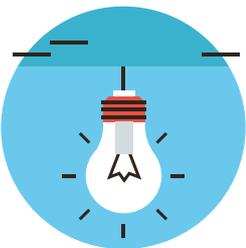
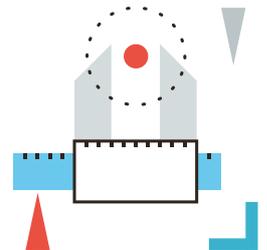
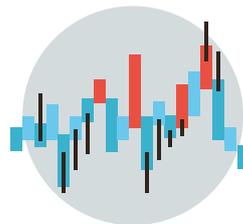
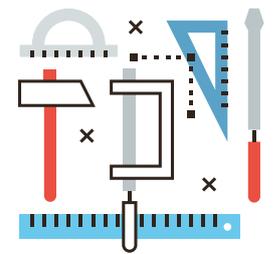
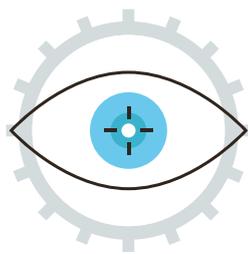
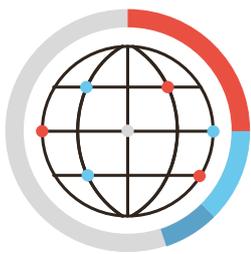


THE CHANGING WORLD OF WORK



AN EXECUTIVE SUMMARY

JOHNNY RUNGE

EDITED BY BECKY WRIGHT

THE CHANGING WORLD OF WORK

AN EXECUTIVE SUMMARY

Unions 21

Unions 21 exists to support unions to increase their influence, impact and effectiveness within the world of work. We will do this by working with unions, supporters and stakeholders to create an open space for research, innovation and activity to assist unions to secure a better life for working people. This paper is part of its work on new economies, new workers.

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Editor: Becky Wright, Director of Unions 21

Previous to her post at Unions 21, Becky spent five years as the Director of the TUC's Organising Academy and was responsible for the development and delivering of the Academy's training programme for union organisers and officers. Following activity in local community and women's campaigns, in 2001, she joined the TSSA as an Academy Organiser and then went on to take national and regional organising projects for Prospect, NATFHE and ATL. Becky holds a BA(Hons) in Politics, an MRes as well as a Diploma in Education and has also studied Contemporary European Labour Studies at Masters level at the Universiteit van Amsterdam.

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INTRODUCTION

by Becky Wright

The reality in Britain today is that the majority of the workforce are not union members and a majority are not covered by some form of collective agreement. This leads to many commentators to proclaim that the union movement is no longer relevant, does not address the needs of the workforce and is simply outdated. Yet, unions have not been at a standstill; the movement has been working hard to stay relevant, increase visibility and build strong membership and when workplace unions are established, we continue to play an active role in the everyday working life of the UK workforce. While our decline is not at the rapid pace as it was in the 1990s, it would be complacent to not acknowledge that there is still a downward trajectory in the majority of industries in relation to both membership and collective bargaining coverage.

It is clear that there is still a lot of work to be done and stark challenges in the form of an ever changing world of work made more uncertain following the vote for Brexit, a shifting views on worker/employee expectations and political uncertainty as populism makes a resurgence globally. If unions are to continue to be an integral part of the UK workforce and economy, it is important to ensure that unions are where the workforce is, not just in the present, but ready and prepared for the future. Unions need to understand who their workforce will be and what they want from the world of work, the types of contracts that will be available and how workers will wish to bargain for better pay and working conditions.

The Changing World of Work aims to give unions an initial look at where the workers of the future will be. This is a trend forecast, not a definitive projection as it is impossible to anticipate every possible development that can occur. Therefore we encourage unions to use this document as a guide to help shape their internal strategies and approaches. What is clear is that for aside from very few unions, the next ten years will not be business as usual. Certain industries will rise, and others will begin or continue their descent in the labour market. Workers will enter with different expectations and experiences than what we have seen before and possibly with a different bargaining agenda.

UNDERSTANDING THE PAST, CURRENT AND FUTURE LABOUR MARKET TRENDS

Glover and Hope (2015: 42) note that “twenty years ago there was a widespread belief that a defining feature of the labour market would be radically reduced working hours and increased leisure time. Fast forward to 2015 – the year in which mobile technology is set to overtake the desktop as the principal means of accessing the internet – and our work and leisure hours are increasingly blurred.” In light of such uncertainties, it is important to highlight the most likely trends and their likely impact on the UK labour market, and also discuss potential disruptions, which could undermine these assumptions (see UKCES 2014).

1. Demographic change

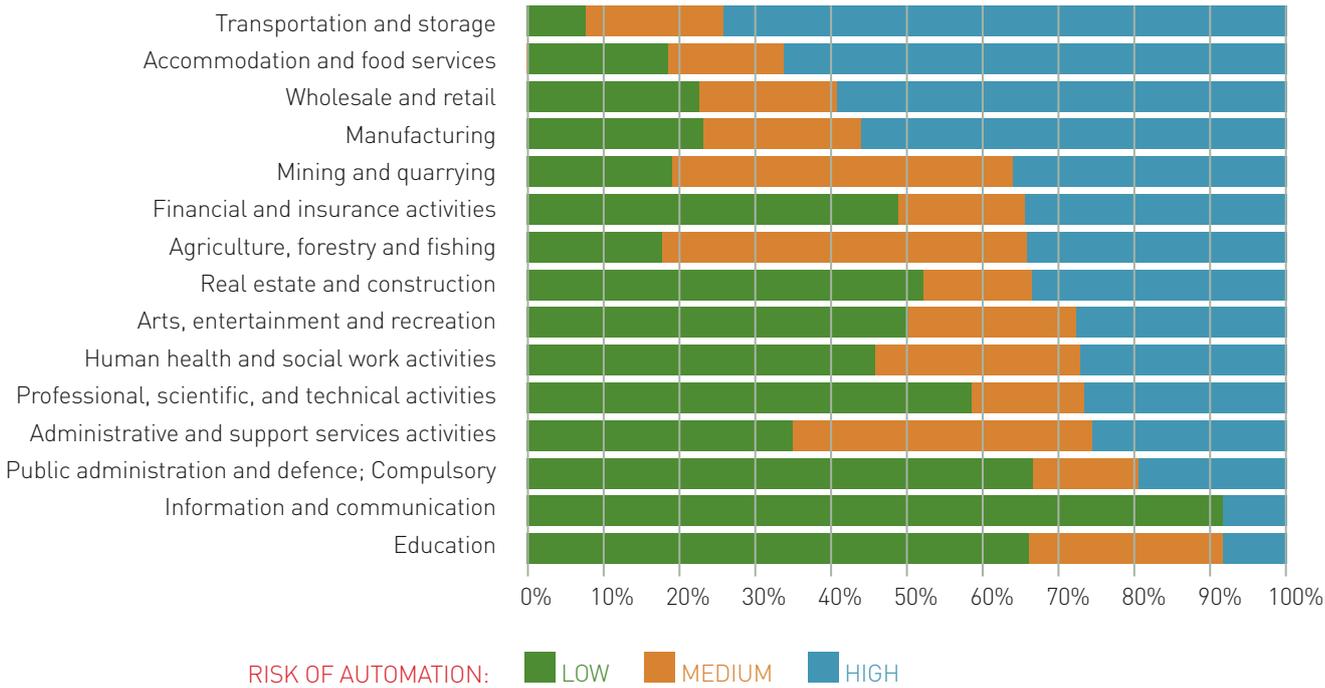
As opposed to many other labour market trends, **demographic change** can be considered a near-certainty, which means that its sectoral implications are very likely to have a substantial impact on the future labour market. In particular, the **growing population** in the UK will lead to increased consumption and demand for food, energy, housing and infrastructure, which could facilitate employment growth in various sectors, such as construction, retail and energy (ibid.). Meanwhile, **population ageing** is expected to lead to an increase in health and social care occupations (ibid.).

2. Technology and automation

Another highly likely trend is the continuation of **technological progress**, although there is uncertainty as to what extent and how exactly this is going to affect the labour market and employment in specific sectors. Generally, it is likely to continue to reduce the demand for mid-skilled occupations, such as white collar administrative roles and semi-skilled blue collar roles, whilst increasing the demand for high-level workers whose creativity and analytical skills are positioned well to complement the new technologies (Dolphin 2015).

A crucial question regarding technological change is to what extent robotics, algorithms and artificial intelligence enable **job automation**, most notably in occupations previously thought to be limited to humans, such as nursing, transportation, accountants, journalists, and financiers. Based on Frey and Osborne’s methodology, Deloitte (2016) provides the most recent predictions of UK jobs in specific industries at high, medium and low risk of automation in the next 10 to 20 years. Their estimations are provided in Figure 1 below.

