Productivity in the Retail Sector: Challenges and Opportunities

Strategic Labour Market Intelligence Report

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Foreword

In September 2015, UKCES commissioned a consortium of research organisations led by the Institute for Employment Studies (IES) and SQW to prepare a series of a series of strategic labour market intelligence reports on the challenges and opportunities for increasing productivity in four sectors and two cross-cutting themes.

The recent poor productivity performance of the UK economy, especially since the end of the recession of 2008-09, has become a major concern for economists and policy-makers. Unlike previous recessions, job losses were not as high as might have been expected[1] but real wages have declined, falling by an average of 1.7 per cent per year between 2008 and 2014.[2] Productivity growth too has been very modest: this has become known as the 'productivity puzzle'. As a consequence, the UK, which was already some way behind many other major developed economies on this measure, has fallen back even further. The overall level of productivity in the United States' economy is now 31 per cent higher than that of the UK, while Germany's is 28 per cent higher.[3]

A number of possible explanations have been put forward for this. Some commentators believe that businesses hoarded labour on relatively low wages rather than investing in capital, leading to stagnation in output per worker. Others have suggested risk aversion by financial institutions has reduced access to loans for investment. The result, it is argued, has been inefficiency in the allocation of resources in the economy, and an absence of the 'creative destruction' processes that can help drive up productivity.

One thing that is apparent from the data that exists on productivity is that it differs from sector to sector. In recent years, for example, there have been high levels of productivity growth in the transport equipment and administration/support sectors, but falls in productivity in the finance and the chemicals and pharmaceuticals sectors[4]. Any research or commentary on productivity needs to unpack some of the characteristics of sector productivity.

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[1] Unemployment rose from 1.62m in February 2008 to 2.68m in October 2011 on ONS data.
[2] Calculated by the Institute of Fiscal Studies based on ONS Annual Survey of Hours and Earnings. See http://www.ifs.org.uk/uploads/Presentations/Understanding%20the%20recession_230915/SMachin.pdf
[3] Figures from the Office for National Statistics for GDP per hour worked, 2013. Published at http://www.ons.gov.uk/ons/rel/icp/international-comparisons-of-productivity/2013---final-estimates/info-icp-feb-15.html
[4] Cook, J. Pledges, Puzzles and Policies: what's in store for innovation and enterprise?, Viewpoint Series, SQW, http://www.sqw.co.uk/files/5514/3359/6668/Innovation_policy_post-election_-_Viewpoint_final.pdf

In April 2015, Sir Charlie Mayfield, Chairman of the UK Commission for Employment and Skills (UKCES), set up the Productivity Leadership Group, a cross business group of senior leaders seeking to find practical ways to increase the productivity of British business. Business leaders came together in specific sectoral and cross cutting groups to focus on shared problems and opportunities (Manufacturing, Digitisation, Food and Drink, Measurement, Better Workplace Practices, Retail and Creative)[5].

In September 2015, UKCES commissioned a consortium of research organisations led by the Institute for Employment Studies (IES) and SQW to prepare a series of a series of strategic labour market intelligence reports on the challenges and opportunities for increasing productivity in four sectors and two cross-cutting themes (IES, SQW, the Institute for Employment Research (IER), and Cambridge Econometrics (CE)). The research consortium produced six papers:

1. Robin Brighton, Chris Gibbon and Sarah Brown, *Understanding the future of productivity in the creative industries*, SQW
2. Annette Cox, Graham Hay, Terence Hogarth, Graham Brown, *Productivity in the Retail Sector: Challenges and Opportunities*, IES
3. Anne Green, Terence Hogarth, Erika Kispeter, David Owen, *The future of productivity in manufacturing*, Institute for Employment Research, University of Warwick
4. Terence Hogarth and Erika Kispeter, *The future of productivity in food and drink manufacturing*, Institute for Employment Research, University of Warwick
5. David Mack-Smith, James Lewis, Mark Bradshaw, *State of Digitisation in UK Business*, SQW
6. Penny Tamkin and Ben Hicks, *The Relationship between UK Management and Leadership and Productivity*, IES.

We would like to thank the following UKCES colleagues for their assistance with the delivery of the project: Vicki Belt, Duncan Brown, Richard Garrett, Peter Glover, Hayley Limmer, Aoife Ni Luanaigh.

Penny Tamkin (IES), Michael Frearson (SQW), Susan Mackay (SQW)
Project leadership team

[5] The findings of this group have now been reported (see https://howgoodisyourbusinessreally.co.uk/)

This study complements the work of the Productivity Leadership Group for the **retail sector** by identifying key issues in retail sector productivity, future challenges and priorities for action by business leaders. To complement recent and parallel work being undertaken, it focusses on the challenges and opportunities presented by online retailing and using 'big data' on consumers to develop future retail propositions.

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Executive Summary

In July 2015, the government produced its plan to tackle UK productivity challenges, *Fixing the Foundations: creating a more prosperous nation* (HM Treasury, 2015). This study supports business leaders in the retail sector who are identifying key issues in retail sector productivity by examining future challenges and suggesting priorities for action. To complement recent and parallel work being undertaken, it focusses on the challenges and opportunities presented by online retailing and the possibilities of using 'big data' on consumers to develop future retail propositions.

Chapter 1 shows that the retail sector enjoys relatively high labour productivity levels, growth and investment levels compared to other key EU nations. But it has weak labour productivity levels relative to other UK sectors despite strong labour productivity growth. Firms make substantial investment in staff training compared to the UK average but a relatively small proportion of retail businesses have a training budget and adopt high performance work practices. This reflects the substantial share of SMEs in the sector with less sophisticated management approaches and lower investment capacity. The sector also faces skills gaps in IT and planning and organisation. Over the next few years there will be a shift in the workforce profile with a bigger share of higher skilled jobs and workers, partly because of people entering the labour market having higher qualifications than those leaving but also because technology will replace some low-skilled jobs.

Chapter 2 shows that younger consumers will have greater expectations of using online shopping channels influenced by social media. In contrast the growing share of older people in the population will seek convenient and locally available goods for single households. The rapid and continued growth of online commerce means retailers could improve productivity by shrinking their physical retail presence as long as their supply chains and logistics systems are robust. Smaller retailers often lack a digital presence and will need to develop this while larger firms will need to ensure that consumers receive a seamless and equivalent product range across all channels. All retailers need to focus on meeting the needs and expectations of multichannel shoppers because this consumer segment purchases a higher share of goods. There will still be a demand for physical retail stores, often as part of an 'experiential' or luxury shopping leisure activity.

Using 'big data' will be one of the key drivers of ongoing change for retailers. It offers major opportunities in using customer information to make operations more productive by more targeted marketing, advertising, and efficiency in staffing and supply chain operations. Big data analysis will make demands on good IT infrastructure and highly skilled staff from a variety of disciplines including IT and marketing.

Chapter 3 draws attention to several actions required by the retail sector to reap future productivity gains. For larger firms, these include the role of senior management commitment in making omnichannel retail strategies effective, coupled with investment in IT and staffing. Smaller retailers would benefit from support from local authorities, major retailers and town centre partnerships to build digital sales capability.

Firms using online and digital sales tools will need to build a reliable and seamless logistics and supply chain operation which minimises the time that stock is in transit and can cope with higher volumes of returned goods from online purchases compared to in-store. Their staffing needs will combine a mix of skills in marketing, IT, consumer psychology and buying to make sense of the insights gained from 'big data' analysis. Collaboration with HE providers to develop relevant courses will be important and retailers will need to make the sector attractive to specialists who may not typically consider a career in retail by adopting the work practices that are needed to motivate and retain them.

Retailers will need to develop innovations in how products are delivered to attract and maintain consumer engagement and purchasing. Giving people a reason to visit physical stores and the option of co-developing or customising goods prior to purchase are worth considering. For online purchases, retailers need to improve efficiency of making home deliveries and use technology to personalise and target marketing precisely.

There are also a number of disruptive innovations that may offer opportunities for retailers. These could include cloud technologies, the internet of things and implications from advanced robotics, 3D printing and self-driving vehicles.

Chapter 4 summarises the four main priorities for retailers to exploit as part of efforts to increase productivity. These are to develop suitable digital strategy, create and implement big data strategy and harnessing suitable skills, choosing suitable retail innovations and developing vibrant retail communities. Retailers need to think carefully about appropriate use of physical space and assets and balance this against the potential advantages of productivity gains from increasing the share of goods sold online. For small retailers, building digital capability will be critical even if they intend to retain a physical presence. Large retailers need to ensure they can harness hybrid mixes of skills to exploit the potential of big consumer datasets. Selecting retail innovations to improve delivery and develop new business models will demand that firms work with entrepreneurs and researchers to commercialise new ideas and technologies. Lastly large retailers need to work with partners to help build vibrant local retail communities. There is room for retailers to exert a more powerful voice, for example, via Local Enterprise Partnerships, and have a positive influence on local economic development.

1. Current UK retail sector productivity performance

1.1. Introduction

In July 2015, the government produced its plan to tackle UK productivity challenges, *Fixing the Foundations: creating a more prosperous nation* (HM Treasury, 2015). One initiative proposed in the plan was for sectoral business leaders, convened by the UK Commission for Employment and Skills' Chairman, to report to government on how they could help to improve productivity in different sectors and workplaces. This study supports the work of business leaders in the retail sector through a process of assessment to identify key issues in retail sector productivity, future challenges and priorities for action by business leaders. In particular, to complement recent and parallel work being undertaken, it focusses on the challenges and opportunities presented by online retailing and the possibilities of using 'big data' on consumers to develop future retail propositions.

Much of the debate productivity has focussed on the so-called 'productivity puzzle' of explaining the current shortfall in productivity compared to its trend before the global financial crisis, and the persistent relative gap in productivity performance between the UK and international comparators. Estimates suggest that there is a shortfall in output per hour of around 16% post-recession even when measurement and changes in some sectors are taken into account (Bank of England, 2014), and it may be difficult for future productivity to reach the levels predicted by pre-crisis trends. Compared to other nations, figures suggest that UK output per hour is around 30% below that of the USA and 20% below that of France. Various explanations have been suggested including:

- During and following the recession, unemployment did not increase as much as expected and real wages stayed low. Therefore, in contrast to past recessions where unemployment is high and businesses use this spare capacity alongside investment to drive growth and productivity, businesses have instead retained workers, paying them relatively low wages and not invested in capital. The result has been stagnation of output per worker. The Bank of England (2014) indicated firms have partly switched attention to business development activities, and may be able to respond easily to future increased demand thus improving productivity. These development activities could also bring more rapid improvements in productivity if they are effective in developing new products, services and processes. Further gains may be possible if they

can be effective in diffusion and commercialisation of new products, processes and services.

