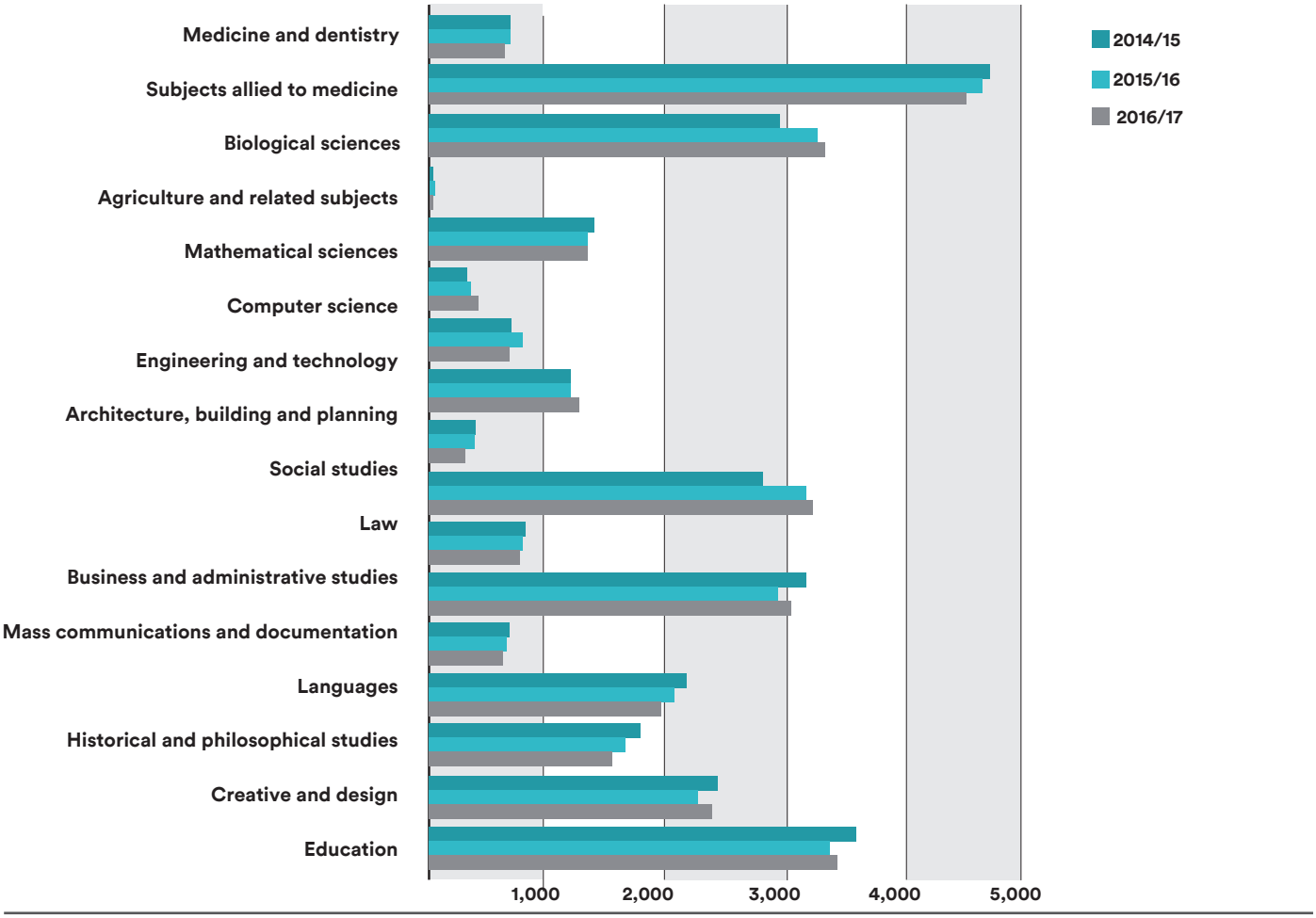
Ten per cent of apprenticeship starts in the City Region related to black, Asian, and minority ethnic (BAME) apprentices during the 2015/16 academic year, a marginal increase on 9 per cent in 2014/15. This mirrors the national average, also 10 per cent, but is somewhat lower than the 13 per cent of the working population of the City Region who are from ethnic minorities.

The City Region enjoys a net inflow of HE students but relatively few engineering and built environment graduates take up employment in Yorkshire and the Humber

With 116,000 students enrolled during the 2016/17 academic year, Leeds City Region has the largest higher education sector outside London. There was a net inflow of 40,000 students during the year, based on the fact that there were 40,000 HE students from the region who studied elsewhere, compared with 80,000 students from outside the region (including foreign students) who came to study at local institutions.

Retention of graduates in the regional economy is key to maximising the economic benefits of higher education. In 2016/17, around 57 per cent of qualifiers from our institutions were in employment in Yorkshire and the Humber six months after graduation. This rate has remained fairly constant over recent years.

Number of qualifiers by subject area from Leeds City Region HEIs



Source: Higher Education Statistics Agency
Note: UK domiciled students only

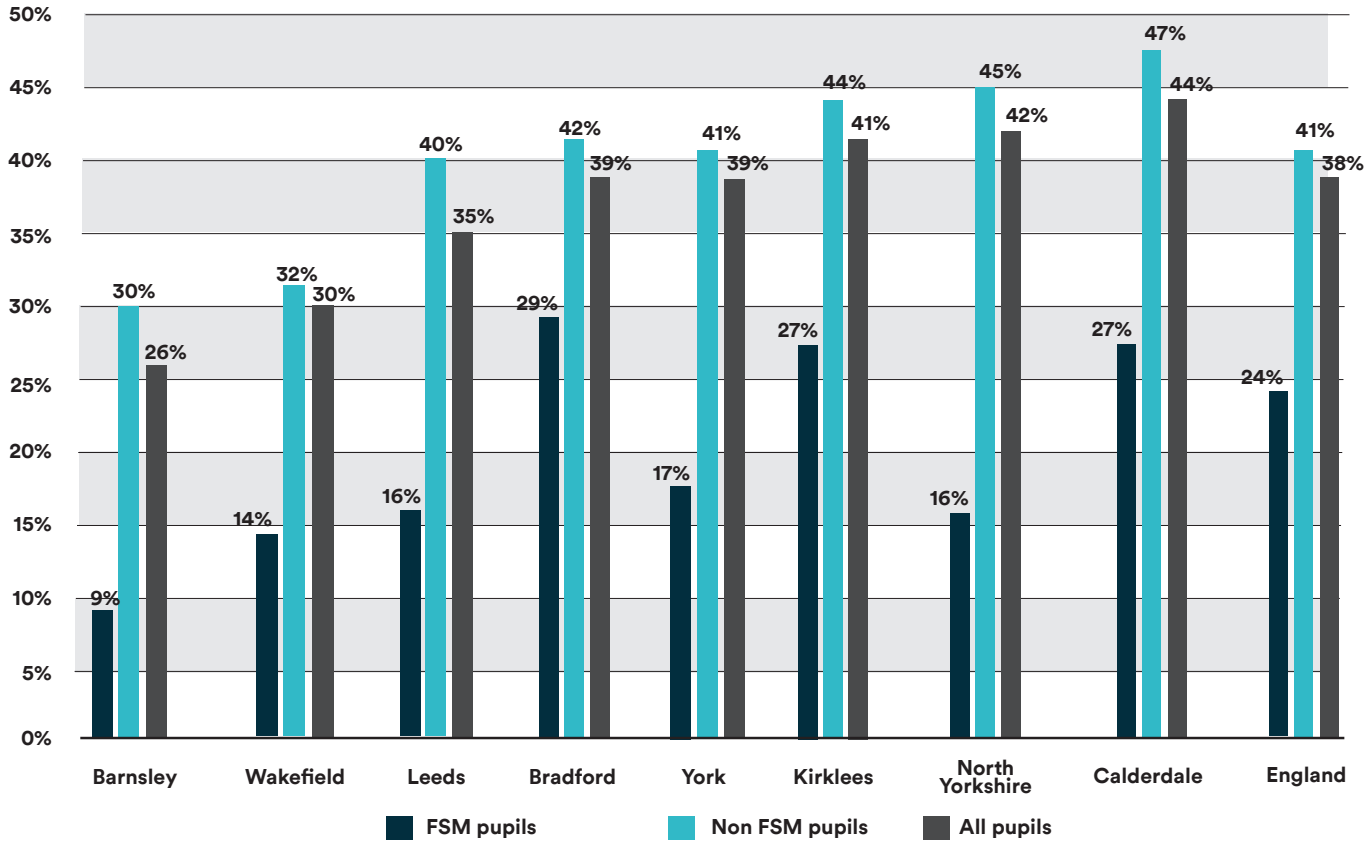
The total number of student enrolments at the region's institutions has remained stable in recent years, however, there have been changes in the number of students qualifying in particular subjects. With regard to priority subjects, the number of UK-domiciled qualifiers in engineering and technology grew by around 70 or 6 per cent in 2016/17. For architecture, building and planning there was continuing decline, as qualifiers fell by 60 (16 per cent) in 2016/17, while qualifiers in computer science fell by around 90 (11 per cent), following an increase in 2015/16. Qualifiers in mathematical sciences grew significantly in proportionate terms by 20 per cent (an increase of 70).