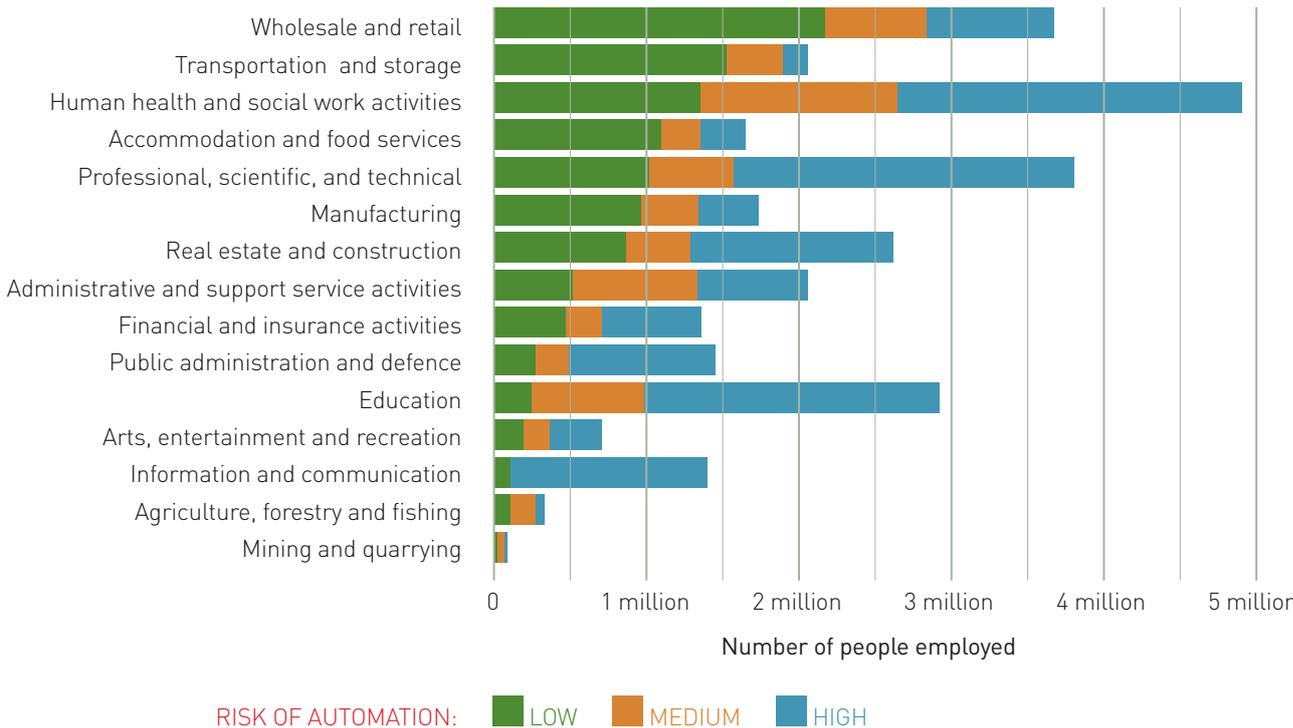
Figure 1. Percentage of jobs at risk in each sector Source: Deloitte (2016)



The high risk sectors are **transportation and storage**, which ranks first with 74% of jobs at high risk of automation; **accommodation and food services** rank second with 66% of jobs at high risk; and **wholesale and retail trade** ranks third with 59% of jobs at high risk. Meanwhile, jobs in the public sector, most notably education, are at a relatively low risk of automation.

Figure 2 takes the size of the different sectors into account by showing the absolute number of jobs in the industry, divided into whether they are at high, medium or low risk of automation.

Figure 2. Total employment by industry Source: Deloitte (2016)



In **wholesale and retail** around 2.2 million jobs are at high risk; in **transportation and storage** 1.5 million jobs are a high risk; and in **accommodation and food services** 1.1 million jobs are at high risk of automation. Due to its large size, health and social care activities are also ranked high in terms of the absolute number of jobs at risk of automation.

It should be noted that recent research by the OECD (2016) argues that the risk of automation has been overstated, arguing that the 'high-risk' occupations may still contain a large share of tasks that are hard to automate. It also emphasises that the proportion of "jobs at risk" should not be confounded with actual projected job losses. Firstly, the use of new technologies is a slow process, due to economic, legal and societal hurdles, so that technological innovations are not always implemented as expected. Secondly, technological change has not historically led to technological unemployment, rather the creation of additional jobs in other and new areas (Mokyr et al. 2015). The worry, however, is that "this time is different", considering the current pace and penetration of technological change, with robot skills being highly transferable, thus increasing the number of jobs that may be affected (see Ford 2015).

In addition, the Resolution Foundation highlights that some industries – such as food manufacturing, agriculture, and food and beverage services – have both a high share of EU migrants in their workforce, a high share of workers affected by the National Living Wage by 2020, and a high probability of automation according to Frey and Osborne, which could lead to a 'perfect storm', making these industries more likely to accelerate their investment in computerisation.

3. Productivity growth

Another question, which could impact UK employment, is whether **productivity growth stagnation** is a temporary or permanent feature of the UK labour market. Historically, labour productivity has grown at around 2% per year in the UK, but since the financial crisis there has been an unprecedented stagnation in productivity growth, commonly referred to as 'the UK productivity puzzle'.

Although this is expected to be a temporary diversion from historical trends (see Harari 2016), there is a question whether it signals the start of a period with permanent lower productivity growth and lower improvements in living standards. In addition, the impact on productivity growth of the UK's decision to leave the EU is "highly uncertain" (Bank of England 2016).

4. Globalisation and migration patterns

In the past decades, **globalisation** has been a prominent trend in the labour market. It has contributed to expanding the global workforce, which has led to production processes being transferred to developing countries and correspondingly reduced the demand for low-skilled workers in developed economies. This development is expected to continue, albeit possibly at a slower pace due to wage levels catching up in the emerging economies and technological innovations making re-shoring tenable (Dolphin 2015).

However, generally, the continuous process of globalisation is not as inevitable as it once seemed. For instance, the future development of **international cooperation and trade agreements** may face a downturn considering the increasing protectionist and nationalist tendencies in many countries (UKCES 2014), which would have a large impact on the UK financial and business services, as well as foreign-owned companies in the UK utilities and manufacturing sector. The UK's **referendum decision to leave the EU** adds to uncertainties about the accessibility to a global talent pool for UK businesses, with likely limits being imposed on the migration of workers from the EU. Finally, another financial crisis, either globally or concentrated around the euro area, would impact heavily on output and employment growth rates, as it did in the previous decade.

5. New contractual arrangements

UKCES (2014) also highlights that the future UK labour market could be impacted by a potential further rise of **new contractual arrangements**, such as zero hours contracts. It could potentially contribute to the creation of a highly polarised workforce, with only few employees in core executive positions, whilst others, especially in the low- and medium-skilled occupations, compete for hours. At the same time there is evidence of an increasing **desire for a better work-life balance**, which may result in a rise in project contracts, free-lancing, part-time employment, job-sharing and flexitime (UKCES 2014). Alongside this, there has been **a rise of non-standard employee contracts**, fuelling the speculation that a two-tier labour market will emerge alongside the occupational polarisation (Whittaker 2015). Despite strong improvements in the labour market, the proportion of temporary contracts has continued to rise, alongside the proportion of 'voluntary temps', maybe suggesting that the trend will continue (Whittaker 2015).

Another development, which also crucially depends on the regulatory approach taken by the British government, is the extent to which the **sharing economy**, or other innovative ways of organising workers in the labour market, will grow in the future.¹ The sharing economy is a rapidly growing sector in the UK. Coyle (2016) recently estimated that 3% of the UK workforce provides a service through the collaborative economy, which could fundamentally alter traditional employment structures, social benefits systems and trade unions' presence in the labour market. In terms of sectors, the sharing economy has most prominently made inroads into transportation and hospitality, with companies such as Airbnb and Uber, but the use of online platforms to facilitate the purchasing, hiring and sharing of assets and skills can potentially be utilised across a wide spectrum of sectors. Furthermore, the nature of the sharing economy also means that it is notoriously hard to measure in official output and employment statistics, which could complicate matters for forecasters in the future (see ONS 2016; Bean 2016).

¹ See PwC's study on the sharing economy here: <http://www.pwc.co.uk/issues/megatrends/collisions/sharingeconomy/outlook-for-the-sharing-economy-in-the-uk-2016.html>

WHERE WILL PEOPLE WORK IN THE FUTURE?

Figure 3. Historical and projected employment levels 1990–2024 Source: UKCES

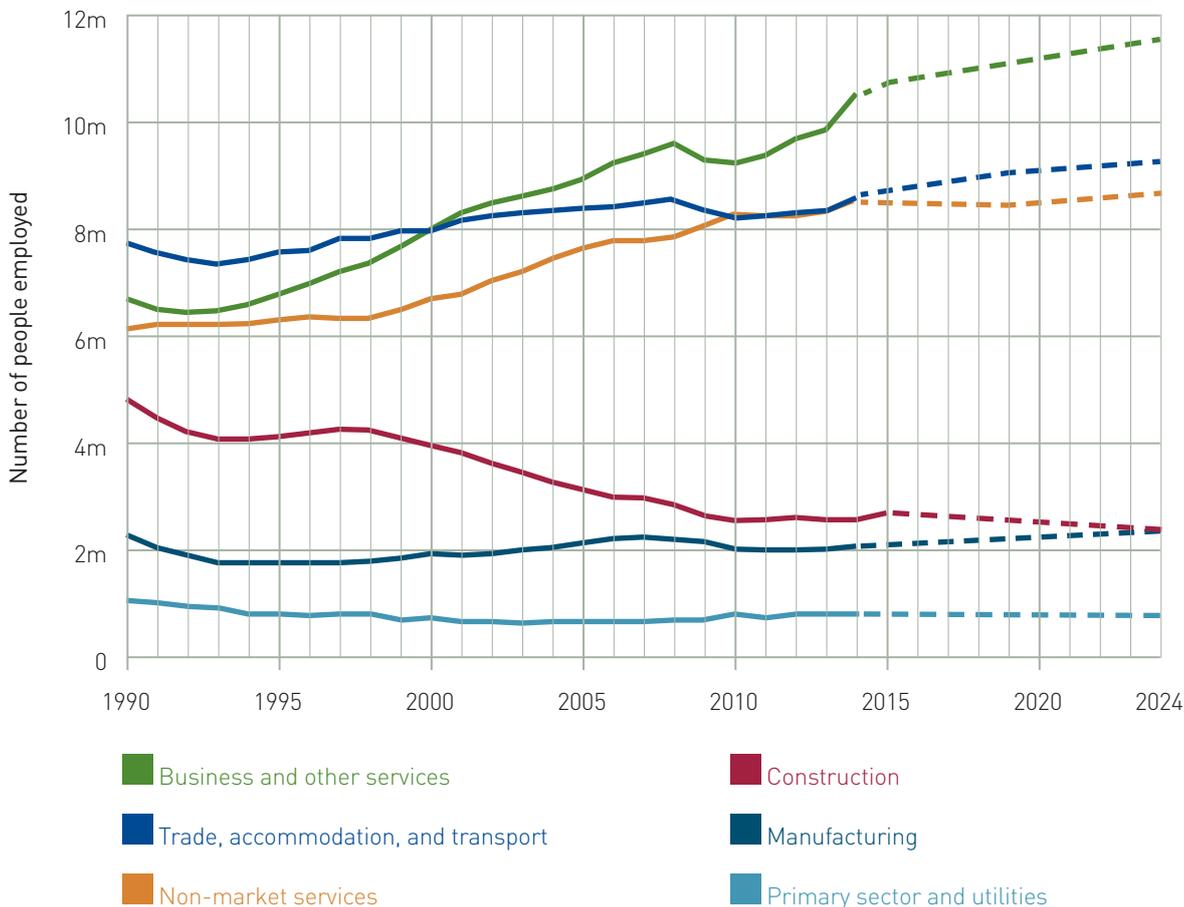


Figure 3 shows the historical and projected employment trends according to the forecasting data in the 2016 Working Future Report published by the UK Commission for Employment and Skills (UKCES).² UK employment across all industries is forecasted to increase by 5.5% between 2014 and 2024. This will add around 1.8 million workers to the British workforce, which is projected to reach just under 35.0 million in 2024. Meanwhile, annual

output growth is projected to average 2.2%, with an estimated annual productivity growth of 1.7%. On a broad sectoral level, the forecasting data highlights three growth sectors, in terms of employment, over the 10-year period – **businesses and other services** (1.0 million workers; 9.8% increase); **trade, accommodation and transport** (644,000 workers; 7.5%); and **construction** (301,000 workers; 14.4% increase).