- Risk aversion and a requirement to consolidate balance sheets have meant that enterprises with 'good ideas' have not been able to attract investment. At the same time, firms surviving may have been less productive, with for example corporate insolvencies staying low in the recent recession. The result has been inefficiency in the allocation of resources in the economy, and an absence of creative destruction processes that can help drive up productivity.

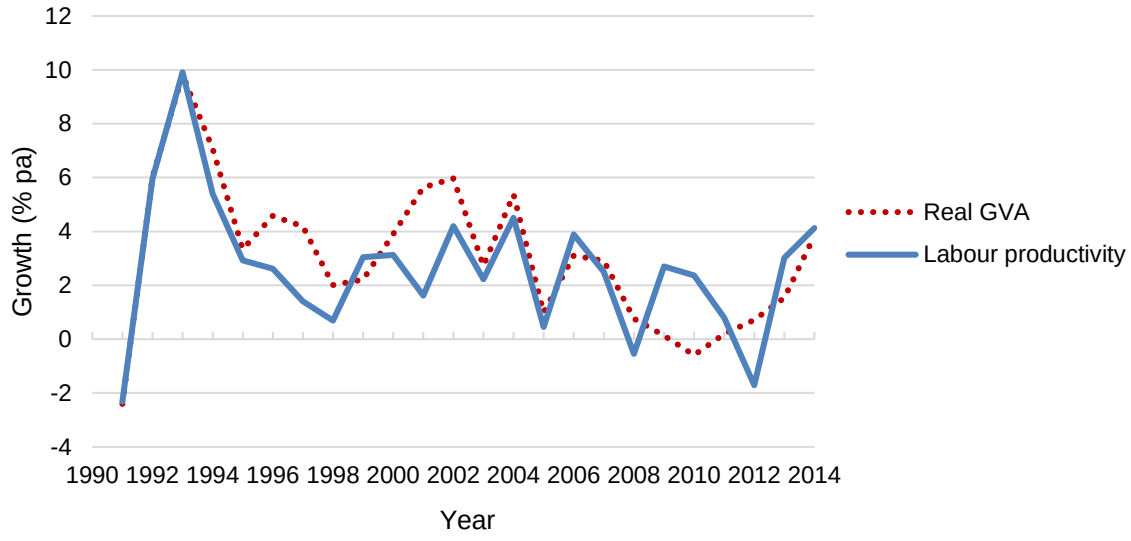
The rest of this chapter outlines key features of the UK retail sector productivity performance considering labour productivity, capital investment, firm size, skill levels, and how firms manage workers.

1.2. UK retail productivity performance: key findings

Retail labour productivity in GVA[6] per worker shows the retail sector is dynamic, with productivity levels increasing in all but three years from 1990 to 2014 (see Figure 1.1). From 2002-2008, labour productivity mostly kept pace with real GVA growth, leading to weak retail employment growth. During the period of recession, employment growth was stronger compared to flat GVA growth and weak labour productivity growth. Since then, sectoral labour productivity growth has been robust and faster than before recession, at just over 3.5% per year on average. In real terms this means that UK retail labour productivity was strong over 1990-2014 compared to the UK as a whole. However, in 1990 retail labour productivity was 50% of the UK average and so despite strong growth over 1990-2014, it was still one-third below the UK average in 2014. Compared to other key sectors, retail has had the lowest average levels of labour productivity since 2009, but the highest average labour productivity growth rate. Retail labour productivity growth was almost three times faster than the UK average.

[6] GVA is defined as Gross Value Added, and it is a measure of the contribution (of, for example, an industry or a producer) to the economy.

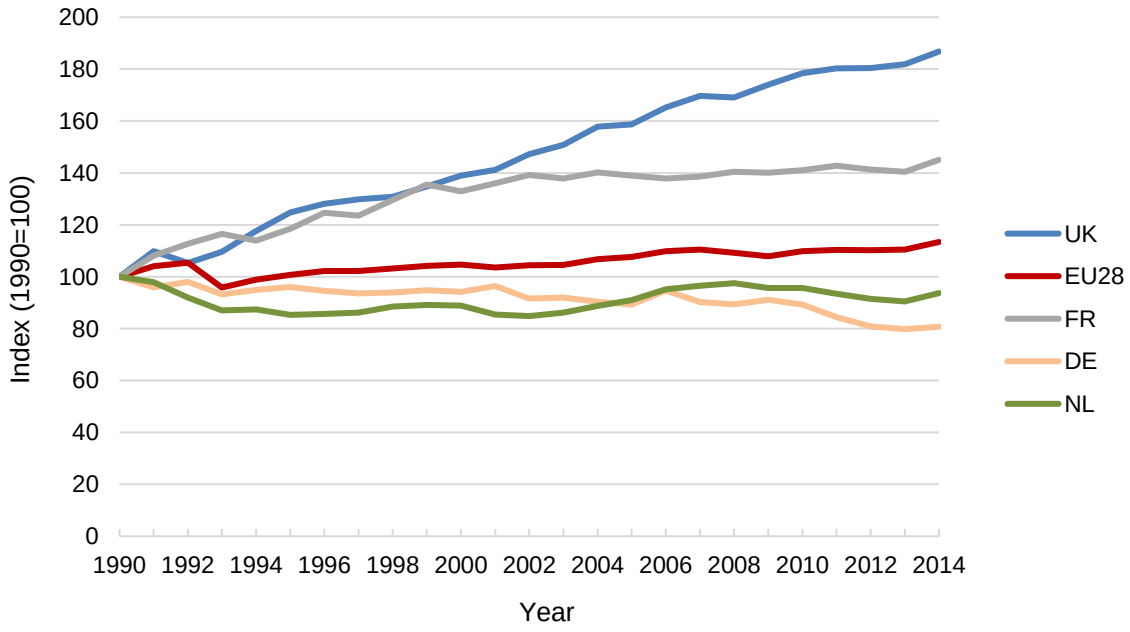
Figure 1.1 Growth in labour productivity and GVA, 1990-2014 (retail)



Sources: ONS and Cambridge Econometrics (MDM-E3 database).

Retail productivity performance is also strong compared to EU competitors shown in Figure 1.2. Since 2013, UK retail productivity growth has recovered quickly and outpaced other European countries. The UK also demonstrates a relatively strong performance in productivity levels compared to EU nations shown in Figure 1.3.

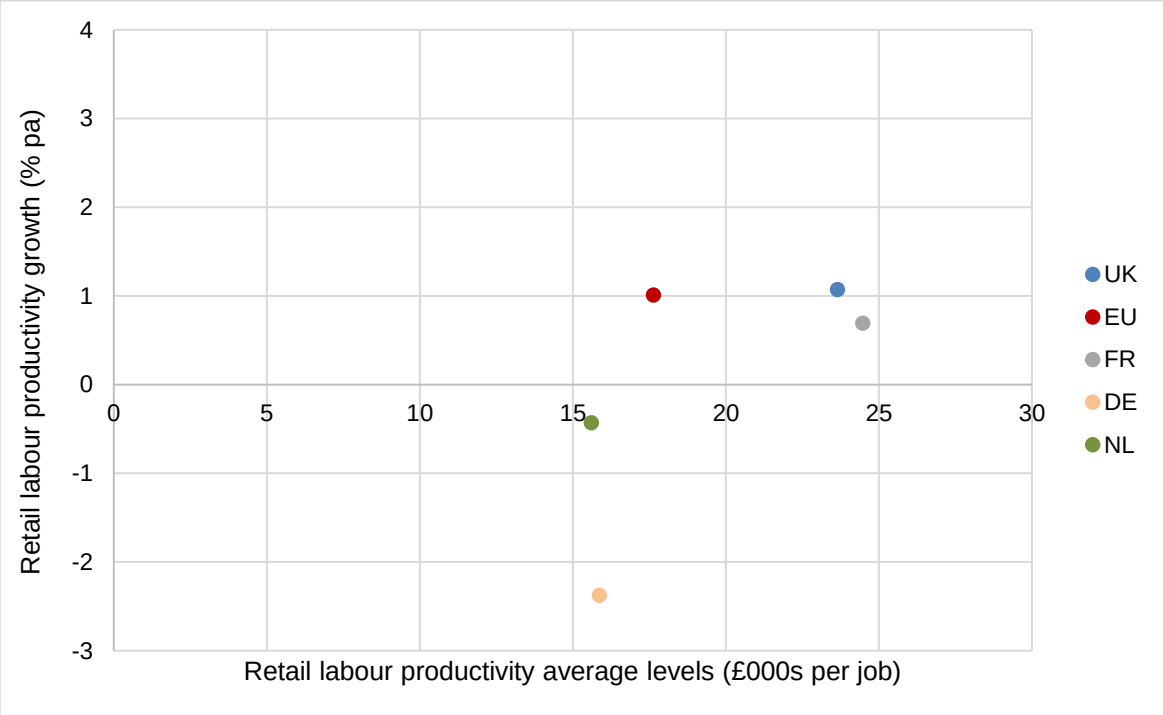
Figure 1.2 UK retail labour productivity growth compared to EU countries, 1991-2014



Sources: Eurostat and Cambridge Econometrics (E3ME database).