The extent to which qualifiers are retained in the region varies by subject . For Computer science the retention rate, at 65 per cent, is higher than the average of 57 per cent. For the other priority subjects retention rates are relatively low, at 53 per cent for Architecture, building and planning and only 43 per cent for Engineering and technology.

Disadvantaged pupils less likely to enter higher education

As with apprenticeships there are issues around the ability of disadvantaged young people to enter higher education. As part of its commitment to inclusive growth the LEP seeks to raise aspiration among all ages and communities to progress into higher level learning.

Proportion of students entering higher education by free school meal status



Source: Department for Education
Note: Entered HE by age 19 in 2014/15 academic year

Performance is mixed with regard to overall entry rates into higher education. Pupils in Barnsley, Wakefield and Leeds are less likely to go into higher education than the national average. Conversely, Calderdale, Kirklees and Bradford, together with York and districts in North Yorkshire have relatively high rates.

The districts with low entry rates also have very low entry rates among disadvantaged pupils eligible for free school meals: below 10 per cent in Barnsley, 14 per cent in Wakefield and only 16 per cent in Leeds; this compares with a national average rate of 24 per cent.

In addition, a number of areas with strong overall performance, including York and North Yorkshire also perform poorly with regard to entry rates for pupils eligible for free school meals and demonstrate the widest gap between the disadvantaged and non-disadvantaged.

It is notable that Bradford has the highest entry rate for FSM pupils in the region and the lowest "disadvantage gap"; this is in spite of having the largest number of pupils eligible for free school meals in the area.

Many employers admit that they under-invest in training

Improvements to the skills base of the City Region depend to a large degree on ongoing investments by employers in workforce development. New entrants can only make a partial contribution since existing workers will form the vast majority of the local labour force a decade from now.

Based on an **extrapolation** of spend per person trained taken from the Employer Skills Survey it is estimated that employers here invest close to **£2bn** per annum on workforce development, when wage costs are taken into account.

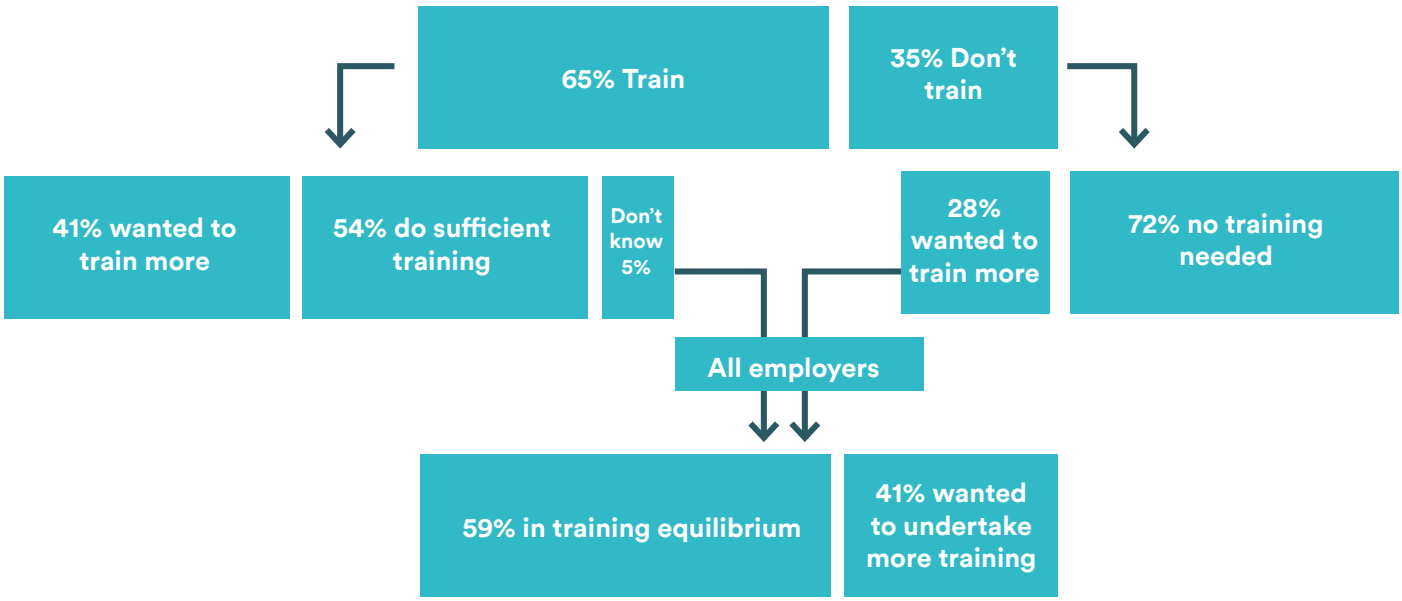
A review of training performance based on key indicators from the Employer Skills Survey 2017 shows that around two-thirds (**65 per cent**) of employers in the region provide any kind of training to their staff, slightly below the England average of **66 per cent.** At the same time **59 per cent** of staff received training, somewhat below the national average of **62 per cent.** There has been little change in performance against these indicators between 2017 and the previous survey in 2015.

Among the third of local establishments who did not train, a majority (72 per cent) said that **no training was needed** but a significant minority (the remaining 28 per cent) said that they would have liked to have done some training. Among those employers who did invest in training, around two-fifths would have liked to have **done more**.

The overall picture is that approximately two-fifths (41 per cent) of employers would have liked to have done some training or more training, closely reflecting the picture from the 2015 survey. We can view this as an acknowledgement by many employers that they are under-investing relative to the skills needs of their business.

Among employers who would have provided more training if they could, the chief barriers to doing more were a lack of funds for training (52 per cent of respondents) and an inability to spare staff time for training (48 per cent), followed by a lack of time to organise training. Issues around the availability of suitable training provision were identified by small proportions of respondents to the Employer Skills Survey. The key challenge therefore is to make the case for training as a business investment that will deliver suitable returns in the form of improved business performance.