² Working Futures provides the most comprehensive projections that are available for the UK labour market. The most recent version was published prior to the UK's decision to leave the EU, and as such the forecasting data does not incorporate any implications of this decision on future employment levels.

INDUSTRIES WITH HIGH FUTURE EMPLOYMENT GROWTH

Identification is not an exact science: In some industries we can be fairly confident that any unexpected social, political and economic events will not substantially alter the future employment prospects, whilst other industry forecasts may be more vulnerable to unexpected developments. With this in mind, we have identified the following industries with high, absolute employment growth (based on UKCES' employment projections for 75 specific industries) and also three 'ones to watch'.

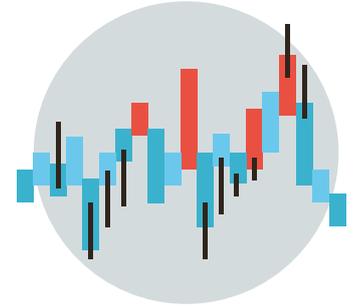
Industries with high absolute employment growth

Retail trade

Employment in retail trade is projected to increase by 7.4%, adding 225,000 workers to the retail workforce, according to the UKCES projections. The main reason behind the projected employment growth is population growth, which increases the demand for retail services. However, it should be noted that there are several negative risks to this projection, reflected in the much gloomier employment forecasts by Cedefop and the British Retail Consortium (BRC). The BRC highlights the combined impact of structural changes in the industry (rising labour costs, in particular), store closures and productivity improvements as factors, which could lead to a substantial reduction in employment over the next decade. Furthermore, the UK's decision to exit the EU may have negative consequences. In particular, the devaluation of the pound is expected to eventually feed through to import prices, leading to higher prices in the UK economy and a reduction in household spending power. This could cause reduced economic activity, hitting the retail sector and causing declining employment levels.

OCCUPATIONS

Sales and customer service occupations will remain by far the largest occupational group in the retail trade industry, according to the UKCES data, although it is projected to experience a reduction of 50,000 workers over the 10-year period. This means that whilst sales and customer service occupations accounted for 47.1% of workers in retail in 2014, this number will decrease to 42.4% in 2024. The twin processes of the automation of checkout processes and the turn to online retailing are behind this shift (UKCES 2014). Instead, the UKCES data points towards the growth of managers and senior officials, professional occupations, associate professionals & technical occupations, and elementary occupations. The growth of managers and senior officials will be moderated by the restructuring of the industry, with the closure of many small retailers and online retailing favouring large companies (ibid).



QUALIFICATIONS

There is projected to be large changes in the qualification structure in the retail industry within the next 10 years. UKCES estimates a total reduction of 359,000 workers with either no qualification or GCSE & equivalent, whilst other qualification categories are set to increase. In particular, the amount of workers in retail with a first degree is projected to increase by 89%, equivalent to 328,000 workers, reflecting the occupational shift.

GENDER

The industry continues to be slightly dominated by women, although the greatest employment growth over the 10-year period is expected to be among men, with an increase of around 182,000 workers compared to an additional 42,000 female workers.

JOB TYPES

The number of full-time and part-time workers are both projected to increase, by 9.4% and 10.3% respectively. Thus, the proportion of full-time workers vis-à-vis part-time workers will remain fairly constant, with full-time workers accounting for around 40% of the industry, whilst part-time workers account for 52%. Meanwhile, the number of self-employed workers in the retail trade are projected to decrease by around 49,000 workers (19.8%), accounting for around 8% of workers. The reduction is likely to be caused by the closure of many small businesses in the retail sector. Finally, it should be noted that the rise of zero hours contracts and similar contractual designs could impact substantially on the retail sector, which is pressured on rising costs and falling prices, as well as the demand for a flexible workforce.

UNION MEMBERSHIP DENSITY AND COLLECTIVE BARGAINING COVERAGE

Throughout the last decade, union membership density has remained relatively stable between 12-14% in retail trade. Similarly, the proportion of those whose pay and conditions are impacted by collective bargaining agreements have remained fairly constant at just under 20% most of the decade.

Food and beverage services

Employment in this industry (i.e. traditional restaurants, take-away restaurants, catering, pubs/bars etc.) is projected to increase by 18%, adding 311,000 workers to the economy by 2024, according to the UKCES projections. This would mark a continuation of the current trend of consumers' ever-growing interest in food and dining out, helped by increasing population levels. The negative risk to this forecast is that food and beverage services are among the sectors deemed at highest risk of automation, in particular fast food restaurants. A couple of additional factors may incentivise employers in the sector to accelerate their investment in labour-saving technologies. First, the sector employs a high share of workers who will be affected by the National Living Wage by 2020, which will raise labour costs. Second, a high share of the workforce are EU migrants, which means that any potential immigration restrictions after Brexit could create labour shortages in the sector.

OCCUPATIONS

UKCES projects employment growth across almost all occupations. In terms of percentage growth rates, the most significant increases are recorded among managers and senior officials, professional occupations, associate professionals, and personal services occupations. However, the industry remains dominated by workers in elementary occupations, which are set to increase by 19.8%, or by 162,000 workers, taking the total to almost 1.0 million workers, accounting for 48.6% of employment in the industry.

QUALIFICATIONS

Substantially more people with higher education, foundation degrees and first degrees will obtain employment in the food and services industry by 2024 (461,000 additional workers) reflecting the occupational shift. Meanwhile, the industry will become less dominated by workers with A-level and lower qualifications, although in 2024 this group still cumulatively account for 57.4% of workers.

GENDER

The number of women employed in the food and beverage service industry is projected to increase slightly more than for men (190,000 increase compared to 121,000), meaning that slightly more women than men will continue to work in this industry in 2024.

JOB TYPES

The food and beverage service industry continues to be dominated by full-time and part-time jobs in 2024, increasing with 144,000 workers (21.3%) and 145,000 workers (15.6%) respectively. In contrast, the number of self-employed workers increases only modestly in absolute terms, accounting for around 6.0% of the workforce in 2024, making it one of the lowest rates of self-employment. There continues to be marginally more part-time workers than full-time workers, with just under 1.1 million part-time workers vis-à-vis 820,000 full-time workers.

UNION MEMBERSHIP DENSITY AND COLLECTIVE BARGAINING COVERAGE

Trade union levels in the food and beverage services remains minimal. Union membership density has declined from 5.9% in 2004 to 3.7% in 2015, whilst the proportion of those whose pay and conditions are affected by collective bargaining agreements has fallen from 8.8% to 6%.

Head offices, management consultants

Leading the rise of jobs in professional services, this category of workers is projected to increase by around 245,000 – an increase of almost 30%, the highest percentage increase for any single of the 75 categories. The category includes the provision of advice and assistance to client businesses, as well as the overseeing and managing of units of companies. The projected employment growth reflects a continuation of a now relatively long-term upward trend in professional services, fuelled by the UK's comparative advantage, its openness to foreign markets, its English language, and its supportive business environment. Whilst Brexit in the short-term could impact positively on employment growth, as management consultants are recruited to help clients steer through a challenging landscape, the eventual outcome of the Brexit negotiations could have a negative impact on trade openness and attraction of global talent, which could lead to a loss in business to overseas, a loss of revenue and consequently employment.

OCCUPATIONS

This industry is heavily dominated by four occupations: managers and senior officials, professional occupations, association professional and technical occupations, as well as administrative, clerical and secretarial occupations. Together these four groups account for around 91% of workers in both 2014 and 2024. It is the biggest of these groups – professional occupations – which accounts for the largest absolute employment growth over the 10-year period, with the addition of 114,000 workers (a 39% increase). The only of the four main occupational groups that do not experience employment growth of around 40% is the administrative, clerical, and secretarial occupations, which continue the previous trend of relatively stagnant employment growth, highlighting the dominance of the highest-skilled occupations in the industry.

QUALIFICATIONS

The industry will be even more dominated by workers with first degrees and other higher degrees in 2024. In particular, UKCES projects there will be an additional 184,000 workers with a first degree in 2024, which means that the group will account for almost half of the workforce.

GENDER

There continues to be slightly more men than women in the industry in 2024, with the male workforce projected to amount to 594,000 workers (56% of workers) and women for 469,000 workers (44% of workers). This is roughly the same proportions as in 2014, as both female and male workers register similar percentage increase over the 10-year period (around 30%).

JOB TYPES

The three different job types all experience similar growth rates over the 10-year period (around 30% increases). This means that the largest group of full-time workers represent the largest employment increase with an estimated expansion of 172,000 workers. Full-time workers make up around 69% of the industry in 2024, part-time workers 20% and the self-employed 11%, largely the same proportions as in 2014.