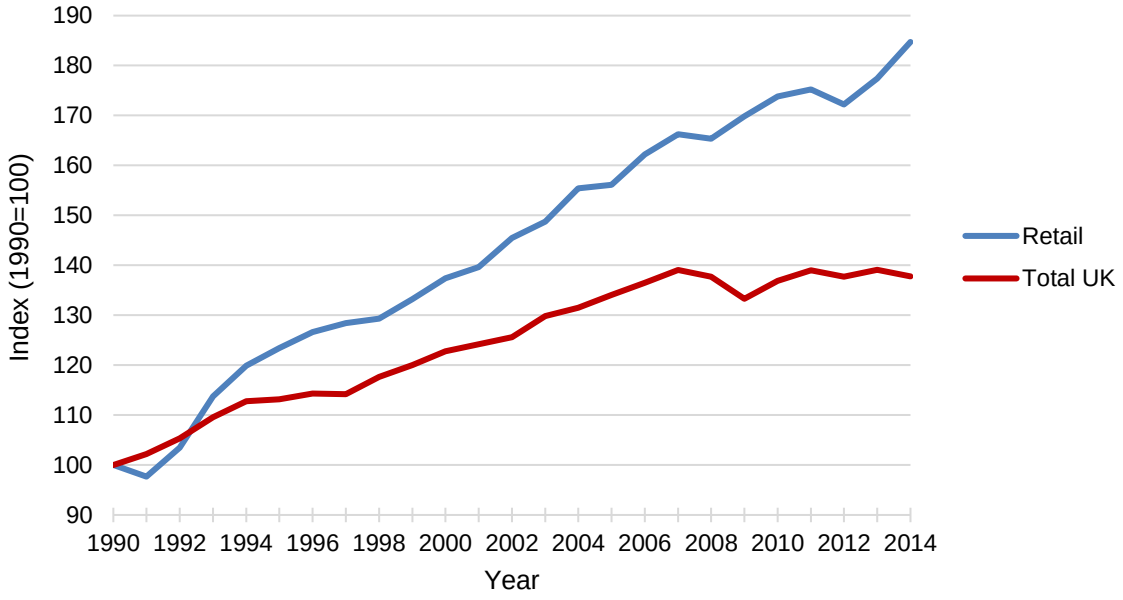
The performance of the retail sector in different European countries is extremely varied. In comparison to Germany, the Netherlands and the EU average, the UK retail sector has had higher GVA per worker and higher labour productivity growth since 2009. France has a higher labour productivity level, although growth is still outpaced by the UK over the same period. Germany shows markedly weaker level and growth of labour productivity.

Figure 1.3 International retail labour productivity growth versus labour productivity level averages, 2009-2014



But within the UK, the story of retail labour productivity compared to other sectors is strikingly different as shown in Figure 1.4.

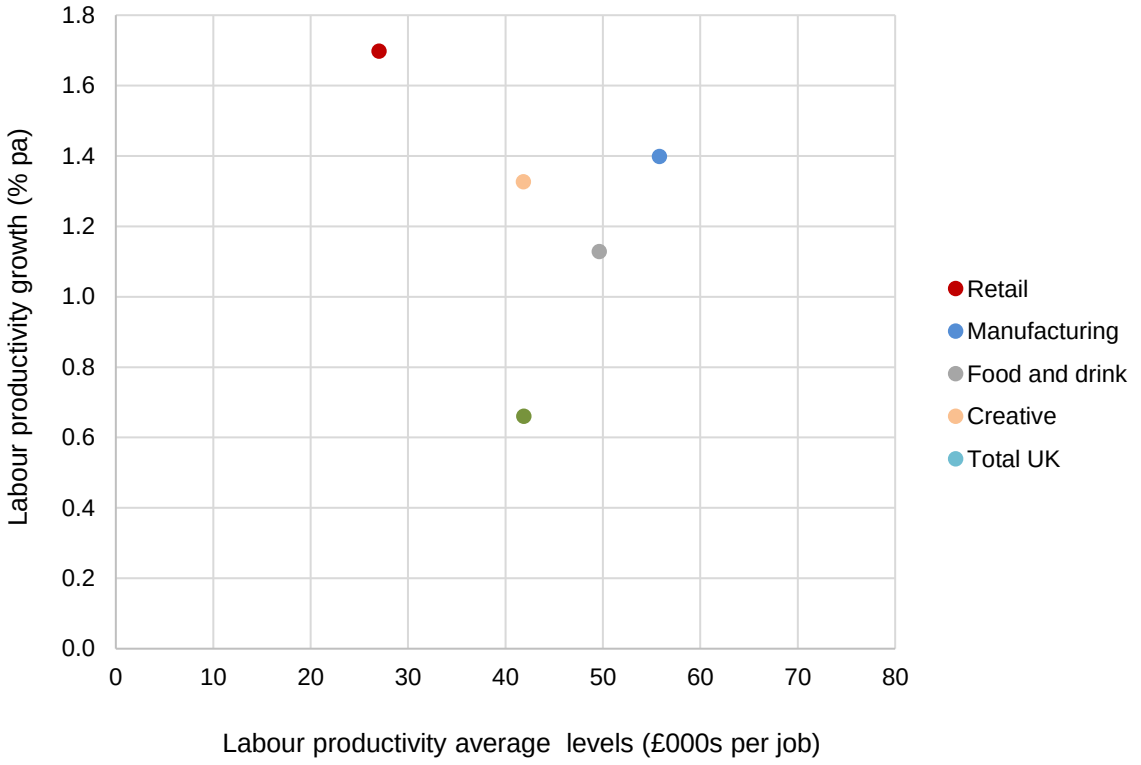
Figure 1.4 Labour productivity levels in retail and UK average, 1990-2014



Sources: ONS and Cambridge Econometrics (MDM-E3 database).

Figure 1.4 shows that the growth in UK retail labour productivity was strong over 1990-2014 compared to the UK as a whole. **However, in 1990 retail labour productivity was 50% of the UK average and so despite strong growth over 1990-2014, it was still one-third below the UK average in 2014.** This reflects the labour-intensive nature of many retail services, for goods which can be essential but of low value compared to other sectors. Sectoral differences between labour productivity levels and labour productivity growth tell a similar story and are illustrated in Figure 1.5.

Figure 1.5 UK sectoral labour productivity levels versus labour productivity growth, 2009-2014

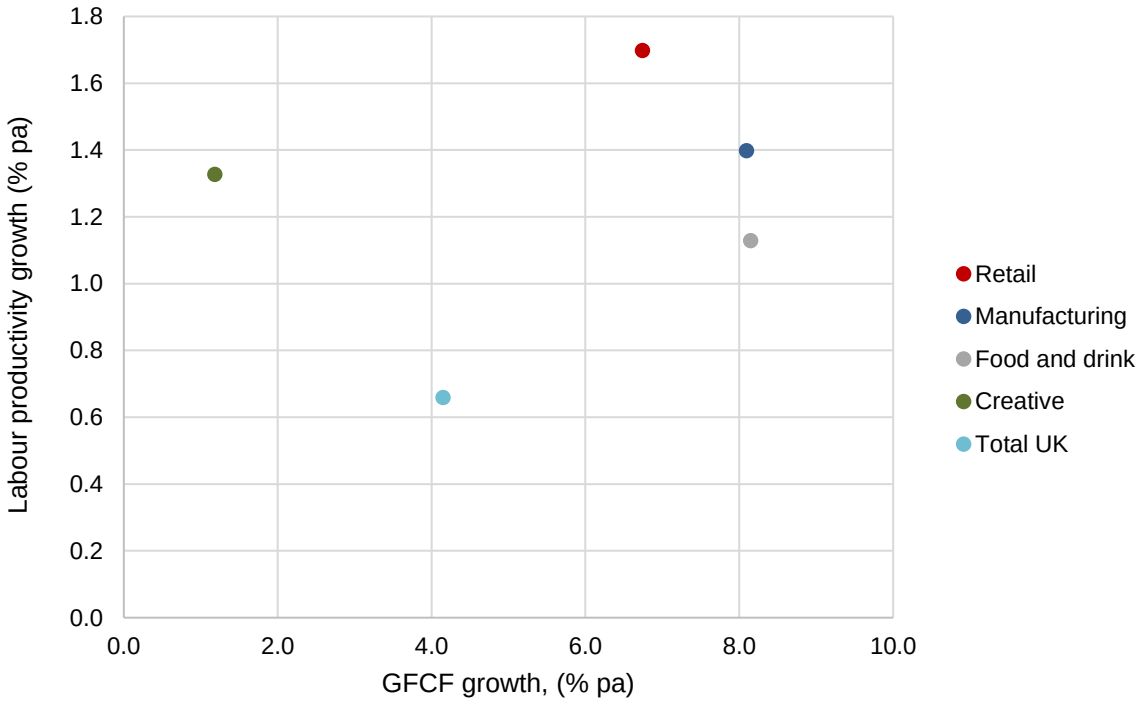


Sources: ONS and Cambridge Econometrics (MDM-E3 database).

Compared to other key sectors, retail has had the lowest average levels of labour productivity since 2009, but the highest average labour productivity growth rate. Retail labour productivity growth was almost three times faster than the UK average.

Retail investment growth is also strong, but not as dynamic as other sectors illustrated in Figure 1.6.

Figure 1.6 UK sectoral investment growth versus labour productivity growth, 2009-2014[7]

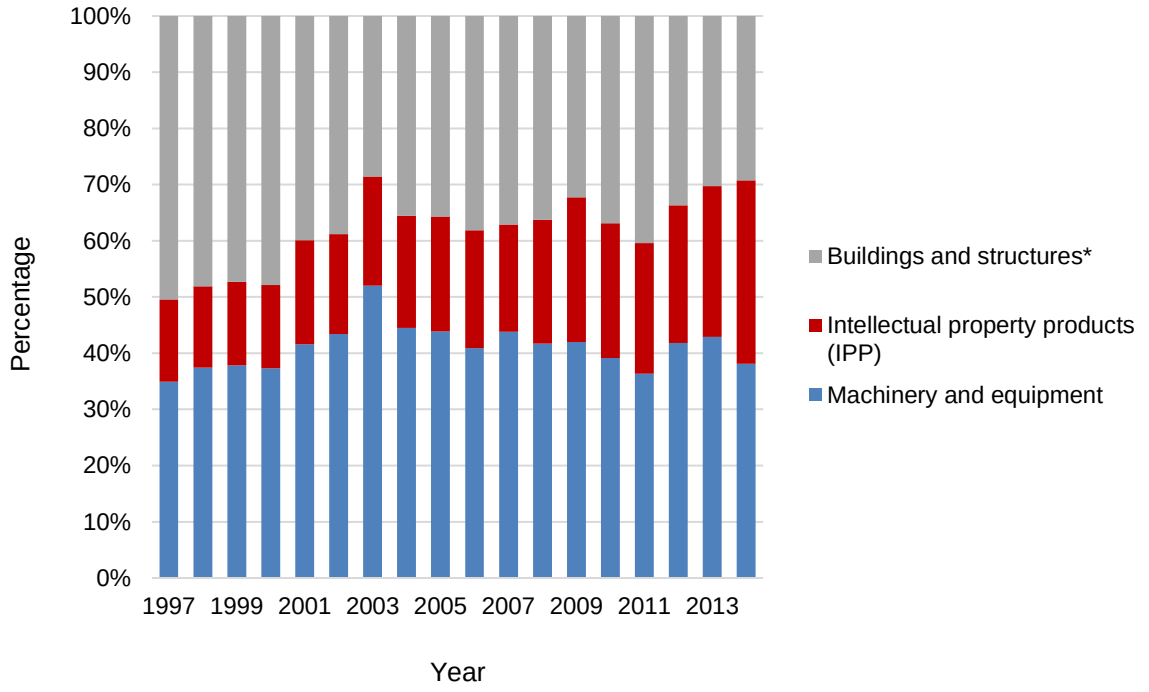


Sources: ONS and Cambridge Econometrics (MDM-E3 database).