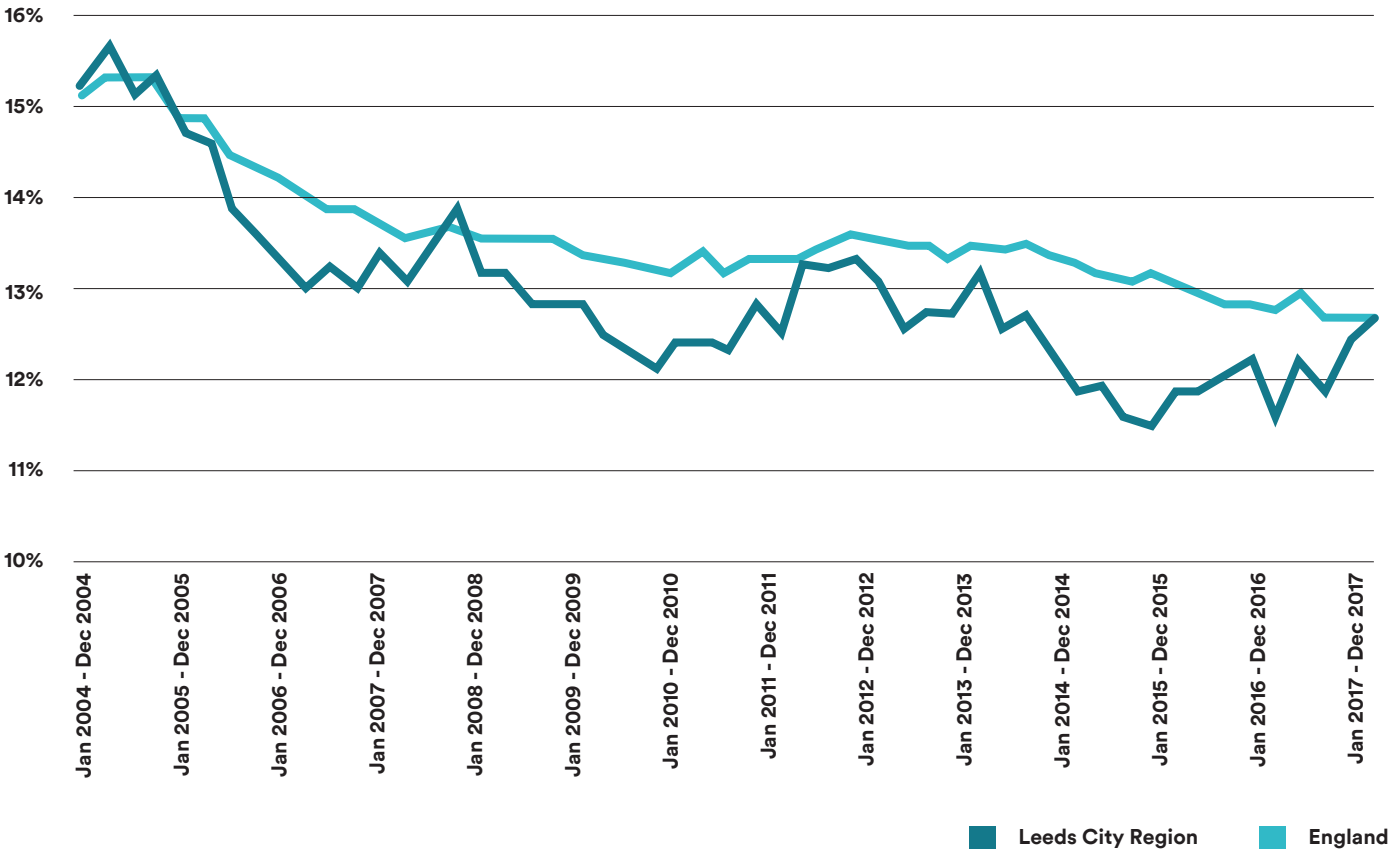
Training equilibrium summary, Leeds City Region



Source: Employer Skills Survey 2017. Base: all establishments in Leeds City Region (3,943)

Data from the Annual Population Survey shows that the proportion of workers receiving job-related training has been in decline for a prolonged period, both nationally and at regional level. Although the recent picture is unclear due to the volatility of the available data, the decline may have abated. What is clear is that the proportion of workers receiving job-related training in the previous 4 week period has fallen from 15.2 per cent in 2004 to 12.7 per cent in 2007.

Proportion of workers receiving job-related training in previous 4 weeks



Source: Annual Population Survey

In addition, some categories of worker are clearly disadvantaged in their access to job-related training. For example, workers qualified at level 3 and below are half as likely to receive training as those qualified at level 4 and above, whilst those employed in manufacturing and private sector services are less than half as likely to undertake training as those working in the public sector.

Skills Mismatches

Skill mismatches reflect an imbalance between supply and demand in the labour market, between the skills available and the skills needed by employers.

This inability to obtain the skilled people that are required is one of the key barriers to business growth and improved productivity for firms.

Skills mismatches are often short term, as the operation of the market leads to an increase in the supply of people with the necessary skills, but in some cases they are acute and persistent, with significant implications for business performance. This kind of market failure presents a policy priority but also offers an opportunity for individuals considering their career options to target areas of unmet demand.

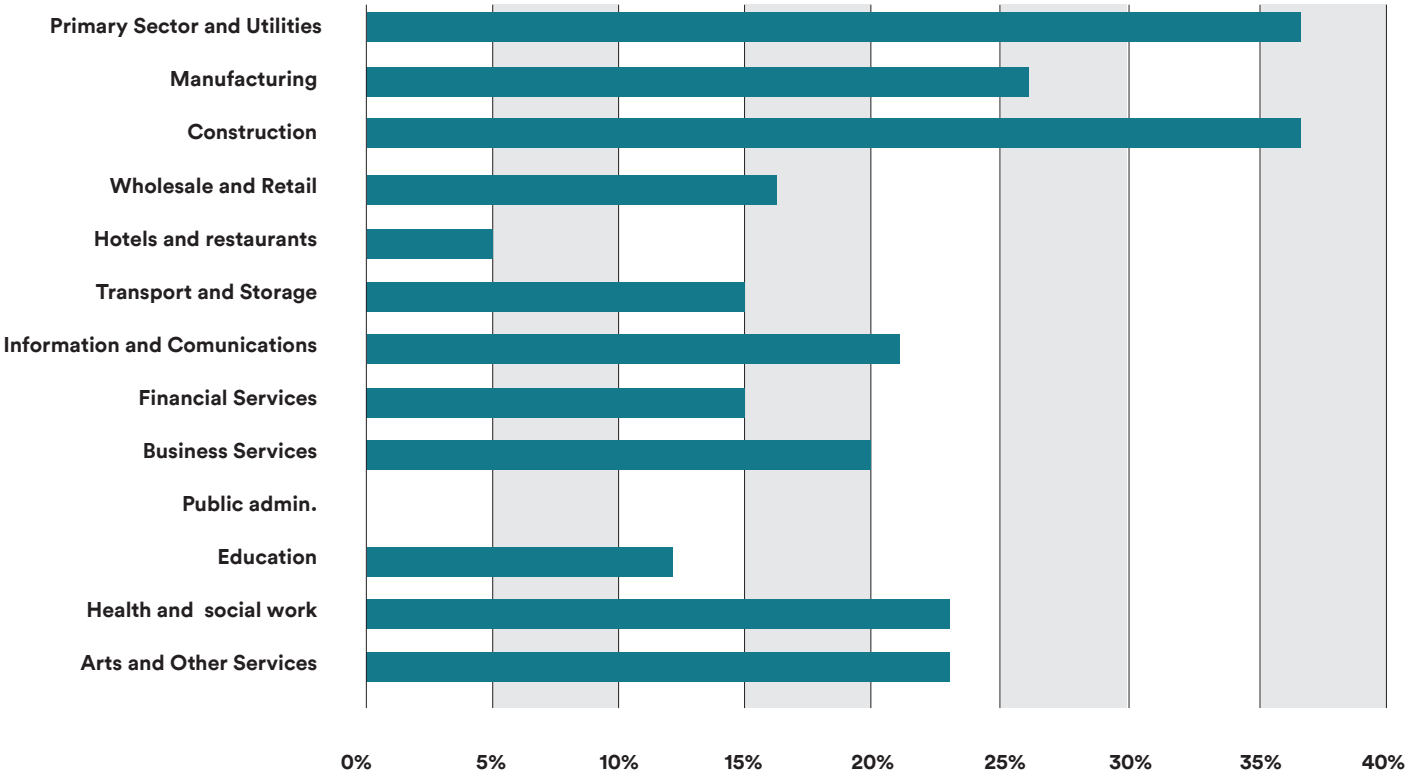
Skill shortages are most acute in primary, construction and manufacturing sectors and in professional, skilled trades and machine operative occupations

Skill shortages arise when employers find it difficult to fill their vacancies because of a lack of candidates with the necessary skills, qualifications and experience.

The Employer Skills Survey provides information on the number of vacancies and skill shortage vacancies that employers have at a single point in time. Skill shortages do not occur in large numbers and are not widespread. They tend to be concentrated in particular industry sectors and occupations but where they do exist they can be acute and persistent.

According to the 2017 iteration of the survey there were 8,100 skill shortage vacancies, with six per cent of employers reporting one or more shortage.