UNION MEMBERSHIP DENSITY AND COLLECTIVE BARGAINING COVERAGE

The sample set prior to 2009 was deemed to be too small to make a reliable estimate, whilst the data from 2009 onwards show low trade union levels. The union membership density falls from 8% in 2009 to 6.5% in 2015, whilst collective bargaining coverage falls from 13.6% in 2009 to 8.6% in 2015.

Industries to watch

Construction

Construction has the largest percentage growth rate of the six broad sectors in the UKCES data (14.4%), with an estimated absolute employment growth of 301,000 workers. The underlying dynamic of a growing population (which increases the demand for housing and infrastructure projects) points towards growth in investment, output and consequently employment. But the outlook for the industry relies on political decisions on public spending, which are hard to predict.

On the positive side is the new government's focus on an industrial strategy, including government-backed infrastructure bonds and more house-building projects, its backing for a trans-Pennine road tunnel, and its decision to proceed with the Hinckley Point nuclear power project. The historical low interest rates close to zero also provide a favourable environment for large investment decisions.

On the negative side is the economic and political turmoil provided by the UK's decision to leave the EU, which could cause investors to delay projects in the short term. Generally, construction is notoriously volatile, often overreacting to wider economic developments, so any negative impact on the UK growth rates could negatively impact the construction sector. Finally, the sector will lose the access to the funding from the European Investment Bank and the European Investment Fund, but this could be compensated by an alternative domestic funding mechanism, depending on government priorities.

Health and social work

Like construction, health and social work is affected heavily by political decisions. In particular, in the short-term it is expected to be affected by constraints on public spending, resulting in the UKCES forecast over the next decade to be relatively modest, predicting a 4.0% employment increase, amounting to an additional 169,000 workers. However, the underlying dynamic of demographic change (population growth and population ageing) means that in the longer term, employment levels among health and social workers are very likely to increase substantially.

Whilst some jobs are at risk of automation, the sector comprises many personal care and service occupational jobs and tasks, which require human interaction and is therefore deemed at a lower risk of automation, although future governments' need to seek savings in the healthcare budget could pave the way for the accelerating use of healthcare technologies. Meanwhile, the UK's exit from the EU could potentially worsen current shortages and recruitment difficulties, which could have an impact on labour supply.

Information technology

This industry is projected by UKCES to register high percentage growth numbers (16.2%), and in particular computing services ranks high in terms of projected net employment growth. Overall, UKCES forecasts 153,000 additional workers in information technology.

The growth prospects of this industry are less uncertain than many of the other industries flagged up in this report, particularly in the longer term. The jobs in this sector are, almost by definition, not at a high risk of automation. The sector also has the potential to suddenly grow much faster than expected as it penetrates into all sectors of the UK labour market.

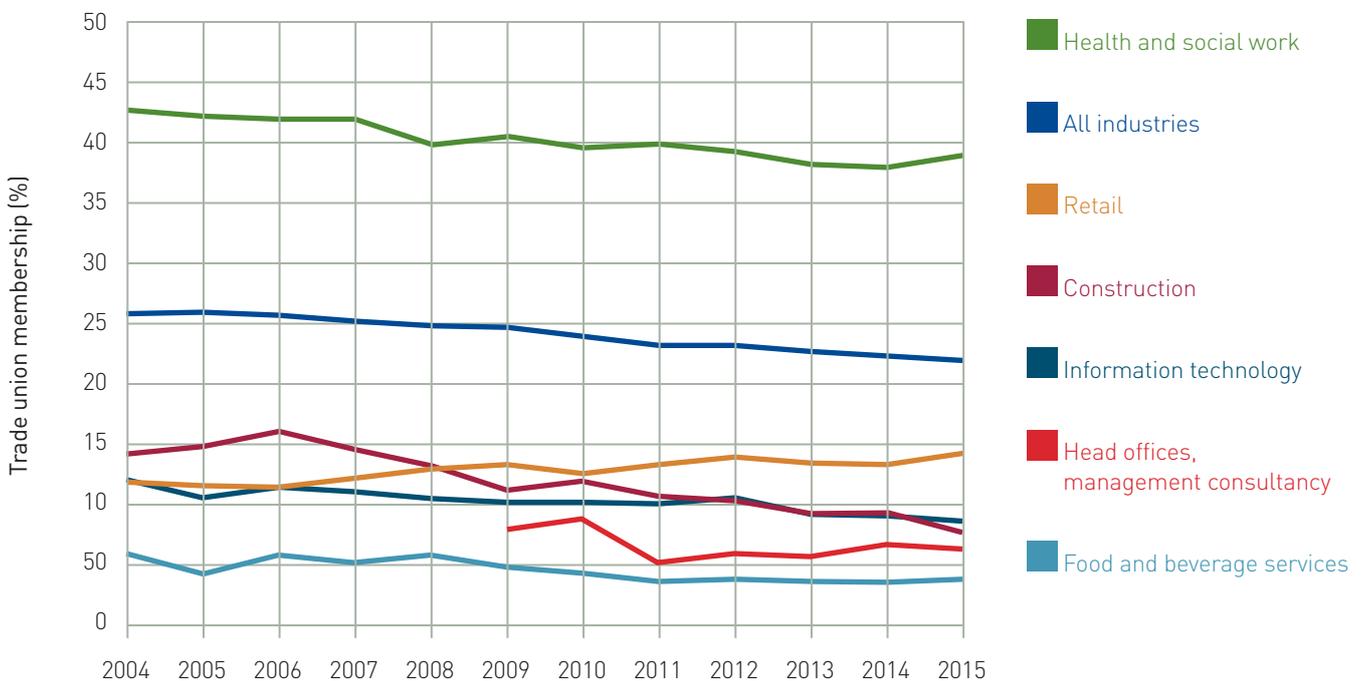
WHERE ARE THE UNIONS?

The Unions 21 perspective

Union membership levels and collective bargaining coverage (those whose pay and conditions are affected by agreements between trade union and employer) are not included in the UKCES forecasting data, but the two graphs below provide a description of the historical trends in the previous decade, based on analysis of the LFS.

Figure 4. Union membership as proportion of those in employment (%). Not seasonally adjusted³.

Source: NIESR analysis of Labour Force Survey (2004–2015)



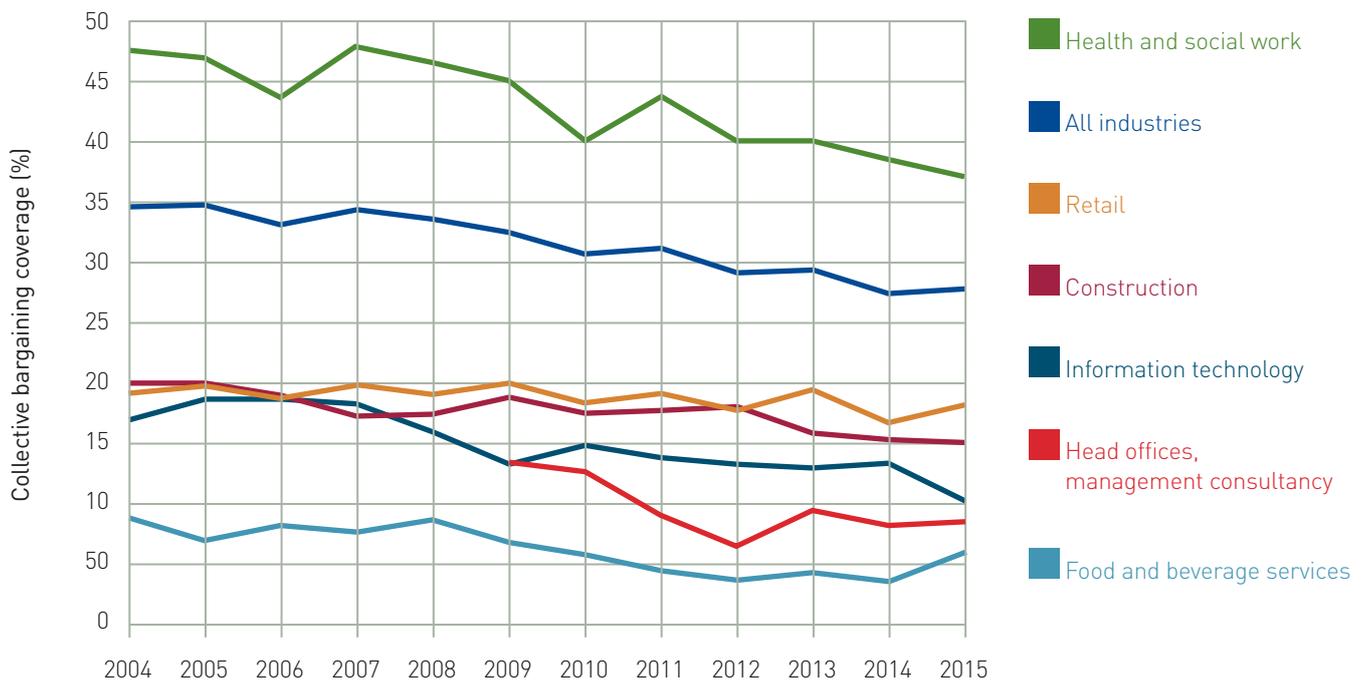
There is cause for extreme cautious optimism. Unions do have some presence in the three main industries that is expected to have the greatest growth over the next ten years. However, the levels of penetration within the workforce ranges from almost negligible to significantly small which would suggest that it will require a large resource deployment for unions to build up capacity on the ground.

Health and social work encompasses the high union density of the professional unions with the lower density of care assistants and other allied health workers. Unions in this field will want to assess whether job role changes could have an impact on density.

³ Note that for information technology, the average numbers mask some substantial differences between telecommunications (with relatively high union membership around 26% in 2014) and computing services (with low union membership levels around 4.6% in 2014). Similarly, health care lies around 50%, whilst social care is around 26%.

Figure 5. Collective bargaining coverage as proportion of those in employment (%). Not seasonally adjusted.

Source: NIESR analysis of Labour Force Survey (2004–2015)



In a similar picture to union density, collective bargaining coverage gives unions. More work internally would need to be undertaken by unions to cross reference where collective bargaining coverage links with union density, but it does suggest that unions have relationships with employers in the sector which they can then use to build up union membership.