While retail has experienced higher than average investment growth over 2009-14, at 1½ times UK growth, it still lags behind manufacturing and food and drink sectors in investment growth. In addition, investment composition in retail has been changing. In contrast to the national experience, investment into buildings and transfer costs as a share of total investment decreased in the retail sector shown in Figure 1.7. This may be caused by growth of online shopping reducing the need for physical retail space. Conversely, the share of intellectual property investment more than doubled over the same period, from just under 15% to almost 33%. This may reflect investment in IT systems and processes to manage logistics, supply chain management and ICT for analysis of consumer behaviour. In 2014, machinery and equipment had the highest asset share of total investment in retail, at almost 40%.

[7] Investment is measured as gross fixed capital formation (GFCF

Figure 1.7 Investment shares by asset type in retail, 1997-2014

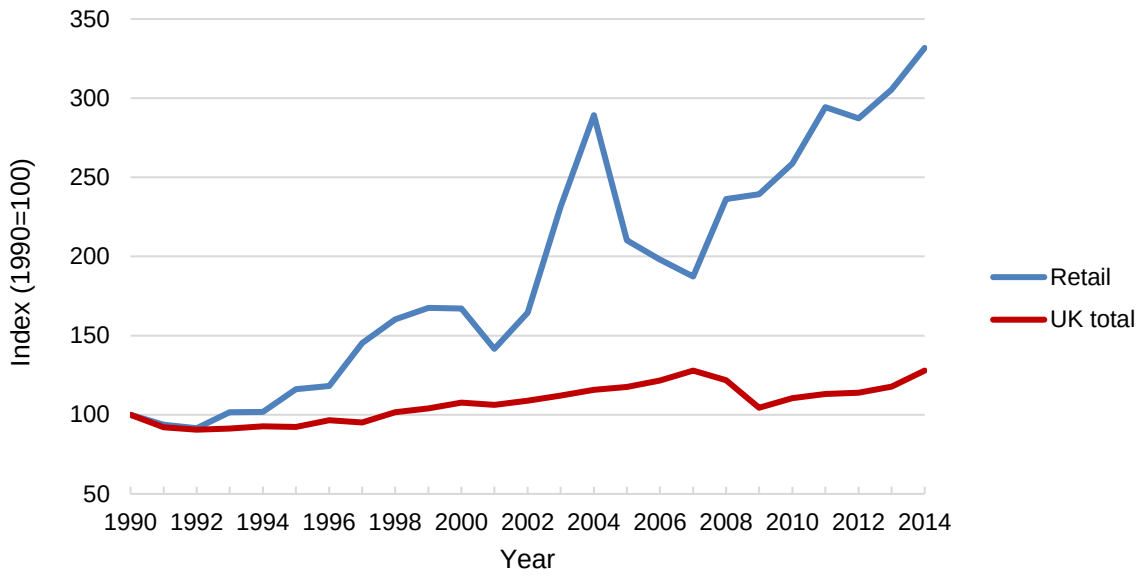


*Note: *this asset type also includes costs associated with the transfer of non-produced assets.*

Source: ONS (Business Investment by Industry and Asset)

In contrast to investment growth, labour productivity growth within retail exceeds growth of all other sectors analysed. This is also reflected in longer term trends where retail investment is more volatile than other sectors shown in Figure 1.8.

Figure 1.8 Retail sector investment compared to UK average, 1990-2014

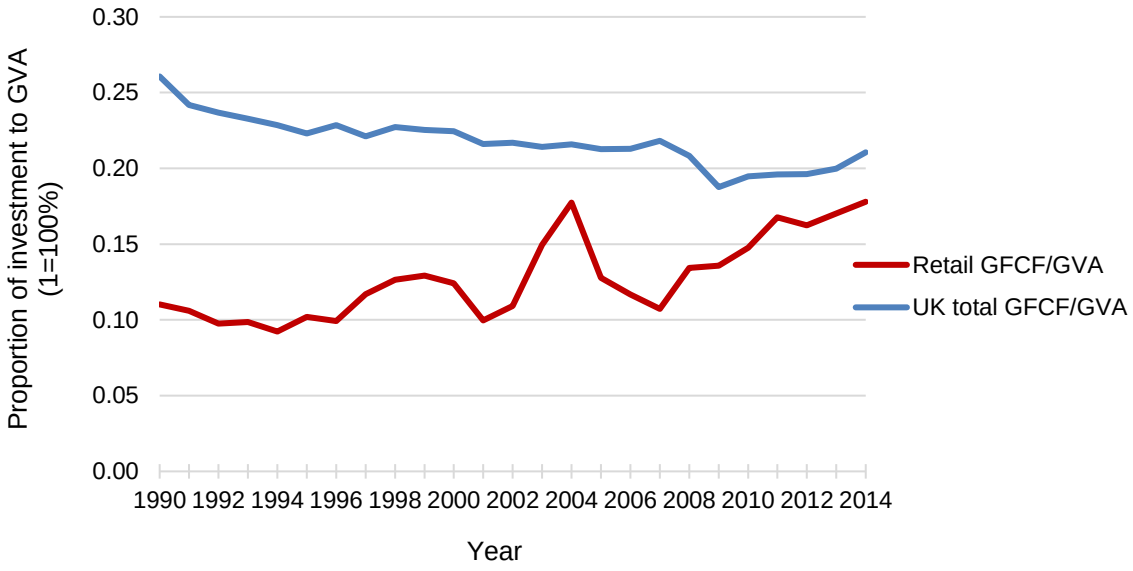


Sources: ONS and Cambridge Econometrics (MDM-E3 database).

UK retail sector performance reflects strong capital investment in the sector. Overall growth in investment[8] into the retail sector strongly outpaced UK total investment between 1990 and 2014 as shown in Figure 1.8. From 2009 to 2014, retail investment growth was especially strong, at an average of just over 6½% pa, in comparison to an average UK investment growth of around 4% pa over the same period. This reflects confidence in sectoral investment following recession. But while growth in retail investment is positive, the scale of investment as a proportion of GVA may require boosting. This better illustrates volumes of investment in different sectors relative to sectoral size as shown in Figure 1.9.

[8] Investment is measured as gross fixed capital formation (GFCF)

Figure 1.9 Investment as a proportion of GVA, 1990-2014

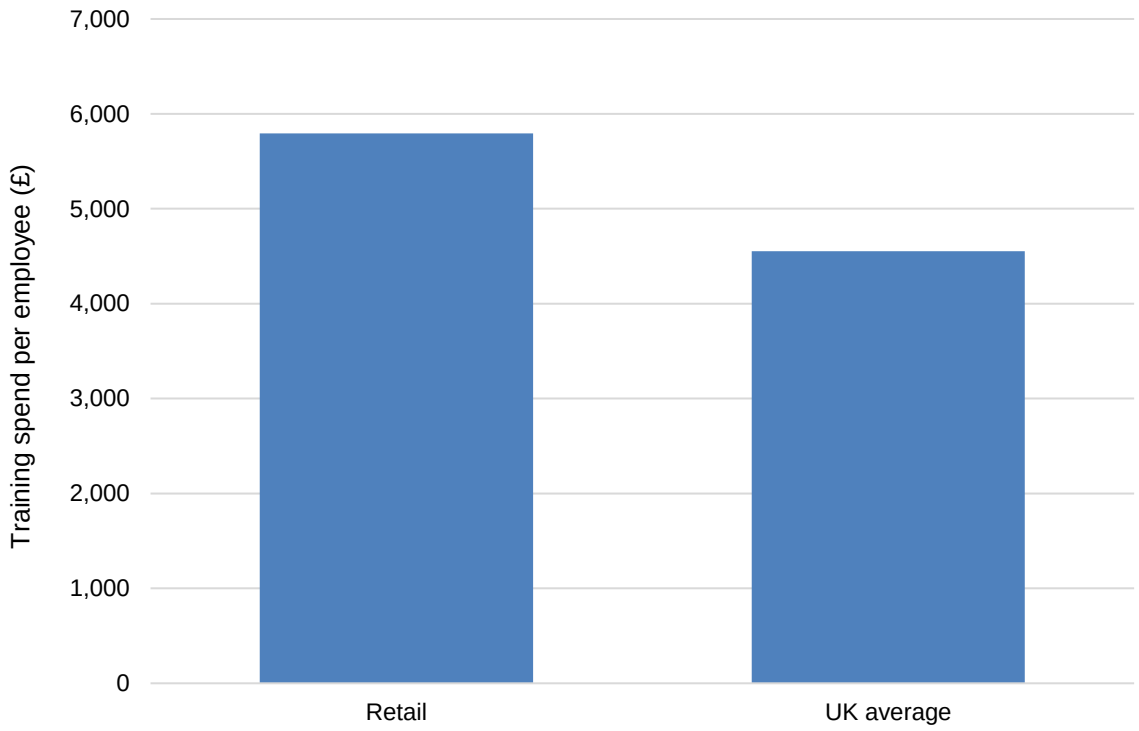


Sources: ONS and Cambridge Econometrics (MDM-E3 database).

Figure 1.9 shows that retail investment levels have historically been lower than the UK sectoral average as a proportion of GVA. In recent years the gap has closed, because investment as a proportion of GVA has slowly declined overall, while in the retail sector there has been notable growth since 2008.

This data raises questions about the source of retail labour productivity weakness relative to other UK sectors. One cause might be lack of skills among the retail workforce due to low investment in training. Figure 1.10 shows that levels of overall investment are high so this in turn raises questions about whether the retail sector is investing in the skills that will have most impact on productivity and whether the training provided is as effective as it could be.