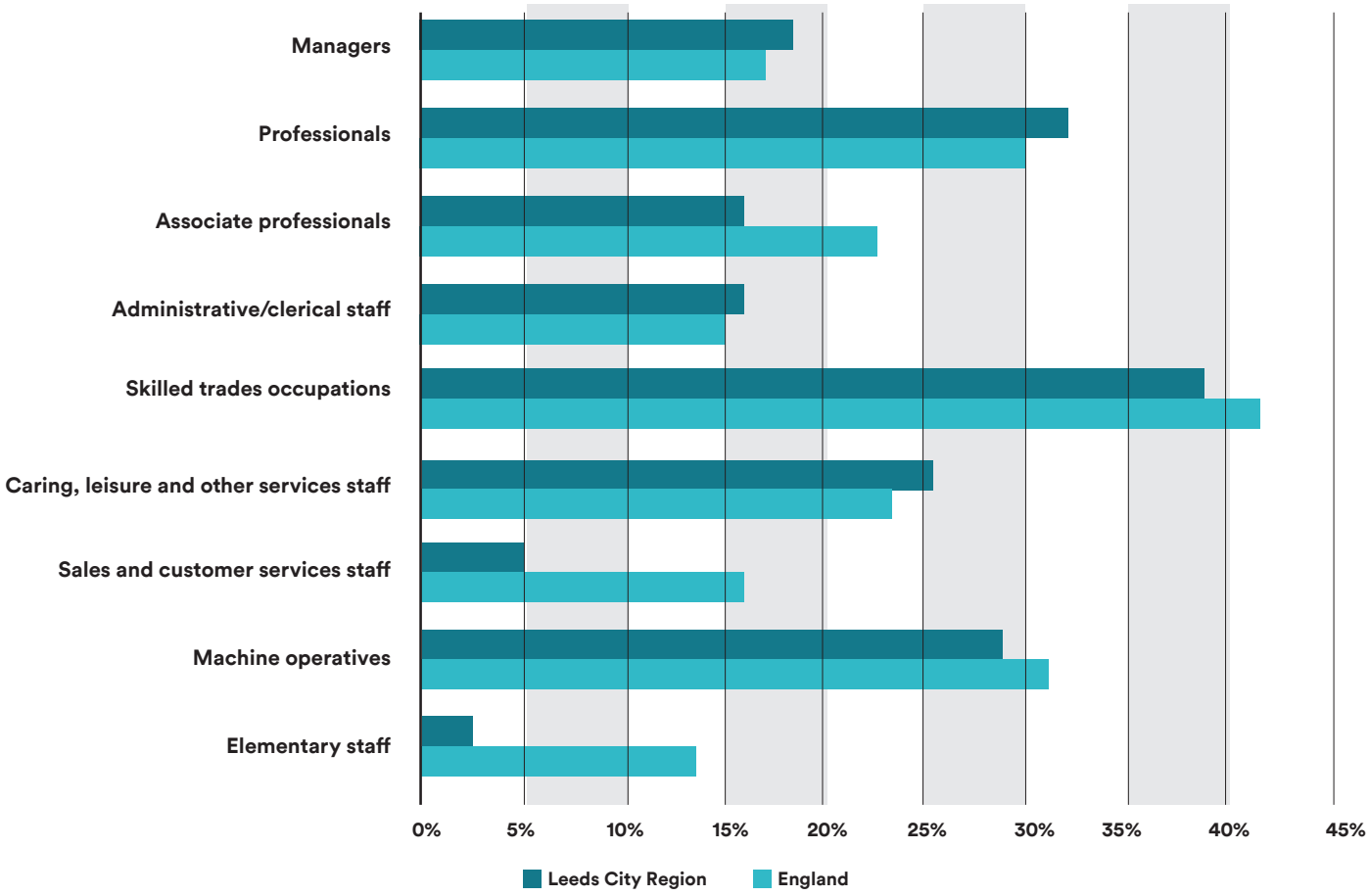
Density of skill shortage vacancies by industry sector , Leeds City Region



Source: Employer Skills Survey 2017
Note: Density measure shows skill-shortage vacancies as a proportion of all vacancies

Skill shortages have the highest prevalence in three sectors: primary sector and utilities and construction, followed by manufacturing. Shortages are also relatively high in information and communication, health and social work and arts and other services.

Density of skill shortage vacancies by occupation major group



Source: Employer Skills Survey 2017
Note: Density measure shows skill-shortage vacancies as a proportion of all vacancies

The occupational pattern of shortages provides an insight into the particular types of jobs that are affected by a lack of candidates with the right skills. This shows that there are particular problems in generating intermediate and high-level vocational / technical skills. The prevalence of skill shortages is greatest in professional, skilled trades and machine operative occupations. This local pattern of shortages broadly mirrors that seen at national level.

With regard to the skills that employers found difficult to obtain from applicants, specialists skills required to perform the role are the type most commonly highlighted (for around two-thirds of shortage vacancies). However, a lack of complex analytical skills (such as solving complex problems) is also widespread (60 per cent of shortage vacancies), as is a deficit of digital skills (37 per cent).

The detailed occupations with the most acute shortages include engineering and digital professionals

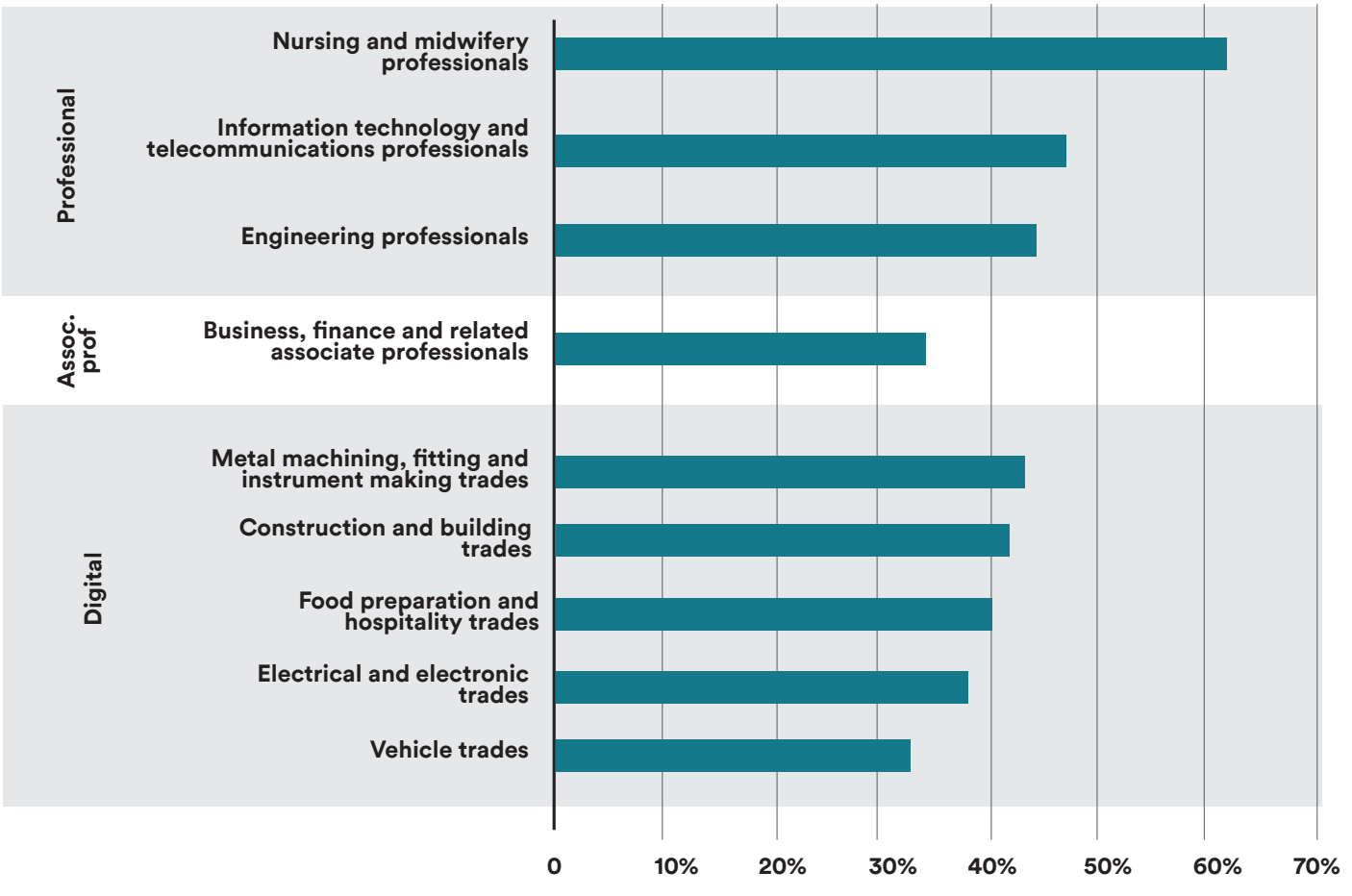
More detailed occupational data on shortages is available for Yorkshire and the Humber, providing a clearer insight into the nature of the challenge.