Future proofing a union

All unions will be susceptible to changes in the labour market, whether individual unions can readily identify themselves within the six new industries or not. In the further reference section in this paper and the accompanying fuller research document, unions will be able to see directly how the labour market trends outlined in the first section affect their industry and therefore internal capacity. Regardless of the size, scope and sector of a union, there are measure that can be taken to protect, adapt or expand.

- Cross reference the membership trends with collective bargaining coverage.
- Map existing membership and membership trends using the more in depth projections found in this research
- Examine the rates of collective bargaining coverage with existing employers and compare this to the trends
- Explore employer and employment trends within your sector – this may require more in depth strategic corporate research
- Gather information and create internal trend reports on (potential) membership views and expectations of a union.

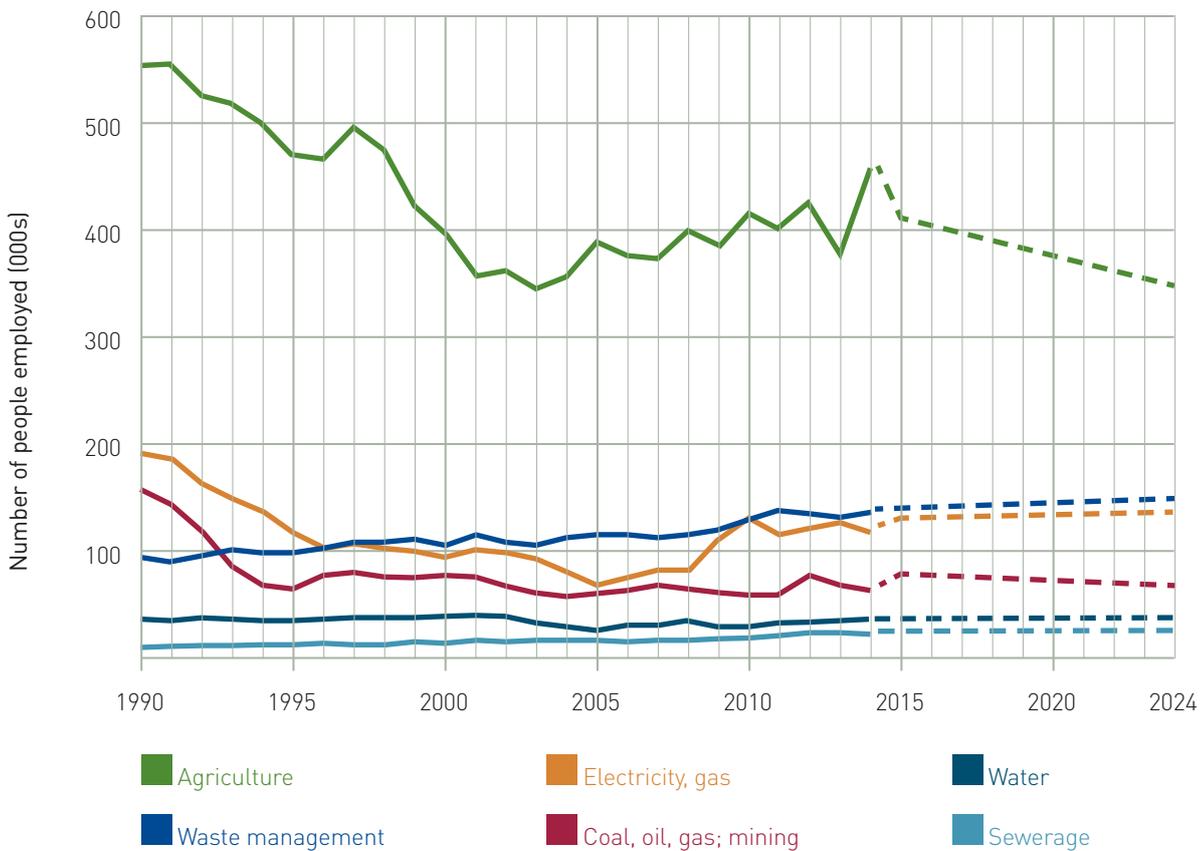
IN MORE DETAIL

EMPLOYMENT PROJECTIONS IN 75 INDUSTRIES

Primary sector and utilities

- **Output**
0.6% per annum
- **Productivity growth**
1.5% per annum
- **Employment**
Fall of 8.6% driven by agriculture

Figure 6. Employment trend and projection in primary sector and utilities Source: UKCES



LIKELY IMPACT OF BREXIT

Within this area, agriculture will be heavily impacted by Britain’s decision to exit the EU with the potential loss of funding from the EU’s Common Agricultural Policy (CAP), which will happen regardless of the trading arrangement negotiated with the EU, and currently it makes up around 50-60% of farm income in the UK (Downing 2016).

Overall, when considering labour market trends, the employment forecasts by UKCES and Cedefop, as well as considerations on the impact of Brexit, the primary sector and utilities (where agriculture accounts for the most workers) is very unlikely to be among the high employment growth sectors in the future UK labour market.

Manufacturing

■ **Output growth**
1.8% per annum

■ **Productivity growth**
2.8% per annum

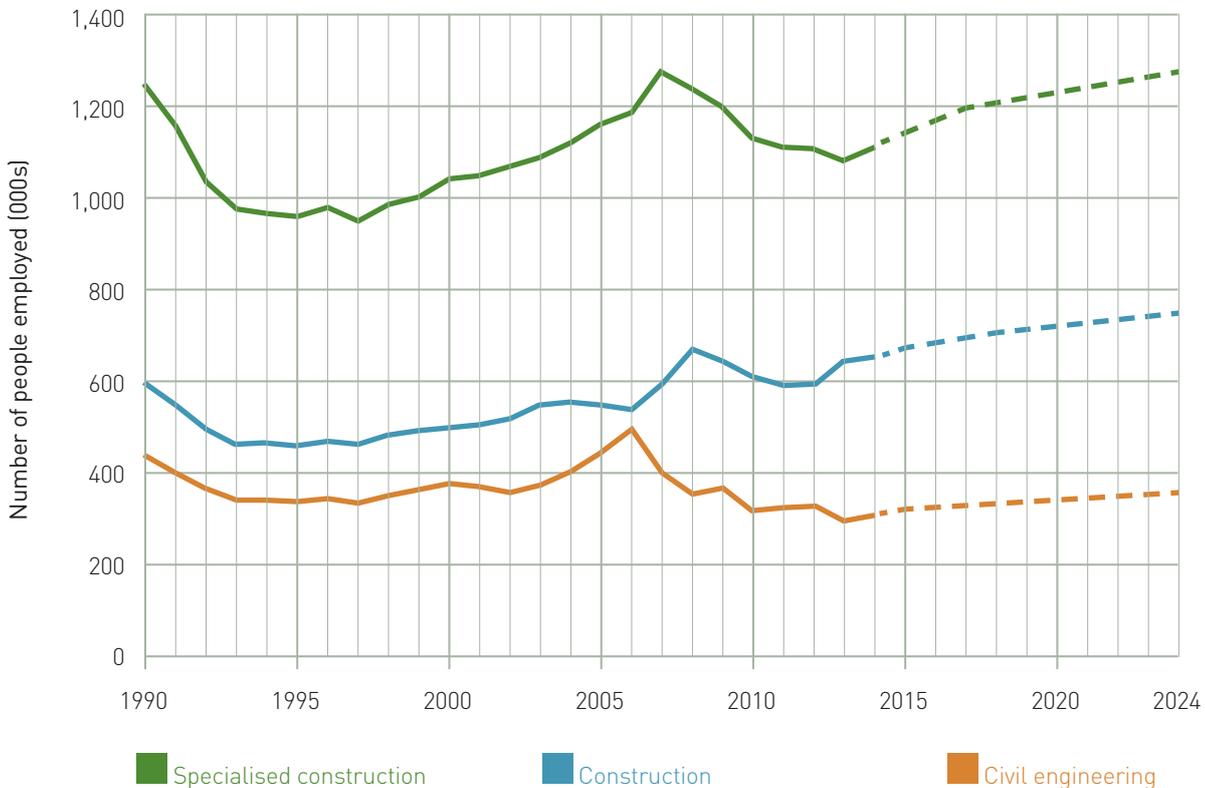
■ **Employment**
-9.3%

The *Working Futures* projections assume that domestic firms will “continue offshoring and outsourcing the manufacturing process, diverting production and employment away from the UK” (UKCES 2016). Whilst Foresight (2013b) argues that high-value, high-productivity manufacturing will not necessarily lead to a further employment decline, and UKCES (2014) argues that a stabilisation in employment levels is plausible, it seems reasonable to assume that, at the very least, there will not be a full rebalancing of the UK economy, where the manufacturing sector re-assumes a larger proportion of the economy.

There has been some evidence of “re-shoring”⁴, where firms bring production processes back to developed countries, as wage levels have increased across the developing world. But even if this was to become an emerging trend, one of the drivers behind such a shift would probably be that technological improvements result in types of production requiring fewer workers (Dolphin 2015). As such, it seems reasonable to conclude that manufacturing will not be among the highest-growing sectors in terms of employment.

Construction

Figure 7. Employment in construction Source: UKCES



⁴ <https://www.gov.uk/government/publications/businesses-are-coming-back/businesses-are-coming-back>

■ Output growth

3.1% per annum

■ Productivity growth

1.7% per annum

■ Employment14.4% (UKCES), -6.2% (Cedefop),
1.1% per annum (CITB)

These large discrepancies in forecasting employment trends in the construction industry reflect the relatively volatile nature of construction activity, which tends to overreact to economic sentiments, and it crucially depends on government infrastructure investment and

housing projects. The forecasts will therefore heavily depend not only on assumptions about wider economic developments, investor confidence and the recovery of lending to the private sector, but also on assumptions of government policy and political developments.