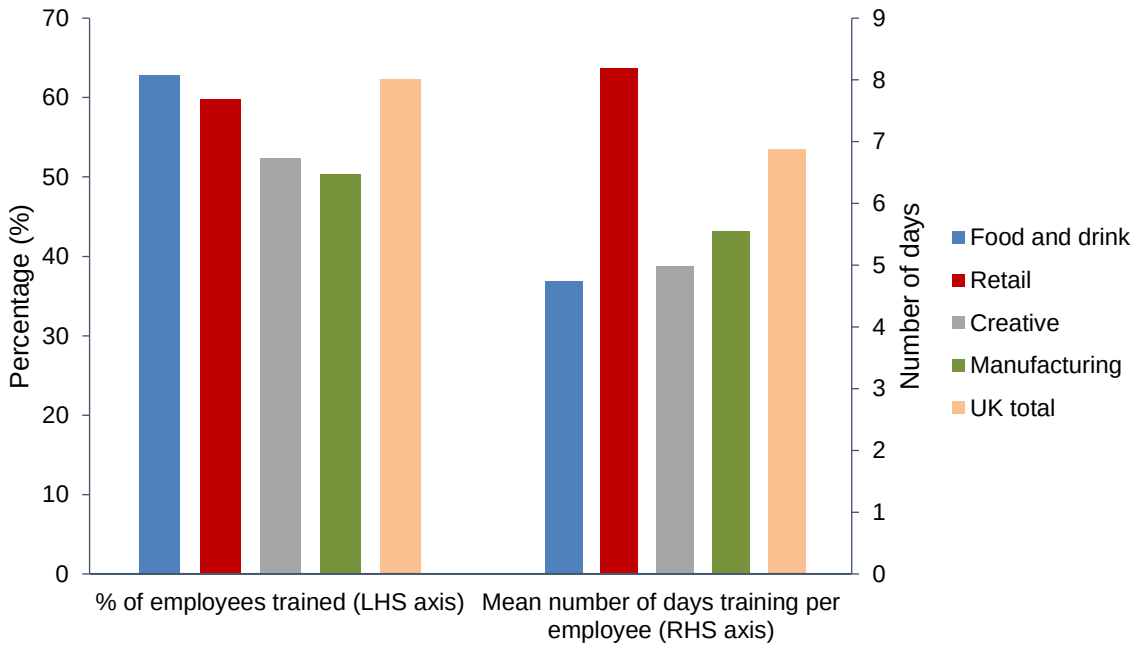
Figure 1.10 Retail training spend per employee compared to national average, 2013



Source: UKCES (Employer Skills Survey, 2013).

Retail training spend per employee was over 25% higher than the UK average in 2013. Evidence illustrated in Figure 1.11 shows that despite high levels of investment in training among retail firms, skills gaps persist. This suggests either misalignment of training content to target skills gaps, ineffective training or additional training investment required.

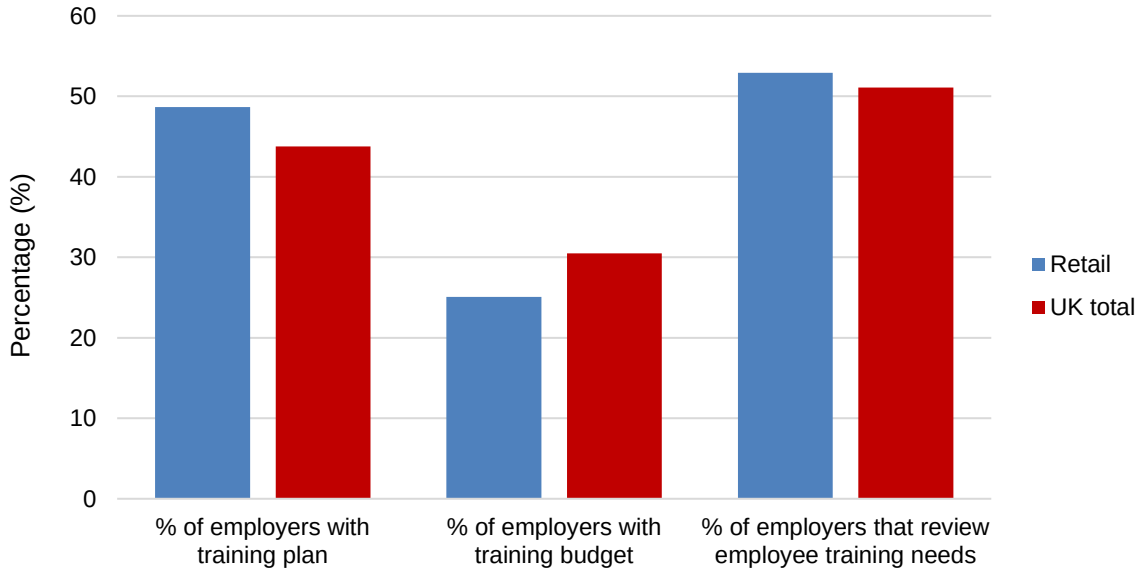
Figure 1.11 Training participation and training intensity, 2013



Source: UKCES Employer Skills Survey, 2013.

Almost 60% of employees receive training in retail, a greater proportion than in the manufacturing and creative sectors, but just below the national average. The most common type is job-specific training as in other sectors (p.40, Vokes and Limmer; 2015). Training intensity in the retail sector is high with employees receiving just over eight days of training on average, higher than the national average of seven days.

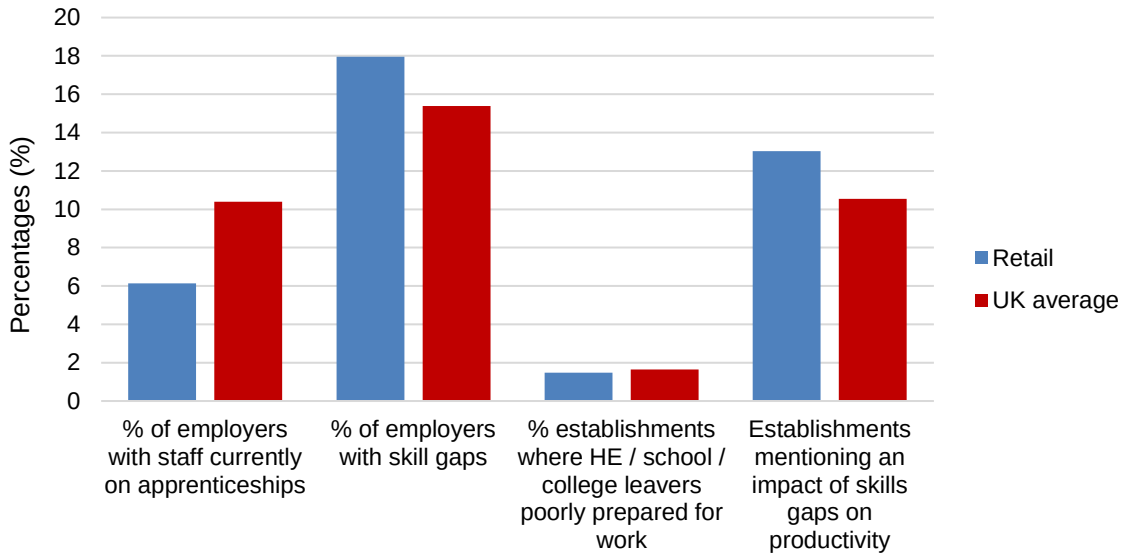
Figure 1.12 Training strategy adoption: retail and UK total, 2013



Source: UKCES (Employer Skills Survey, 2013).

Figure 1.12 shows evidence of forward, formal systems being used in retail to organise training activities. The percentage of employers with a training budget is below the national average at 25% compared to 30% for the whole of the UK, but almost half of retail employers have a training plan compared to 44% for the national average. In addition, over 50% of employers review employee training needs, which is just above the national average. While these indicators suggest moderate training support in the retail sector, there are likely to be differences in investment levels between firms of different sizes. Data shown in Figure 1.17 shows the high share of SMEs in the sector compared to the national average. These types of firms are less likely to have resources to purchase high levels of training. There are concerns that there may be insufficient support for individuals who require training the most (p.39, Vokes and Limmer; 2015).

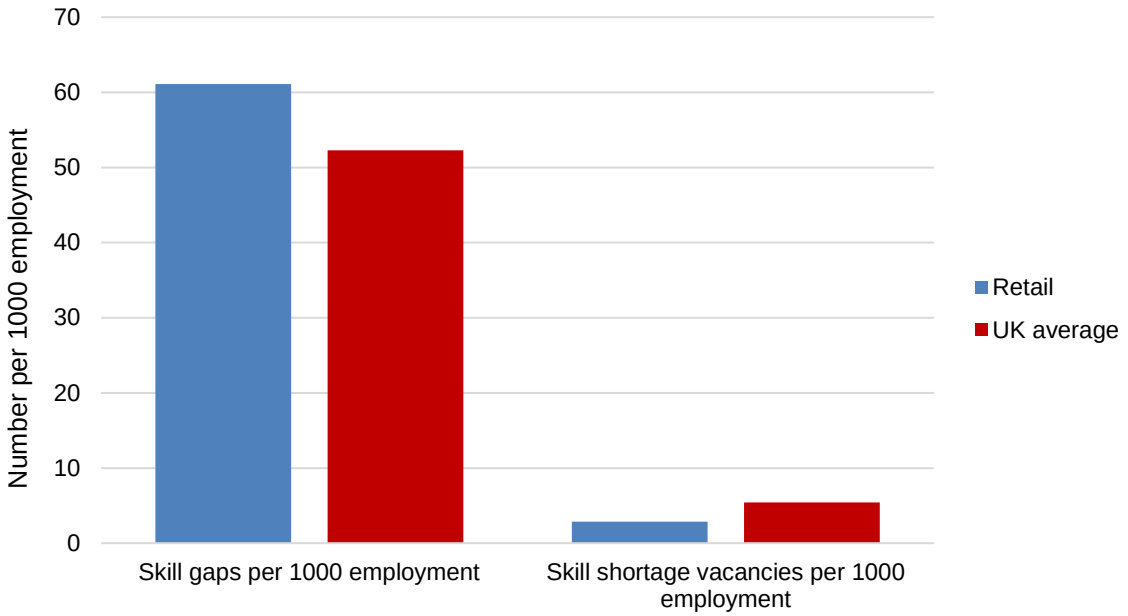
Figure 1.13 Retail skills deficit indicators compared to UK average, 2013/2014*



Sources: UKCES (Employer Skills Survey, 2013 and Employer perspectives survey, 2014).

**Apart from "% of employers with staff currently on apprenticeships", the indicators come from the Employer Skills Survey.*

Figure 1.14 Retail skills shortage vacancies and skills gaps compared to UK average, 2013



Source: UKCES (Employer Skills Survey, 2013).

Figure 1.13 and Figure 1.14 shows incidence of employer-provided training in the retail sector is higher than the UK average, but there are more skills gaps as a proportion of jobs and as a proportion of employers. Numbers of retail firms noticing impacts of skill gaps on productivity are higher than the UK sectoral average, so it is worth identifying the types of shortages they face relative to other sectors.