The occupations with the greatest overall number of shortages include nursing roles, caring roles (eg: care workers), food preparation and hospitality trades (eg: chefs) and engineering professional[s8].

However, the occupations with the greatest density of shortages, those in which shortages are most acute, are nurses, digital professionals, engineering professionals, metal machining, fitting and instrument making trades and construction and building trades. There is also evidence of shortages for the category of Business, finance and related associate professionals, which includes roles like insurance underwriter and finance / investment analyst.

These occupations are, in the main, closely aligned to the LEP's priorities of digital, engineering and manufacturing and construction. In each case the prevalence of skill shortages in these occupations has been considerably higher than the average for all occupations since 2011, demonstrating their persistent nature.

Occupational minor groups with highest density of skill shortage vacancies, Yorkshire and the Humber



Source: Employer Skills Survey 2017
Note: Density measure shows skill-shortage vacancies as a proportion of all vacancies

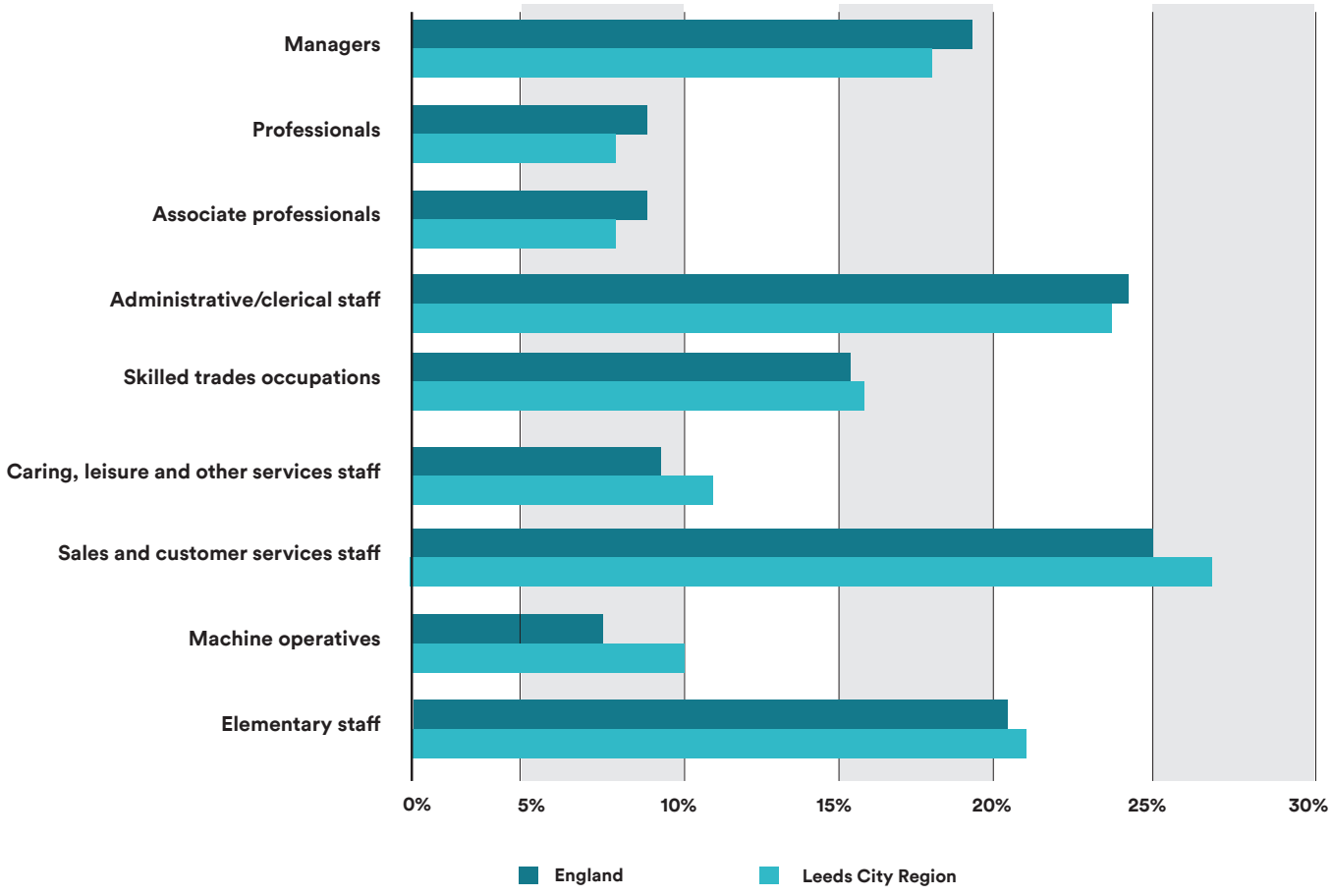
[8] **The engineering professionals category includes civil engineers, a key occupation within the construction sector. More detailed national data shows that civil engineering vacancies are subject to a high density of shortages.**

Skills gaps are another form of mismatch and come about when existing employees are not fully proficient in their job and are not able to make the required contribution to the achievement of business objectives. The pattern of skills gaps provides a useful indication of employers' needs for workforce development.

One in seven employers are affected by skills gaps, with administrative and sales and customer service staff most susceptible to gaps

Skills gaps are more widespread and numerous than skill shortages. There were 53,000 skills gaps in 2017, equivalent to approximately four per cent of total employment in the region. Around 14 per cent, or one in seven, of employers are affected by gaps. The incidence and volume of skills gaps in the City Region have both fallen slightly since 2015.

Incidence of skills gaps by occupational major group



Source: Employer Skills Survey 2017
Note: incidence measure shows the proportion of employers with a skills gap who report a gap in a given occupation.

The occupational pattern of skills gaps differs from shortages. Employers are most likely to report skills gaps in respect of sales and customer service staff, administrative staff and lower skilled elementary staff. However, it is notable that a significant proportion of employers who report skills gaps say that management level staff are affected. This has clear implications for wider business performance.

Many skills gaps are due to a deficit of technical skills among workers, including job-specific skills and operational skills, such as knowledge of the organisation's products and services. However, a lack of the required soft skills is more common, such as time management, team working, customer handling skills and persuading / influencing others.