LIKELY IMPACT OF BREXIT

Whilst the low interest rates and population growth seem to be favourable to an increase in construction activity and employment, the political context – characterised by uncertainties surrounding Britain’s withdrawal process from the EU – provides an incentive for private and public investors to put projects on hold. Indeed, PwC (2016) argues in its most recent UK Economic Outlook in July 2016 that construction may be the hardest hit sector in the UK economy following Brexit, as large capital investment projects “may be particularly prone to be delayed or even cancelled due to uncertainty following the vote to leave the EU.” This seems to have come true, at least in the short term, considering the latest activity figures from the construction consultancy Barbour ABI (2016).⁵ However, in the longer term, as the UK finalise their negotiation with the EU and uncertainty subsides, investor confidence may return, alongside project investment.

A number of other factors also suggest that the construction industry will be negatively impacted by Brexit. First, historically the construction industry tends to overreact to negative economic sentiments, and as such, any possible economic downturn could have even worse consequences for the construction industry than for the wider

economy.⁶ Second, the construction sector relies heavily on EU migrant labour for both skilled and non-skilled positions (see Rolfe and Hudson-Sharp 2016), and as such, if EU migration is restricted in the future, the industry could face further labour and skill shortages, which could result in higher project costs and project delays. This problem could be exacerbated by the fact that the current construction workforce is relatively old, with 22% of the workforce being over 50 years of age, and 15% over 60 (Shepherd and Wedderburn 2016). This will inevitably result in a relatively high retirement rate in the coming years, leading to a possible skill shortage, which could be hard to fill without EU migrant labour. Third, as a member of the EU, the construction industry has benefited from access to the European Investment Bank (EIB) and the European Investment Fund (EIF), which have provided important funding for especially large infrastructure projects and start-ups. UK government spending decisions post-Brexit, including regarding a possible alternative domestic funding mechanism for infrastructure projects, will to a large extent determine whether the loss of European funding will have a negative impact on the construction industry.

⁵ See also <https://www.ft.com/content/439f912c-65f8-11e6-a08a-c7ac04ef00aa>

⁶ For summary of research on economic impact of Brexit, see House of Commons Treasury Committee report (2016): <http://www.publications.parliament.uk/pa/cm201617/cmselect/cmtreasy/122/122.pdf>

Employment in trade, accommodation, and transport

Output growth
2.1% per annum

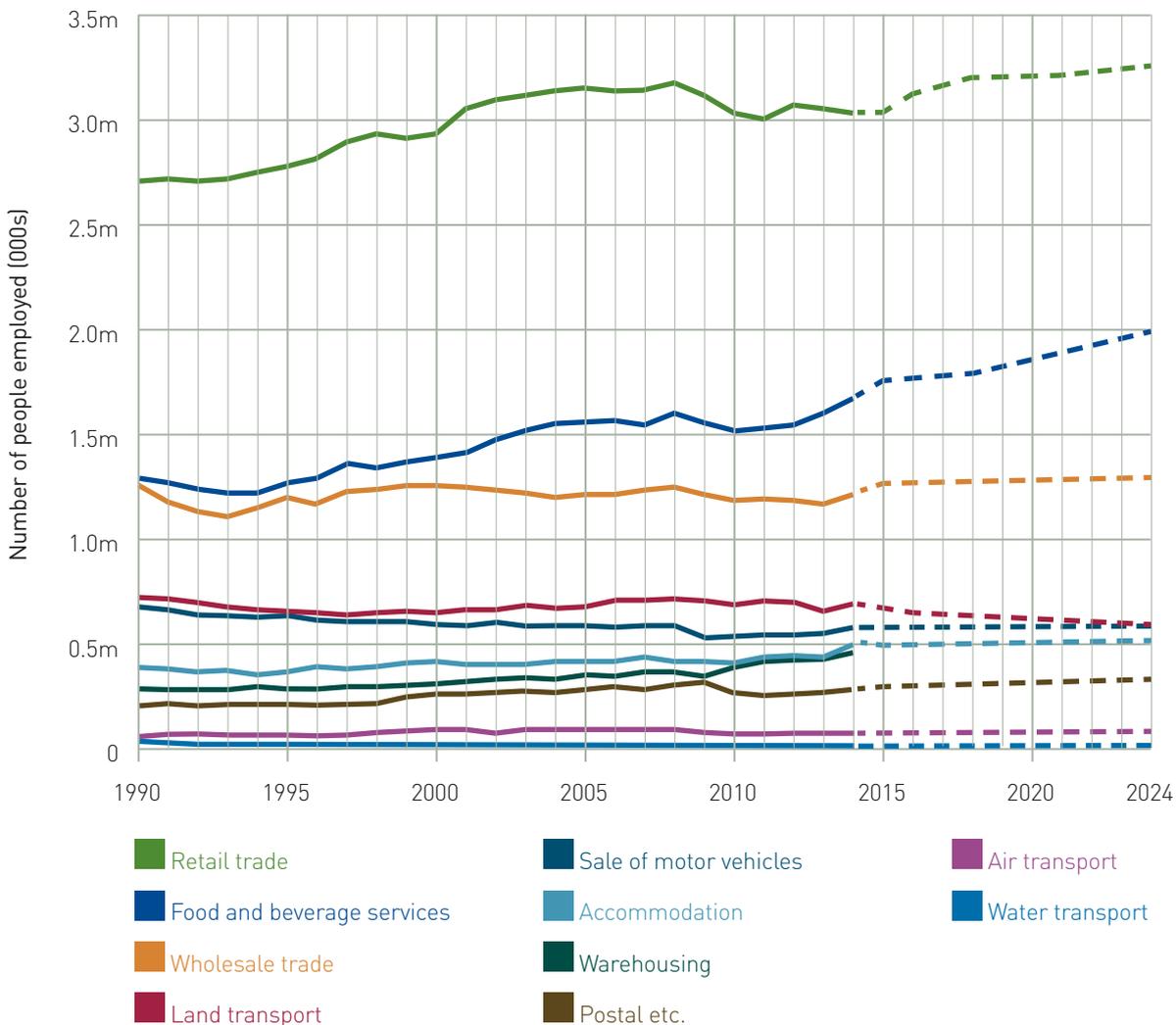
Productivity growth
1.4% per annum

Employment
7.5%

In this sector, retail trade and food and beverage services stand out as the two industries with projections of high employment growth over the next decade, according to the UKCES forecasting data. However, it should be noted that for both these industries there are significant negative risks to the projection. For instance, food and beverage services are regarded by Frey and Osborne as one of the sectors with most jobs at risk of automation, with the fast food sector particularly vulnerable. Combined with rising labour costs in the sector due to a high proportion of workers who will be affected by the introduction of the National Living Wage, estimated at 48% (Corlett 2016), and a high proportion of EU migrants, estimated at

13% (ibid.) who may face immigration restrictions in the future, one may expect a drive towards investments in labour-saving technologies. On the other hand, over the relatively short 10-year forecasting period the price of labour may remain lower than the cost of implementing the new technology (Deloitte 2016) and one may expect some social resistance towards automation of the jobs of waiters and waitresses, as human interaction and quality of service remain integral to the dining-out experience for many customers (ibid.). Similarly, retail trade could be impacted by the combined effect of structural changes in the industry (rising labour costs, in particular), store closures and productivity improvements.

Figure 8. Employment trend and projections in Trade, Accommodation and Transport Source: UKCES



LIKELY IMPACT OF BREXIT

The performance of the retail, accommodation and food industries is closely tied to developments in the domestic economy, in particular domestic income and spending. As such, a negative impact on overall economic performance resulting from Brexit (as is forecasted by most economic research institutions)⁷ could contribute to declining employment levels. For instance, the impact of the changing macroeconomic environment, particularly the devaluation of the sterling, is key to understanding the retail industry in the immediate post-Brexit environment.⁸ At first hand, the weaker pound has some positive implications. It will give British exporters an advantage, particularly online retailers who are selling their products to customers in other countries (although these may eventually choose to create bases within the EU due to possible EU controls and tariffs, hence driving employment away from the UK). In addition, the devaluation of the pound makes it cheaper for foreign tourists to go on holiday in the UK and 'staycations' more attractive for British nationals, which has already led to a rise in tourism. This, of course, benefits the accommodation industry, but also has positive spillover effects on sectors such as food services and retail trade, as tourists spend in shops and restaurants.

However, over the medium and longer term, a weaker pound is expected to increase the price of imports, which will feed through to higher prices in the UK economy, pushing up the cost of everyday purchases, and as a consequence reduce households' spending power, effectively reducing real wages. It could also be expected that uncertainty in the short-term will eventually lead to a fall in consumer confidence, triggering higher levels of savings and consequently reduced consumer spending, although the most recent data from ONS (2016) and BRC (2016) reveal relatively strong retail sale figures after the referendum.

Potential restrictions on migration would also play a factor. Whilst the retail sector employs relatively few EU nationals, estimated at around 6% compared to the UK average of around 7.0% (Corlett 2016), related sectors such as warehousing and distribution would be more affected, possibly accelerating the push for automation and productivity growth in those industries. Food and beverage services employ a fairly high proportion of EU nationals, estimated at around 13% (Corlett 2016). In recent research, Oxford's Migration Observatory (2016) found that 94% of those employed in hotels and restaurants would fail to meet existing entry requirements to the UK, indicating the importance of any future immigration restrictions for employers' ability to recruit workers and maintain current employment levels in the industry.