Table 1.1 shows the types of skills gaps experienced by retail establishments. It is notable that the retail sector reports a substantially higher proportion of skills gaps in advanced IT/software skill than other sectors, which is of interest given the focus of the rest of this report on big data and online retailing demands and opportunities. Just under 60% of firms also report that planning and organisation skills are lacking, which is slightly above the all-sector average and places the retail sector second only to the creative sector. This is of concern given the reliance of the sector on timely fulfilment of deliveries to customers and stock from suppliers, especially in an online environment.

Table 1.1 Percentage of all establishments with skill gaps: retail and other sectors, 2013

Type	Manufacturing	Food and drink	Retail	Creative	All sectors
	%	%	%	%	%
Basic computer literacy / using IT	22.7	30.9	25.4	21.4	23.0
Advanced IT or software skills	24.7	23.8	18.7	40.9	24.2
Oral communication skills	37.0	41.0	44.6	43.5	41.0
Written communication skills	31.5	37.8	25.9	38.5	31.5
Team working skills	44.2	52.3	48.3	44.1	44.4
Foreign language skills	10.8	23.0	9.7	13.3	10.1
Planning and Organisation skills	53.6	54.3	59.2	63.1	57.3
Strategic Management skills	26.6	32.1	27.2	39.0	27.9

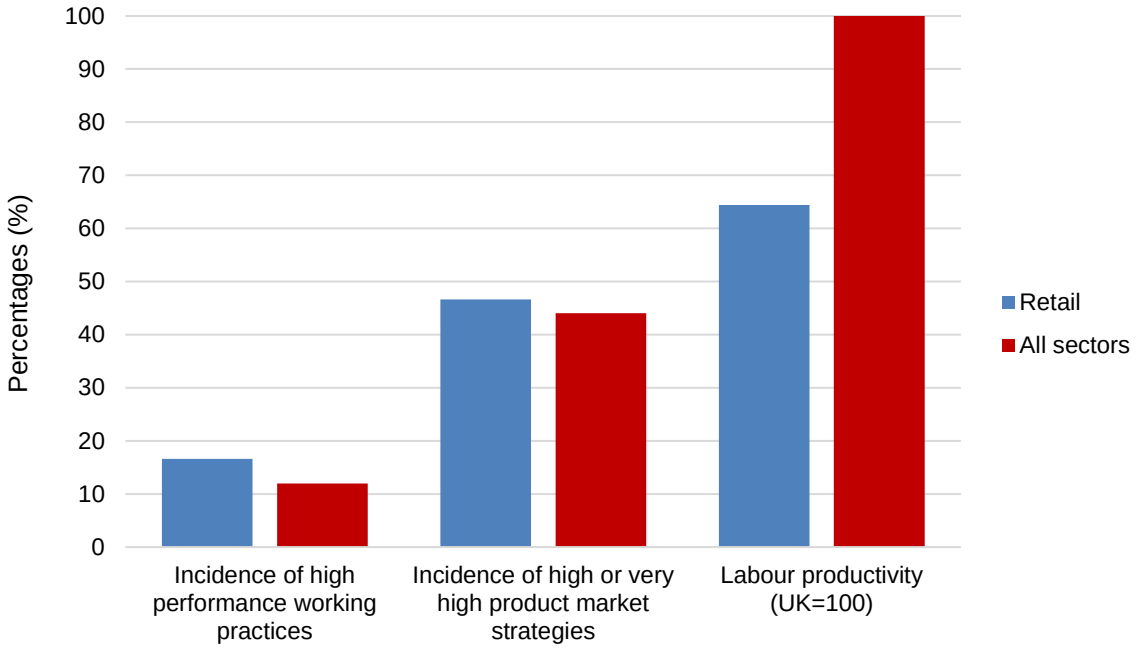
**Questions about Welsh Language skills were not asked in England, Northern Ireland or Scotland[9].*

Source: UK Employer Skills Survey, 2013, UKCES.

A further explanation for weak labour productivity in the UK retail sector could lie in management and leadership capacity to tackle skills gaps and how workforce skills are exploited, which is explored through data in Figure 1.15.

[9] Winterbotham, M., Vivian, D., Shury, J. and Davies, B. (2014) "The UK Commission's Employer Skills Survey 2013: UK Results". Evidence Report 81, UK Commission for Employment and Skills.

Figure 1.15 People management and business strategies



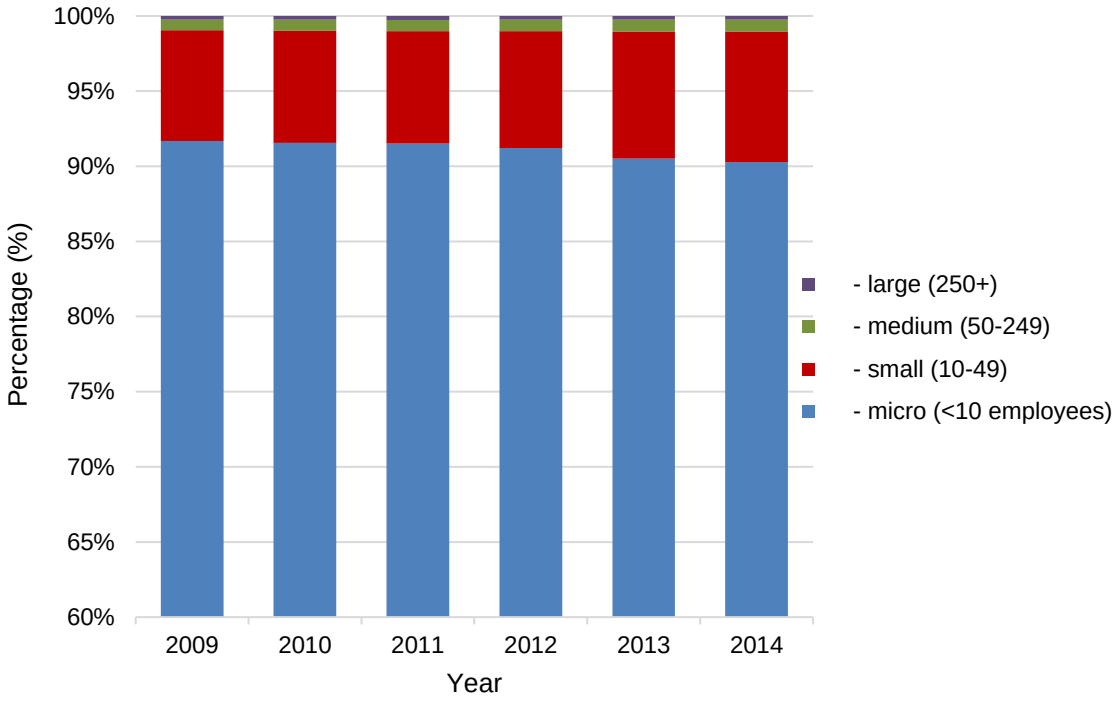
Source: UK Employer Skills Survey, 2013, UKCES

Figure 1.15 shows that use of high performance working practices which are designed to maximise contribution of employees through careful job design, opportunities for involvement and career development is higher among retail firms than the UK sectoral average but still low overall. This means there may be opportunities for firms to enhance the value of the effort put in by workers. This is potentially especially important in a low paying sector which is likely to feel the effects of the new National Living Wage particularly keenly. Retail firms are slightly more ambitious in their product market strategies than other sectors. This means that firms in the retail sector tend to "pursue innovation, compete on quality, or… offer customised goods or services" (p. 95, UK CES, 2014)[10]. Implementing such strategies in a labour-intensive sector is likely to depend on having well-trained and suitably skilled staff.

Further explanation of weak labour productivity could lie in the size of firms which make up the retail sector. Small and medium-sized enterprises (SMEs) typically have lower labour productivity and are less likely to adopt sophisticated business strategies and people management practices and less likely to engage in training. The size profile of UK retail businesses is shown in Figure 1.16 and comparisons with the UK average is given in Figure 1.17 and with European countries in Figure 1.18.

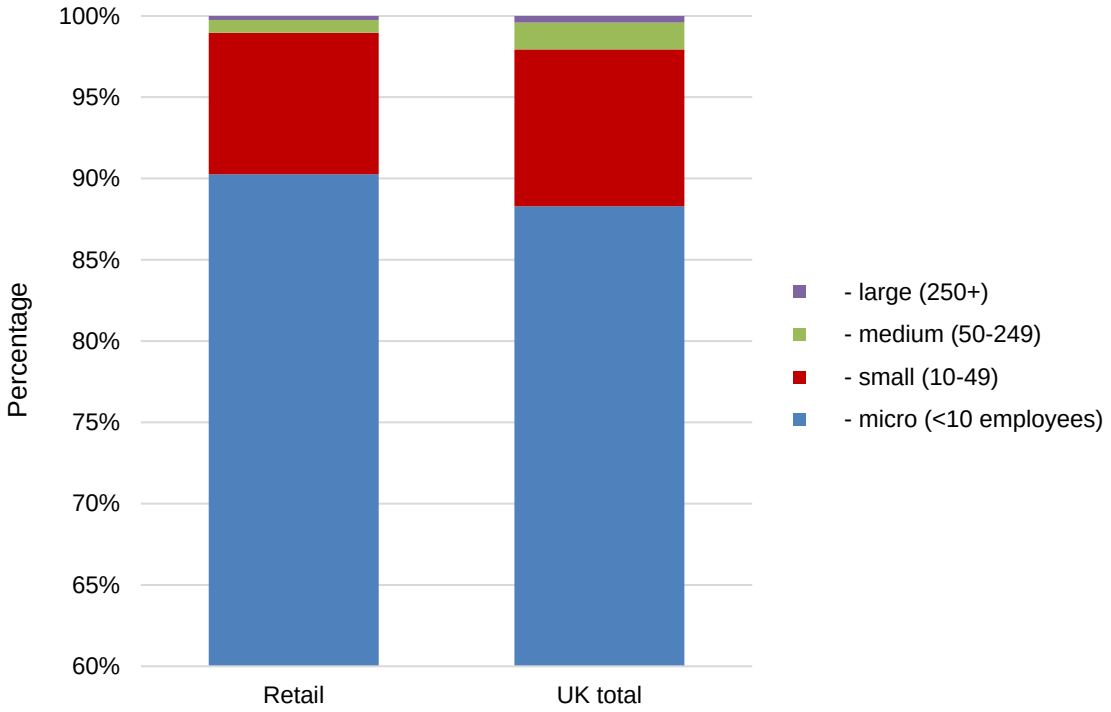
[10] Winterbotham, M., Vivian, D., Shury, J. and Davies, B. (2014) "The UK Commission's Employer Skills Survey 2013: UK Results". Evidence Report 81, UK Commission for Employment and Skills.