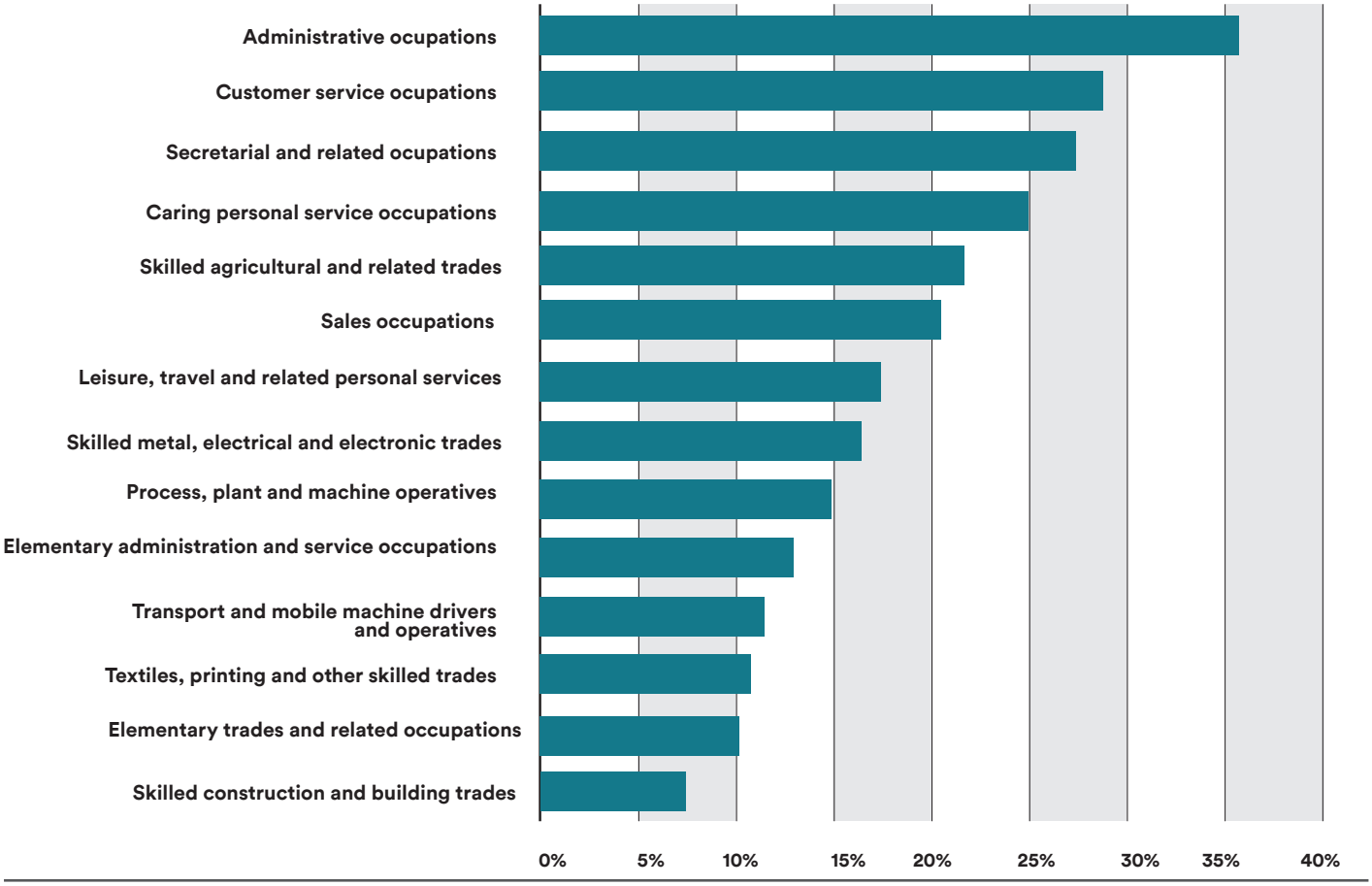
For managers with skills gaps the main types of skill that need to be improved include core management skills, complex problem solving skills, as well as operational skills.

Many skills gaps are short term and associated with high rates of staff turnover, in the sense that the workers are new to the role or their training is not yet complete. However, in some cases gaps are due to wider organisational changes such as the introduction of new working practices or new technology. In other instances, gaps are associated with management issues, such as staff lacking motivation and problems in retaining staff.

Skills underutilisation is widespread in the City Region

Skills mismatches are not only due to skills deficits. Just over a third (34 per cent) of employers in the City Region say that they have workers whose skills / qualifications are in advance of those needed for the job (source: Employer Skills Survey 2017). In volume terms, survey estimates suggest that 7 per cent of total employees fall into this category.

Medium and lower-skilled occupations with the greatest proportion of workers qualified at level 4+; Yorkshire and the Humber



Source: Labour Force Survey, Oct – Dec 2017

Other measures suggest that underutilisation is more widespread and on a larger scale than either skill shortages or skills gaps. Data for the Yorkshire and the Humber region indicate that 290,000 people working in non-graduate roles (as their main job) hold qualifications at level four and above. This is equivalent to 20 per cent of all people working in non-graduate roles. Workers with under-utilised skills are most likely to be employed in administrative, customer service, secretarial and caring roles. This kind of mismatch represents a waste of human capital and a missed opportunity to maximise productivity. Improved information, advice and guidance is a key mechanism for enabling people to invest in the right economically valuable skills that will allow them to fulfil their potential.

Structural joblessness is still a major feature of the local labour market

Skills mismatch also comes in the form of structural joblessness, in those instances where the occupational and qualification profile of the jobless is misaligned with demand from the labour market.

Based on the headline ILO measure, unemployment in the City Region has fallen by around 68,000 (49 per cent) from its peak and now stands at 70,000, a rate of 4.7 per cent (using data that averages the position for January to December 2017).

This is still slightly above the national average (4.5 per cent) but is now in line with the pre-recession lows seen in the City Region in the early part of the last decade.

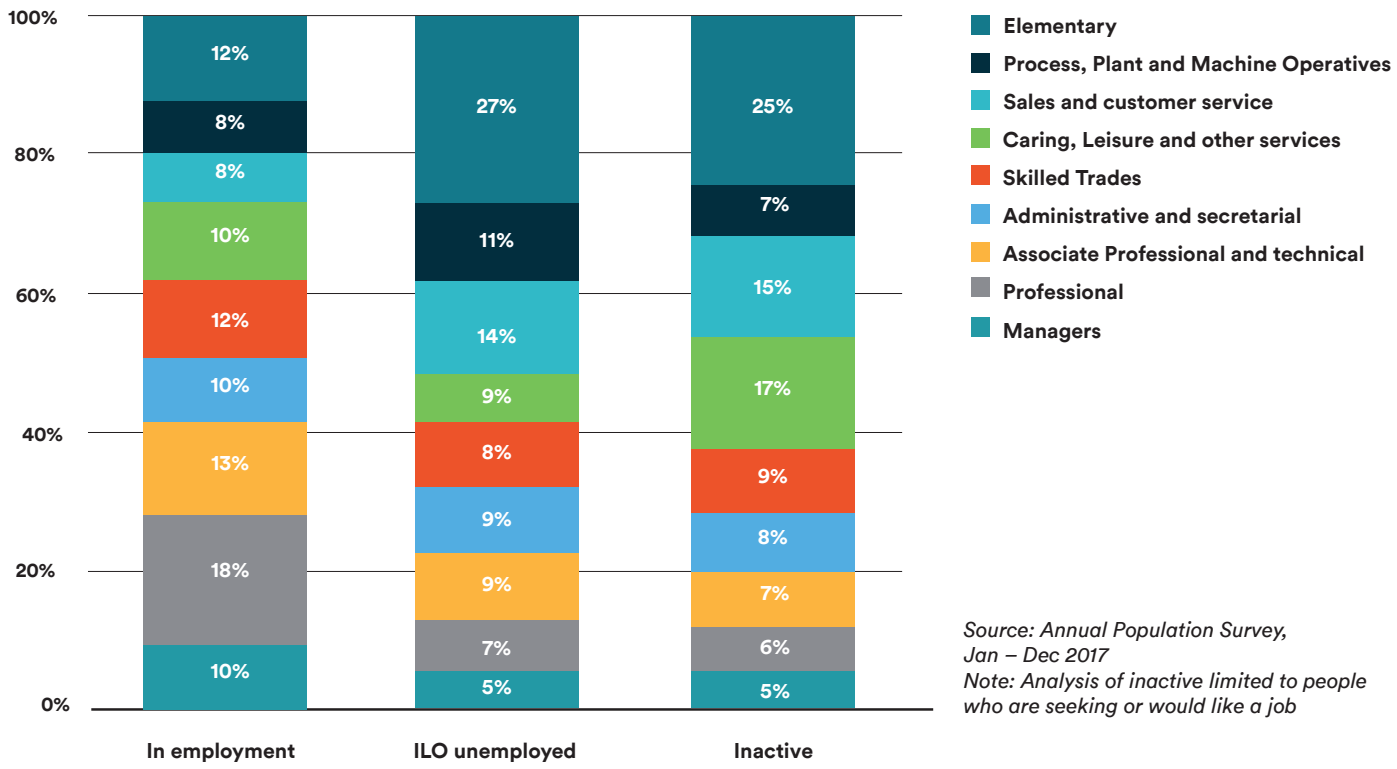
However, alongside the ILO unemployed there are 90,000 people who are inactive but want a job. This group has not declined as rapidly as the unemployed, falling by 26,000 or 22 per cent since its peak.

A further group that is disadvantaged in the labour market is the underemployed: workers who are looking for an additional job, or for a new job with longer hours or wish to work longer hours in their current job. Official statistics are not published below UK level but if we apply the UK underemployment rate to the City Region it suggests that there are more than 100,000 underemployed people locally. The evidence suggests that the underemployed are more likely to be employed in low-skilled / low-paid occupations[9].