⁷ For summary of these studies, see House of Commons Treasury Committee report (2016): <http://www.publications.parliament.uk/pa/cm201617/cmselect/cmtreasy/122/122.pdf>

⁸ <http://www.retailconomics.co.uk/brexit/what-does-brexit-mean-for-UK-retail>

Business and other services

Output growth
2.4% per annum

Productivity growth
1.4% per annum

Employment
9.8%, around 1 million workers

Figure 9. Employment trend and projections in professional services Source: UKCES

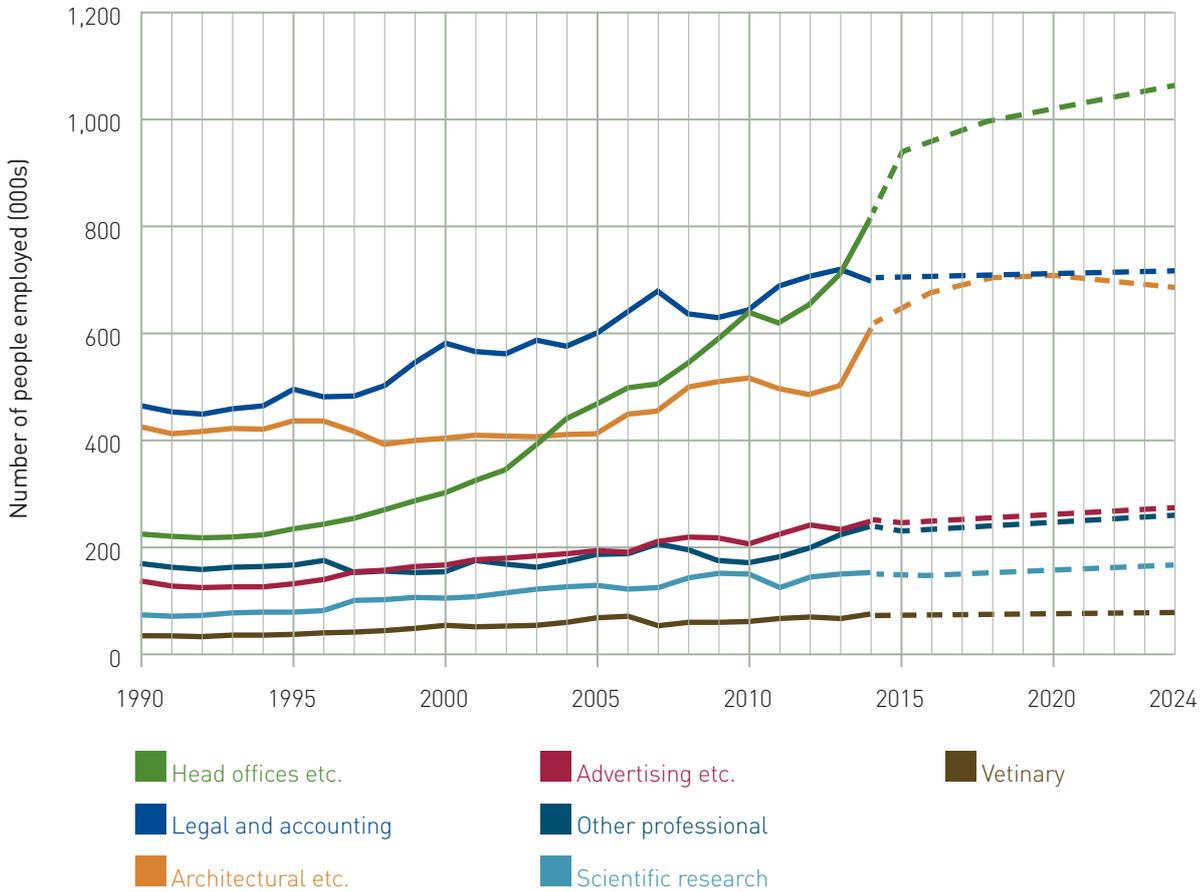
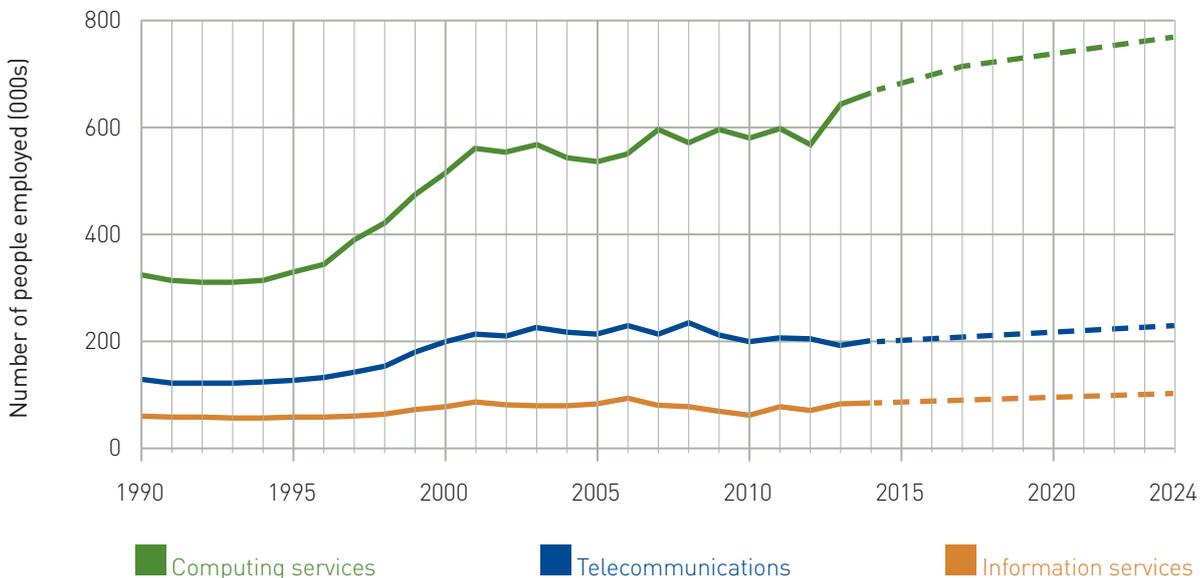


Figure 10. Employment in information technology Source: UKCES



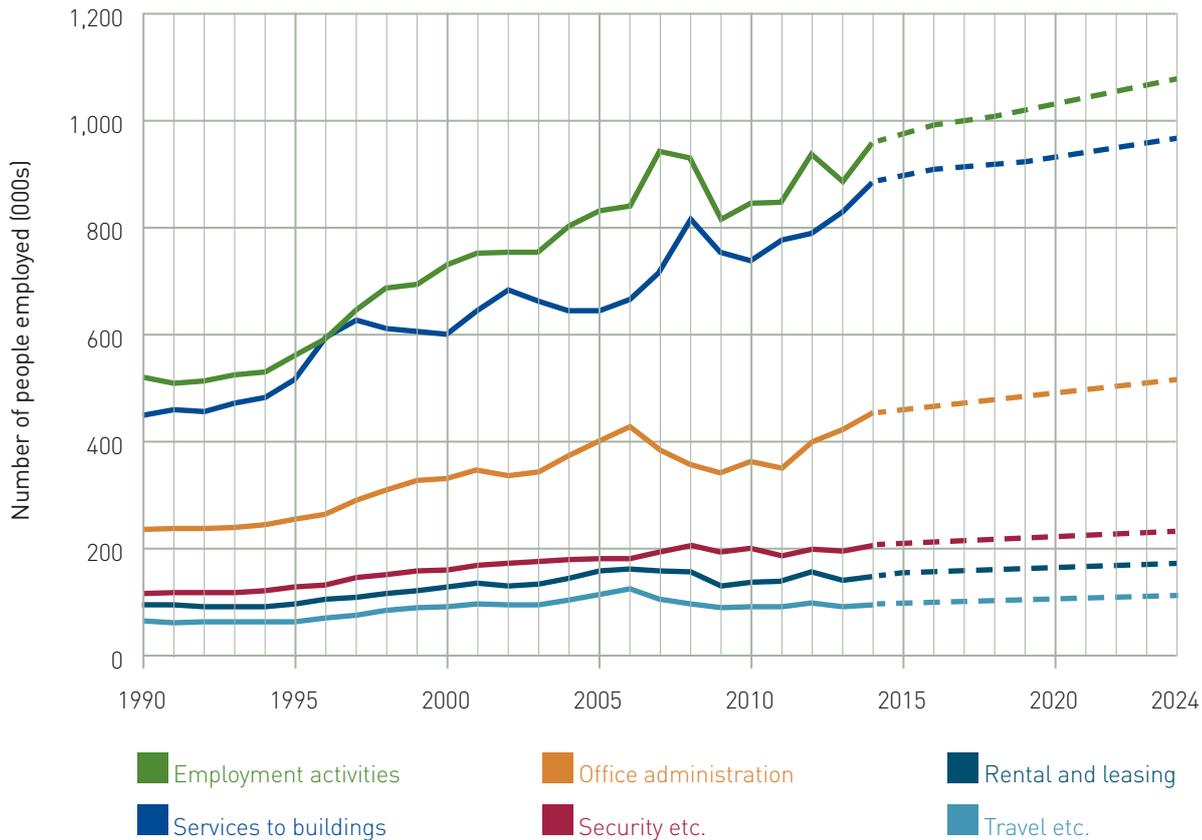
INFORMATION TECHNOLOGY

Information technology has a projected growth of 13.9%. In particular, **computing services** (encompassing computer programming, computer consultancy and related activities), are projected to add 106,000 workers, while **telecommunications** and **information services** add a further 31,000 and 16,000 workers, respectively.

SUPPORT SERVICES

In support services, all sub-industry groupings are registering growth rates of between 9-14%, the largest sub-industry is **employment activities** (activities of agencies providing permanent and temporary job placements, as well as other HR provision for client businesses).