Figure 1.16 Business sizes within the retail industry, 2009 to 2014



The composition of the retail sector in Figure 1.16 is dominated by micro firms with less than ten employees and small firms with between 10 and 49 employees, which account for just over 90% and just under 10% of all firms respectively. Large firms with over 250 employees make up just 0.25% of the sector's businesses on average.

Figure 1.17 Business sizes within the retail industry, 2014



Sources: CE calculations based on ONS UK business: activity, size and location datasets.

Although all sectors are dominated by small firms, in contrast to the national average, the retail sector has a lower proportion of medium and large establishments. 0.5% of all businesses in the UK have over 250 employees, compared to just 0.25% in the retail sector. Correspondingly, there is a larger proportion of firms with less than ten employees. This suggests that the comparatively high incidence of micro firms in retail may help account for lower than average productivity because they are less likely to adopt sophisticated people management strategies and to have resources and expertise to invest in and manage training activity.

Figure 1.18 Businesses sizes for the retail sector in key EU countries, 2013

Source: Eurostat, Structural Business Statistics.

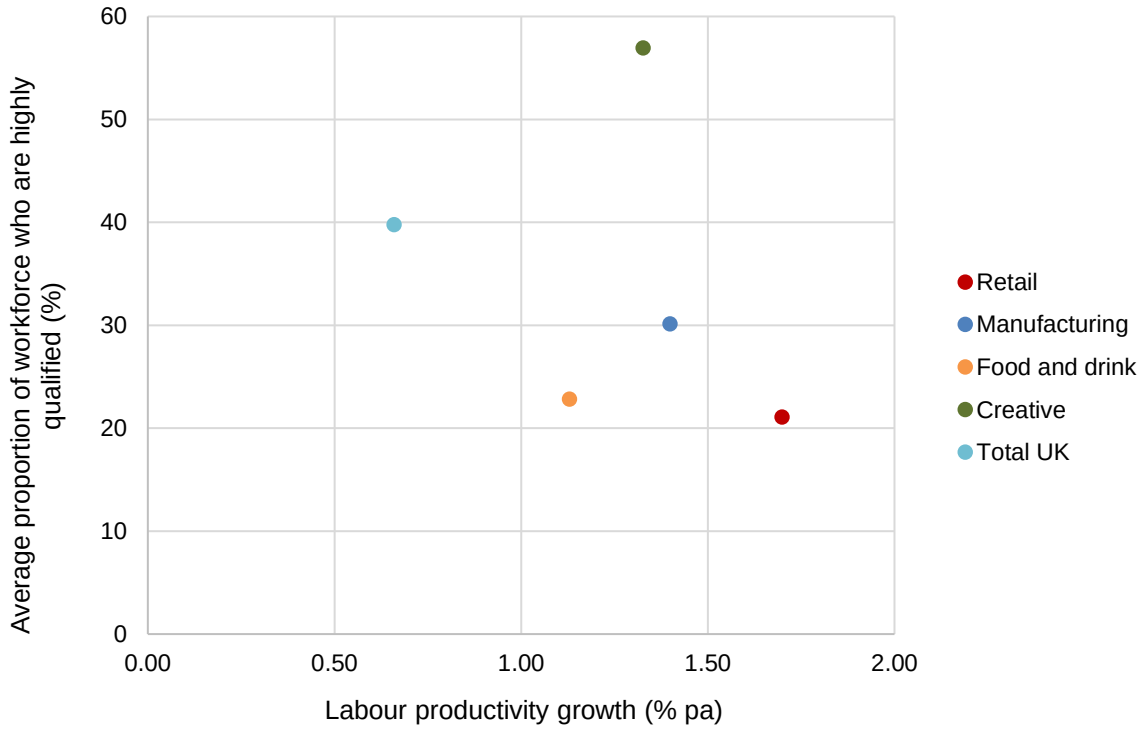
The difference in share of business sizes within the retail sector suggests structural variations across European countries. The UK, Germany and the Netherlands have a higher share of small firms, with around 17% of German retail businesses made up of this group. Micro-sized businesses form over 60% of retail firms in all four countries and in the UK, France and the Netherlands, the share of retail micro-firms exceeds 85%.

But there is no clear relationship between labour productivity levels and business size structures in these countries. Retail sector labour productivity in 2014 was higher in the UK and France at around £25,000 real GVA per worker, compared to £15,000 real GVA per worker in Germany and the Netherlands[11]. This suggests it is likely that other influences account for labour productivity variations.

[11] The figures are obtained from the E3ME database, compiled by Cambridge Econometrics, and are based on national accounts data from Eurostat.

The last set of factors to consider is the relationship between workforce qualifications and labour productivity growth in Figure 1.19.

Figure 1.19 Workforce qualification levels versus labour productivity growth, retail and other sectors, 2009-2014



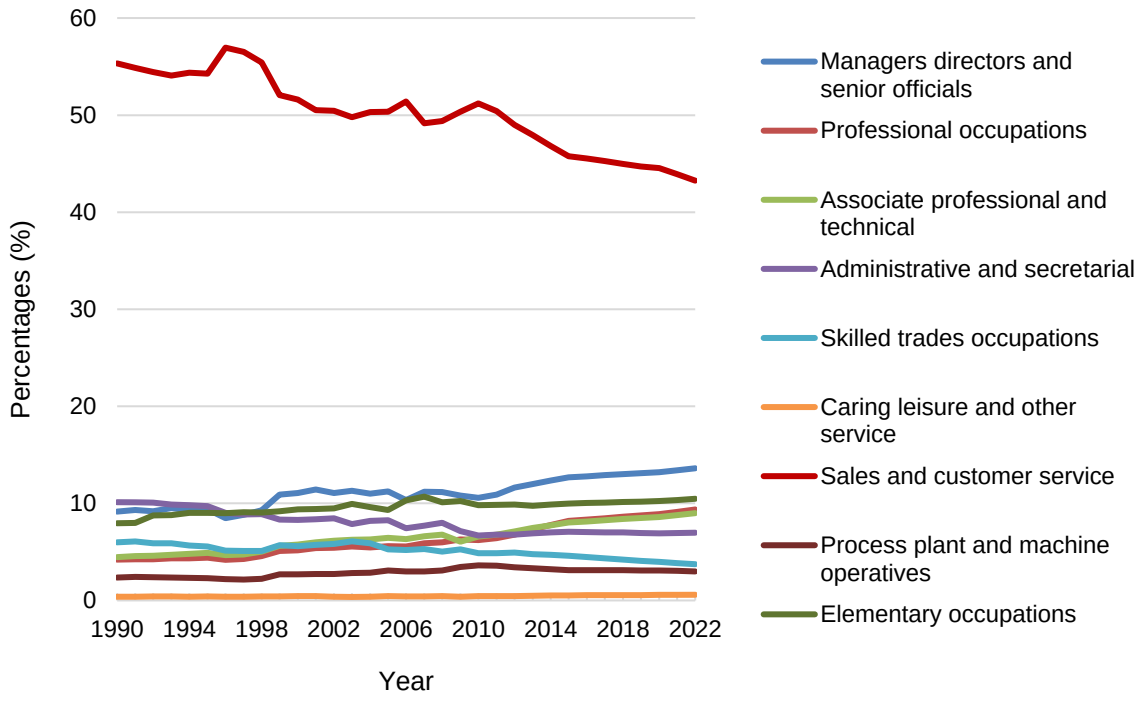
Sources: ONS and Cambridge Econometrics (MDM-E3 database) and UKCES, Working Futures 5 (2012 to 2022).

In comparison to other key sectors and the UK average, retail firms had the lowest proportion of highly qualified workers but the highest labour productivity growth rate from 2009-2014. This may reflect a predominantly low-skill environment and firms making use of opportunities for increased automation in supply chain management and logistics as well as in customer-facing roles. It is consistent with the key message of this chapter that the retail sector enjoys relatively high productivity performance and investment performance compared to the UK average and other key EU nations, but has weak labour productivity levels relative to other UK sectors. There has been considerable research into low pay and low skill within retail so this report deliberately seeks to explore other challenges and opportunities. The next chapter explores other key factors that will drive change and create challenges and opportunities to enhance productivity for UK retail firms over the next few years.

Working Futures

Figure 1.20 shows that the future occupation profile of the retail sector is expected to remain largely unchanged in the medium to long-term, bar a few important exceptions. Sales and customer service jobs are still expected to dominate, but their share of the retail workforce is expected to decline. A contributing factor to weaker labour demand is increased technology use in the sector, such as automated checkouts and online shopping. In contrast, demand for managers and directors is anticipated to continue to increase over the same period.

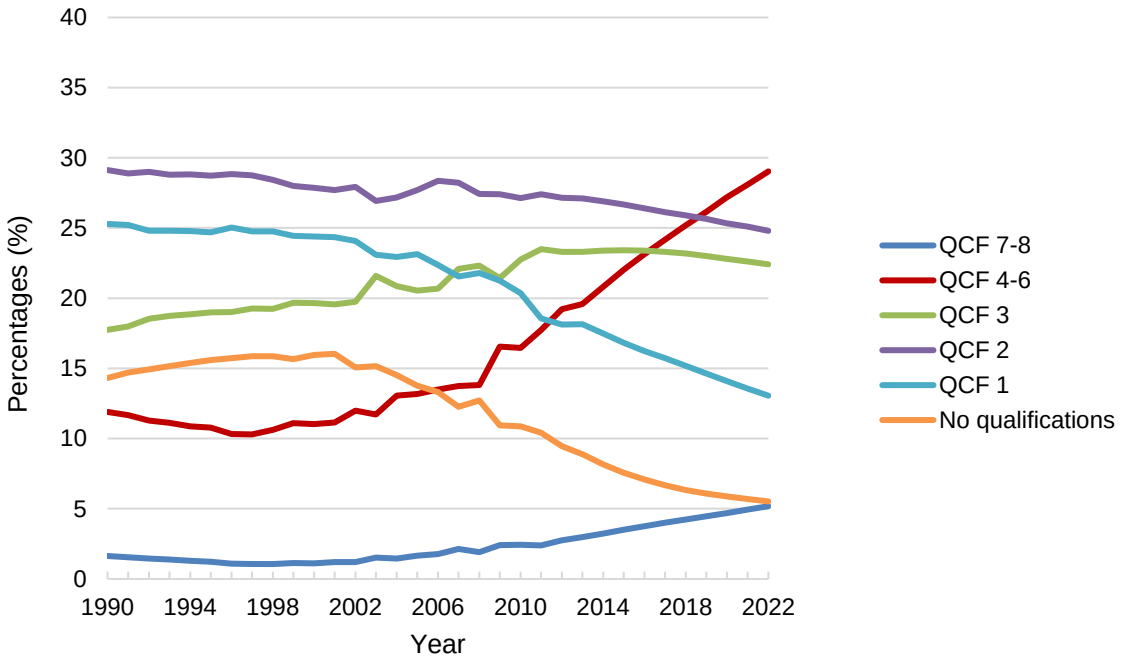
Figure 1.20 Occupation profile of the retail sector, 1990-2022



Source: UKCES (Working Futures 5).