The rate of youth unemployment (based on the ILO measure) fell from 24 per cent to 15 per cent between 2012 and 2015 but is still more than twice as high as the overall rate for the City Region. This reflects the fact that youth unemployment has a longer term structural component that pre-dates the recession and is due to the difficulty that some young people face in gaining an initial foothold in the labour market.

9 Joseph Rowntree Foundation (2015) Monitoring poverty and social exclusion 2015. JRF: York.

Occupational profile of the unemployed and inactive (based on last job), Yorkshire and the Humber



Source: Annual Population Survey, Jan – Dec 2017
Note: Analysis of inactive limited to people who are seeking or would like a job

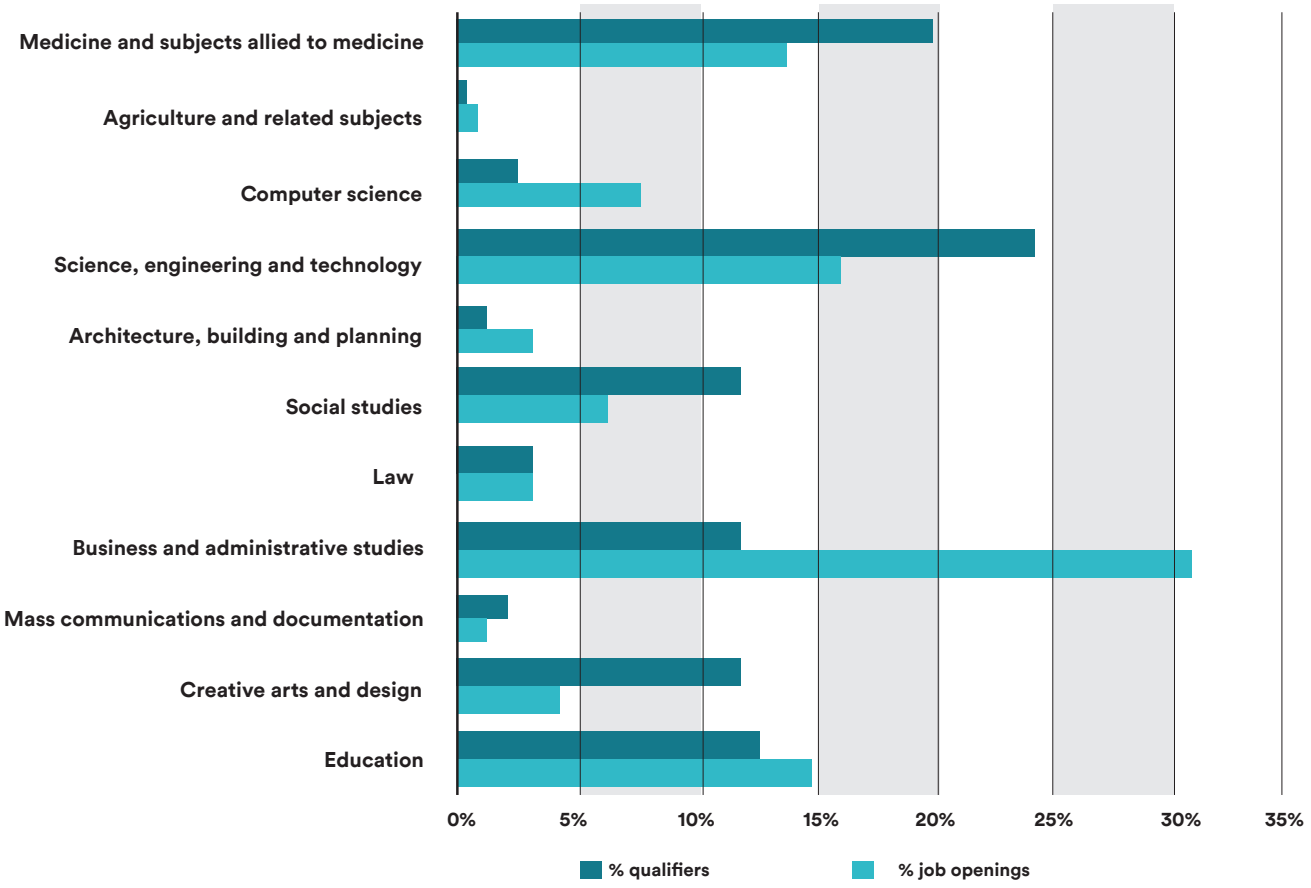
There are pronounced differences between the occupational profile of people in work and of unemployed and inactive people; this is even more marked if we consider the profile of jobs growth in the labour market. The past work experience of both the unemployed and inactive is strongly weighted towards lower-skilled occupations, principally elementary and sales and customer service roles. The proportion of unemployed and inactive people with a background in higher skilled management, professional and associate professional is half that of employed people. This implies a mismatch between the skills and experience of the unemployed and the profile of demand in the labour market.

There are stark differences between the subject profile of HE achievements and the profile of labour market demand

One way of assessing the relevance of HE provision to the needs of the local labour market is to compare the profile of provision to that of projected future job openings. This involves mapping subject categories to occupations[10]. Clearly, there is a major caveat around the transferability of skills. Many people find that study in a particular vocational area proves to be of value across a range of occupational settings. In addition HE institutions are serving the national labour market (or even an international one) rather than confining their efforts to meeting local needs.

[10] Those subjects that do not have a reasonably straightforward relationship with an occupational group have been excluded. Examples include academically-focused subjects such as history, philosophy and theology, which have a generic rather than job-specific focus.

Comparison of subject profile of higher education qualifiers with projected job openings in related occupations , Leeds City Region



Source: HESA achievement data for 2016/17; Working Futures projections for 2014-2024

There are several areas where supply is low relative to estimated demand. Key instances are computer science and architecture, building and planning. Both are particularly important as priority skills areas. However, the most glaring of area of apparent undersupply is for business and administrative qualifiers.

Conversely, there are subject areas in which supply, reflected in the proportion of qualifiers relative to the proportion of openings, appears to be high. This is the case for Creative arts and design, Mass communications and documentation and Social studies. Further evidence of oversupply is provided by relative low annualised graduate earnings in these subjects at national level[11].

More surprisingly the proportion of people who qualify in Science, engineering and technology outweighs demand for directly related roles in the labour market. This is a clear example where skills are highly transferable and can be applied across a range of settings, with demand from employers extending well beyond the specific occupational field. This

[11] Department for Education (2016) Employment and earnings outcomes of higher education graduates: experimental statistics using the Longitudinal Education Outcomes (LEO) data: further breakdowns. DfE: London.