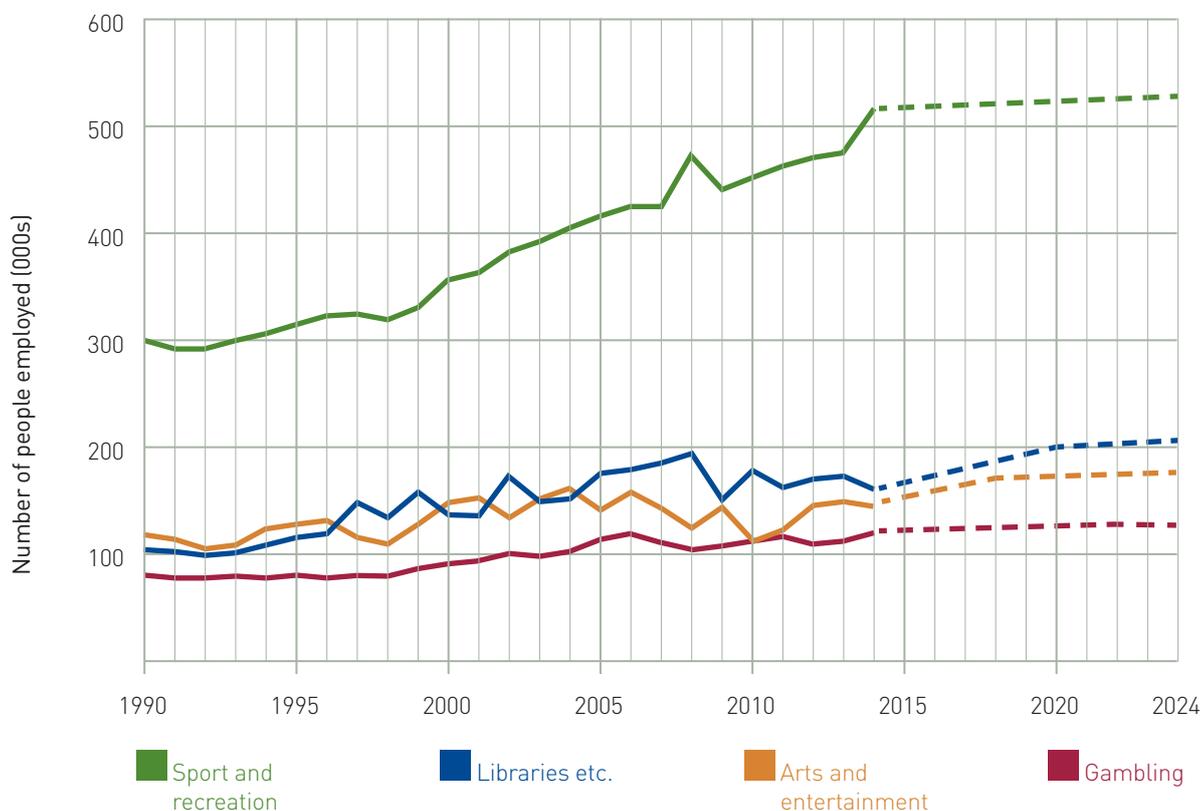
Figure 11. Employment trends and projections in support services Source: UKCES



ARTS AND ENTERTAINMENT

The arts and entertainment category is a relatively small sector in absolute terms, but the two subcategories **arts and entertainment** and **libraries, archives, museums and other cultural activities** register growth rates above 20%.

Figure 12. Employment trends and projections in arts and entertainment Source: UKCES



LIKELY IMPACT OF BREXIT

A large part of the success of the private service sector in the UK has been attributed to British openness to the world, and as such, Brexit could potentially make substantial inroads into revenues and employment in the sector. As in other sectors, much depends on the outcome of the negotiations, including the future trading relationship with the EU, the access to the Single Market, and any restrictions to acquiring global talent. Interestingly, the short-term outlook seems good, as law firms and consultancies are recruited to help clients to navigate the uncertain Brexit landscape, setting up specialist units and helping unplugging 43 years of membership, regulation and laws.⁷ Hence, the business volumes and profits have remained mostly unchanged, but surveys amongst accountants, lawyers and consultants in professional service

firms show a low confidence in growth expectations and expansion plans, reflecting the long-term insecurities. In an Economist article, Mark Paulson of the Law Society describes this difference in the short-term and long-term outlook for the sector: "It's a bit like being a doctor in a plague year; you'll be busy for a while, but it doesn't bode well for the long-term". As such, it is estimated that the employment projections are associated with a negative risk, but it crucially depends on the outcome of the Brexit negotiations during the coming years. Overall, the underlying dynamic of population growth fuels demand for construction and infrastructure activities, but broader political and economic developments could have a substantial impact on employment levels in the sector.

⁷ See for instance:

<https://www.procurementleaders.com/brexit-resources/brexit-resources/analysis-big-demand-for-big-fours-services-following-uk-brexit>

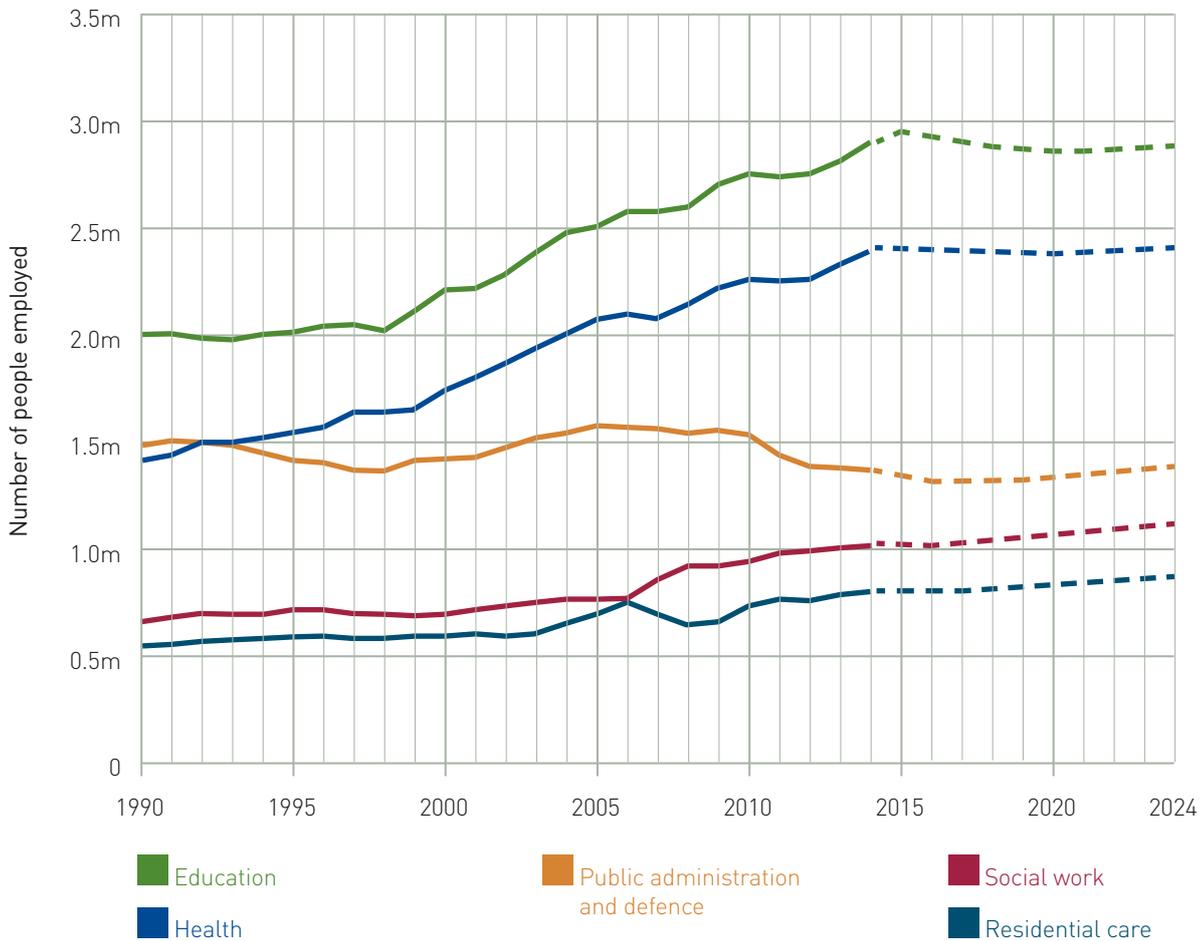
Non-marketed services

Output growth
1.8% per annum

Productivity growth
1.7% per annum

Employment
1.7%

Figure 13. Historical and projected employment levels 1990–2024 in non-marketed services Source: UKCES



Demographic change (population growth; ageing population) has a significant impact in the non-marketed service industry. This is the main driver behind the projected employment growth in **social work** by 94,000 workers (9.1% increase) and **residential care** by 73,000 workers (9.0%) and in the longer term UKCES expects such developments to cause an increase in employment in most of the public services, in particular health and social care. However, in the short term public sector activities are projected to stagnate due to the government’s commitment to decrease public spending and

even in the longer term, the government will continuously face competing financial pressures on prioritising public spending due to growing social transfer payments, pension burdens and public debt (UKCES 2014). Furthermore, whilst Frey and Osborne rank health and social care as one of the sectors with the least risk of job automation, reflecting the fact that personal care and service occupations are hard to automate, the impact of technologies may be accelerated by future governments’ need to seek savings in public spending (UKCES 2015).

The **education** sector stands to benefit from the developments in the labour market, where people are increasingly required to invest in more upskilling. Overall, employment in education is nevertheless projected to stagnate in the short-term, again driven mostly by the anticipated decrease in public spending, with the UKCES expectation that the historic upward trend in employment growth in the education sector will resume in the long-run. Whilst education is ranked as one of the occupations with the lowest risk of automation by Frey and Osborne, the sector could be affected by job automation, particularly in further education, but online learning has, as of yet, proved relatively unsuccessful, with the specific problem that qualifications acquired through “mass education” is not yet widely recognised (Ford 2015).

LIKELY IMPACT OF BREXIT

The NHS employs around 55,000 EU nationals equating to around 5% of the total workforce.¹⁰ An additional 80,000 is employed in the adult social care sector. These numbers are not particularly high relative to the rest of the economy, but they mask some quite substantial geographical differences between Trusts (Marangozov and Williams 2016). In addition, with shortfalls in the labour supply of various specialities including nursing and doctors, EU staff remains integral in solving recruitment problems and plugging gaps in the workforce. As such, potential future restrictions on the freedom of movement within the EU could have vast consequences for employment levels in

the NHS and in the social care sector. Of course, this could be offset by international recruitment outside the EU from countries such as India and the Philippines (the Migration Advisory Committee’s decision to put nursing on the Shortage Occupation List earlier this year will help), or alternatively the gap could be offset by a more sustained and longer-term investment in creating a larger domestic supply of nurses and doctors (ibid.). In any case, without any changes from existing workforce planning policies, a restriction in EEA immigration could have consequences for the employment levels in the sector despite high demand for its services.

¹⁰ <http://www.kingsfund.org.uk/publications/articles/brexit-and-nhs>

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