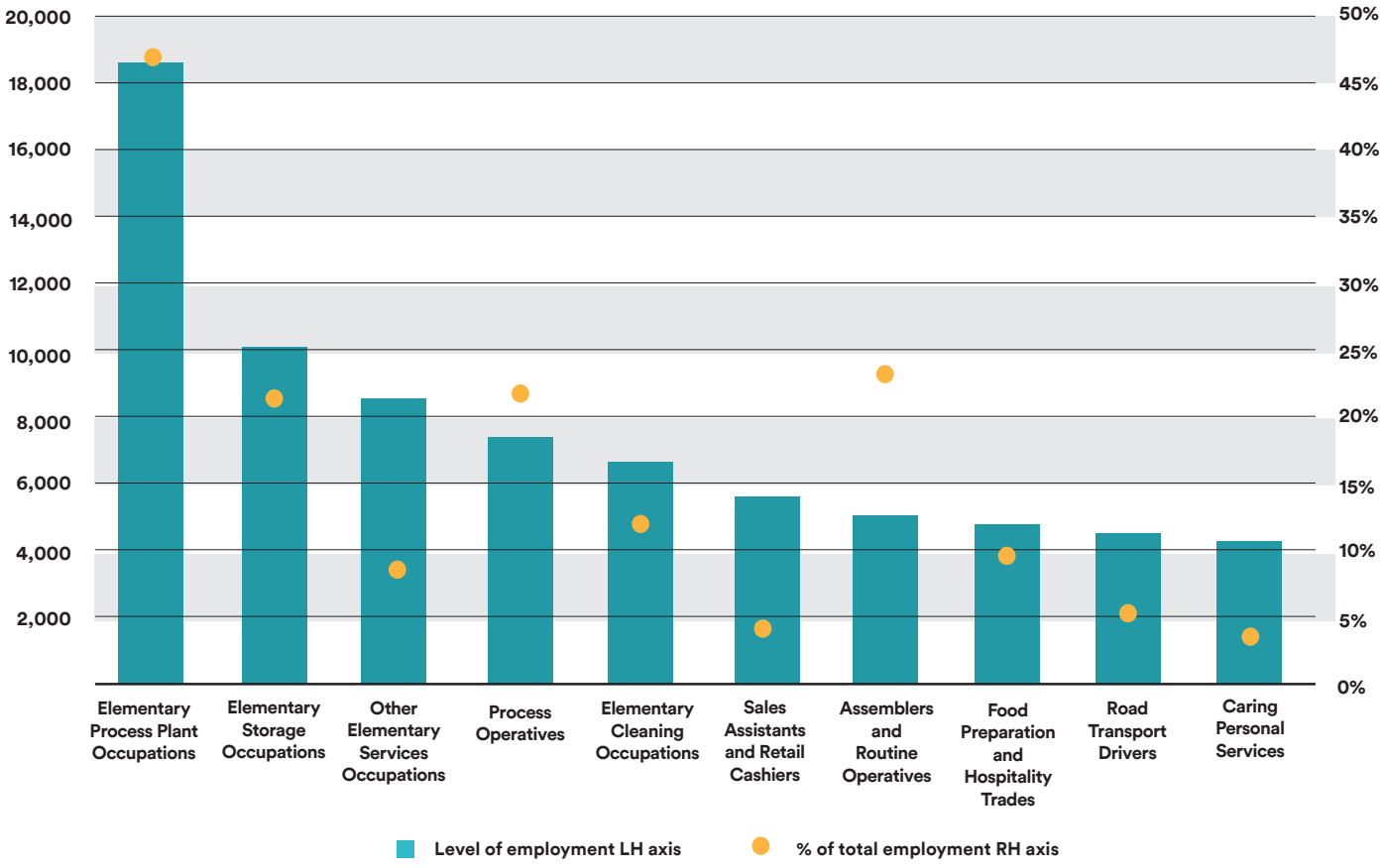
view is substantiated by the strong graduate earnings associated with specific subjects like mathematical sciences, engineering and technology and architecture, building and planning.

EU migrants account for a significant proportion of workers in Yorkshire and the Humber and Brexit may pose labour supply issues

The presence of migrant workers can be seen as a mismatch between the skills / labour requirements of employers and the available supply of indigenous workers.

Across Yorkshire and Humber there are around 150,000 EU migrant workers equivalent to six per cent of total employment.

Occupations with the highest level of EU migrant employment, Yorkshire and the Humber



Source: Annual Population Survey, 2017

EU migrant employment is concentrated in particular sectors, most notably wholesale and retail (25 per cent of the total), manufacturing (22 per cent), accommodation and food services (10 per cent) and health and social work (9 per cent). At a more detailed level, particular industries rely on EU migrant labour to a significant extent. Around a quarter of workers in food manufacturing are EU migrants, with a similar proportion for wholesale, whilst the proportion for warehousing is around one fifth.

As the chart shows, the occupational groups with the highest level of employment among EU migrants are classified as lower-skilled elementary occupations, including process plant roles (such as packers, bottlers etc), storage occupations, service roles (such as kitchen assistants and bar staff) and cleaning occupations. Semi-skilled operative occupations also have a significant level of EU migrant employment.

Only around a quarter of EU migrant workers in Yorkshire and the Humber are employed in higher skilled management, professional and associate professional occupations, much lower than the UK average of 35 per cent.

Although lower-skilled occupations are where the direct impact of Brexit could be greatest in the form of disruption to labour supply, there could still be significant implications for skills. For example, some employers may decide to move to a more skills-intensive business model founded on capital investment in labour-saving equipment.

There is already some evidence that the influx of EU migrants into the local labour market is reducing. According to figures from the Department for Work and Pensions, the number of EU nationals registering for a National Insurance number (NINo) within the City Region declined by 22 per cent between 2016/17 and 2017/18 (April to March for both periods)[12].

[12] NINo is generally required by any overseas national looking to work or claim benefits / tax credits in the UK, including the self-employed or students working part time. NINo statistics are a measure of in-flow to the UK, primarily for employment, including both short-term and long-term migrants and include foreign nationals who have already been in the country but not previously required a NINo as well as migrants who may have subsequently returned abroad.

Conclusions

Taking into account what we know about skills demand and supply, skills mismatches and key challenges in the labour market such as automation, what are the key skills priorities for Leeds City Region? What are the areas where intervention is required?

There is strong evidence to show that the existing skills priority areas around higher level digital, engineering and construction skills remain valid. They are areas of employment growth, they face acute shortages and they are expected to have a low susceptibility to automation.

As these higher level technical roles evolve, specific skills requirements are emerging that are needed to complement core technical skills, such as project management, team working and collaboration and budget management.

Skills associated with most other higher skilled occupations (including health, teaching, business, public service) are also important, in view of the robust employment growth that is expected. A steady supply of skilled people will be required. Arguably, there is less of a priority for intervention in many of these areas since dedicated mechanisms are in place for workforce planning in respect of health and education, whilst there is an absence of market failure in other higher skilled occupations.

A widespread skills gap among existing managers is another priority for action, in view of the key importance of management capability to wider business performance and productivity.

Caring skills are a key priority, in view of the rate and scale of employment growth in the caring personal services occupational group and its importance in meeting the challenge of an ageing population. This occupational area is also subject to a large volume of hard-to-fill vacancies and skill shortages, although this reflects the number of people employed in this field rather than a high intensity of shortages. A major challenge in addressing the strong demand for caring skills is the relatively low rate of pay and absence of structured progression opportunities in most caring roles. The resultant high rates of labour turnover intensify recruitment problems.

Skilled trades are more difficult to assess in terms of their longer term future prospects. Some roles in this category are currently the focus of acute shortage and there has been a modest recovery in skilled trades employment during the economic recovery. Moreover, skilled trades in the construction sector will be key to the major infrastructure projects that are in the pipeline. However, the routine nature of many of the tasks involved makes them susceptible to future automation. Skilled trades jobs that require the greatest manual dexterity and the ability to work in unstructured environments are the least likely to be displaced.

This raises the question of how effective the supply of skills is in meeting the needs of the area? What are the key issues that need to be addressed to support inclusive growth?

Skills requirements in occupational areas like digital are evolving rapidly. This means that apprenticeships, particularly at advanced and higher levels, are critical, since they enable employers to grow their own skills and ensure their relevance to the workplace. The narrow subject range of higher apprenticeships is therefore a matter of concern, as is the negative impact of government reforms on the take-up of apprenticeships.

Automation has the potential to cause considerable disruption in the labour market in the medium to longer term. This may lead to the displacement of many workers, particularly in middle and lower-skilled roles. This raises questions about the ability of the local skills system to respond to such a major re-skilling challenge, in view of recent reductions in its overall capacity. A decline in lower and middle skilled opportunities could also have fundamental implications in terms of career entry routes and ladders of progression.

The UK's departure from the European Union is likely to disrupt the supply of EU migrant workers into our region. Although the majority of these workers are employed in lower skilled roles, some employers may respond to a reduced labour supply by implementing a more skills-intensive business model or investing in capital equipment. The local skills system will need to gear up for this opportunity.

Our large and diverse higher education sector is one of its key assets. However, relatively few graduates are retained in the regional labour market following completion of their studies, with key subject areas like the built environment and engineering and technology experiencing below-average retention rates.

An investment in higher level skills does not provide a guarantee of good career prospects. A considerable number of workers who hold higher level qualifications are employed in non-graduate roles, whilst many businesses indicate that they have employees with skills / qualifications in advance of the requirements of their job. This situation may at least partly reflect a misalignment between the curriculum profile of higher education and the profile of job openings in the labour market.

Ultimately, improvements to graduate retention and skills under-utilisation will depend on the region's ability to raise the demand for skills by changing the profile of jobs in the area through an active industrial strategy. Such an approach is also key to addressing the challenge of automation and the need to provide future opportunities for sustainable employment.

In responding to skills demand, the skills system needs to be inclusive. Further progress needs to be made in this area since disadvantaged people are still less likely to gain access to apprenticeship and higher education opportunities. Moreover, particular groups in the labour market need dedicated support in order to improve their ability to gain employment, with enhanced skills playing an important part in this process.

Find out more

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