The future qualification profile of for retail staff is expected to undergo sizeable change, as seen in Figure 1.21. Shares of highly qualified individuals (QCF[12] 4-8) as a proportion of retail employment are expected to increase. Conversely, the proportion of the retail workforce with low (QCF 1) or no qualifications is expected to decline over the same time horizon. The proportion of employees with intermediate level qualifications (QCF 2-3) within retail is expected to remain largely unchanged. An important contributory factor is the increased tendency for young people to remain in education for longer, resulting in a higher qualified labour supply over the forecast horizon.

Figure 1.21 Qualification profile of the retail sector, 1990-2022



Source: UKCES (Working Futures 5).

1.3. Conclusions

The retail sector enjoys relatively high productivity performance, labour productivity growth and investment performance compared to the UK average and other key EU nations, but has weak labour productivity levels relative to other UK sectors. Labour productivity growth is high but investment growth is weaker compared to other sectors.

[12] QCF stands for Qualifications and Credit Framework, which can be used to classify different education qualifications

Skills gaps in IT and for planning and organisation are high compared to other sectors. This is important because of the challenges that retail faces in the future which are discussed in the next chapter. Compared to other sectors, substantial shares of firms plan training and review staff performance annually and the retail sector spends more on training per employee than the UK average, but a relatively small share have a training budget and adopt high performance working practices. This is likely to reflect the higher share of SMEs within retail compared to other sectors as smaller firms are less likely to train staff and to adopt more sophisticated people management practices.

The future workforce profile is expected to change substantially over the next few years with more highly qualified people working in retail and fewer with low or no qualifications. In part this reflects young people remaining in education for longer but it also reflects changes in skill demands arising from use of technology to replace low skilled jobs.

Against this context of current productivity and labour market characteristics, the next chapter moves on to consider what the future challenges and opportunities are that retailers will want to address in raising productivity.

2. Looking forward: the key drivers of change

2.1. Introduction

This chapter explores the impact of key drivers of change and the demands and pressures they will create for retailers. These challenges will have important implications for maintaining and improving productivity. The chapter covers: changing demographics of the growing share of older people; the expectations of Generation Y; the rise of online shopping; the demands of multi- and omnichannel shopping; reliability of online purchase and delivery; pressures faced by physical stores; opportunities for retailers from 'big data'.

2.2. Changing demographics

The UK is facing huge demographic changes affecting how retailers need to offer their products. These arise from a growing share of older people combined with changing expectations about modes of purchasing among younger people.

Life expectancy is increasing and birth rates are declining. This presents a challenge for retailers, who will need to respond to an ageing population by developing strategies focused on older consumers and mature households. This might mean changing their product range to include more health-related products and healthy foods, for example, or providing goods in smaller unit sizes to cater to smaller households as increasing shares of older people are living alone. They may also need to focus more on convenience – for example, using simpler packaging, ensuring there is easy parking available close to stores and providing in-store seating for customers (European Commission, 2013).

At the same time, retailers need to balance these concerns with meeting the needs of 'Generation Y' (who will be aged 25 to 40 in 2020 and account for 18 per cent of the population). These consumers are technologically integrated, used to sourcing any product at any time and they also integrate socially responsible causes into their lives. Research from the European Commission expresses their needs as: "I want my friends' opinions + I want to express my opinion + I want convenience + I want to have fun + I want to be heard + I want to have an impact" (European Commission, 2013). These may play out in the choices that this generation make about purchasing. Mutual peer influence is likely to be important through ethical and social considerations. This group may be easily discouraged by any perceived barriers to purchasing with expectations that this should be possible anywhere through any channel.

2.3. Changing consumer preferences - growth of online commerce

Consumers are also more educated, informed and connected than they have ever been (European Commission, 2013), and over the last twenty years the way that people shop has changed dramatically. A major change in consumer purchasing behaviour has been enabled by technology and is evident in the shift to online research, browsing and payment which is substituting for visits to shops. In 1998, online sales accounted for just 0.2 per cent of all retail spend (£362 million a year). By 2008, this had grown to 6.7 per cent (£19.5 billion a year), by 2012 it stood at 12.7 per cent (Verdict Research Consultancy, 2008 cited in Fernie et al., 2010; Bamfield, 2013) and by 2015 it had risen to 15% (cited in Vokes and Limmer, 2015). Internet retail volumes grew by more than 6 times between 2003 and 2012, from £4.8 billion to £31.1bn.

The old pattern of consumers making a weekly trip to the supermarket every Saturday or Sunday no longer holds true – the number of people going out to do a single 'big shop' once a week dropped from 31 per cent in 2008 to just 20 per cent in 2012 (Centre for Retail Research, cited in Bamfield, 2013). Many customers are now consuming content in virtual rather than physical form. These consumers no longer buy physical goods such as books and CDs and are instead buying e-books and MP3s – or even streaming music and movies through a subscription service like Netflix or Spotify (Sealey, 2013).

As more and more purchases are made online, the need for physical stores is declining (BIS, 2013). Bamfield (2013) estimates that the number of retail stores in the UK will fall by 22% between 2012 and 2018.This is more than double the rate of closures recorded in the preceding six years despite recession. It is being driven by a number of factors including perceptions of high rental costs and business rates, especially among smaller retailers. There are clearly major productivity benefits for retailers if they can achieve the same or higher sales levels with lower staff and property costs from having a lower number of outlets. However, this will be dependent on being able to run a smooth, integrated and reliable supply chain and logistics operation to fulfil online orders.

The most optimistic interpretations of changing consumer demand suggest it is part of a natural evolution where traditional retailers who adapt to the new conditions will be able to thrive (Sealey, 2013; Bamfield, 2013). It is clear that traditional store-based retailers need to embrace other sales channels to capitalise on the benefits of a significant – and growing – share of the market.

One potential future scenario for retail relies on using the web to connect local markets both in the UK and from overseas (Gallouj et al., 2015). This is a blend of experiential shopping already evident in initiatives such as farmers' and Christmas markets and web-based information services, fuelled partly by social considerations about transport costs, ethical sourcing and consumption. There may be opportunities to establish direct trade with producers in developing countries and within local communities, which bypass conventional retail supply chains. This model is based on producers moving into retail and sharing knowledge on logistics and environmentally supportive distribution methods. This may improve productivity for small suppliers, but overall may not improve productivity for the sector due to a growing number of smaller and therefore less productive firms finding it easier to enter local markets.

2.4. The rise and demands of multi- and omni-channel retailing

Many retailers have quickly embraced the opportunities of e-tailing not stood still, of course. Large firms in particular have already introduced new sales models: all of the large UK supermarkets, for example, now have home delivery arms where customers can order their groceries online and have them delivered straight to their door. Other retailers have introduced 'click and collect' systems, where customers can place an order online and then pick it up themselves from a nominated location. Most of the leading online retailers have designed dedicated smartphone apps with the same look and feel as their websites, allowing customers to shop their full range of goods while on the move.

All of these innovations are examples of multichannel or omnichannel retailing[13] – an approach that lets customers browse, buy and review goods from a single retailer through a number of different channels, including stores, online and mobile. This new world of retailing is neatly described as:

> "Customers now 'shop' in multiple ways, checking a store's website, visiting one or more stores, looking at product reviews, viewing the prices of competitors on a smartphone while standing outside a store, and choosing finally whether to buy… in-store or online and collect it in-store or have it delivered to a nominated address" (Bamfield, 2013).

[13] Multichannel describes any approach that allows customers to shop with a single retailer through more than one channel. An omnichannel approach ensures all these channels are integrated to give consumers the same experience, range of goods and price no matter how they choose to shop (Bamfield, 2013)

Shopping across channels in this way is now the norm rather than the exception – customers want to be able to do their shopping in whatever way is most convenient (Schneider & Kablan, 2012 cited in Lewis et al., 2014). Indeed, the channel they use is becoming irrelevant. Research by Toshiba & IBM (2013, cited in Smith, 2014) suggests that "the consumer does not perceive channels at all, simply a brand." This means that retailers may need to think carefully about decisions to offer items selectively through different channels. It may result in consumer confusion, dissatisfaction and reduced productivity through lost sales.

The multichannel approach is an attractive proposition for traditional bricks and mortar retailers, as it allows them to keep their presence on the high street while using online channels to attract new customers. Indeed, research by the European Commission (2013) observes that:

> "we have … witnessed the increasing role and importance of online retailing at the expense of, and simultaneously as a complement of, traditional store retailing thus … [making] … omniretailing … a top priority for retailers" (European Commission, 2013).

Multichannel shoppers are an important market segment to cater for because of their significance for overall productivity. Research has found that multichannel shoppers are more 'valuable' than traditional consumers because they buy more often and spend more in each transaction than those who shop through a single channel (Konus et al., 2008, cited in Lewis et al., 2014). Several factors explain this. These include customers purchasing high volumes of goods having more occasions to shop so they naturally use more channels if available; and the impact of being a targeted segment, receiving additional marketing from interacting with retailers through several channels (Montaguti et al., forthcoming). Retailers stand to benefit from capturing the business of this consumer group.

Productivity is especially held back in some parts of the retail sector due to lack of a digital strategy and offer to customers. Analysis of UK high streets has shown that many as 1.7 million high street SMEs and charities or social enterprises lack the digital understanding and capability to take advantage of the growth in online commerce (Digital High Street Advisory Board, 2014). 31% of the UK's SMEs and charities lack even basic digital skills, with 50% having no website or online presence (ibidem). The costs of skills acquisition and development of an online offer may be steep for some of these and Chapter 3 considers how this might be tackled.

Larger retailers who have embraced online growth face challenges in staffing at store and Head Office level to enhance productivity via omnichannel outlets. The senior management team must be fully committed to a multichannel strategy if it is to be a success (Doherty and Ellis-Chadwick, 2009) and organisations need to have the right head office staff in place to manage their new channels including ICT developers, logistics experts, omnichannel branding leaders and ecommerce marketing experts. Multichannel retail strategies also require store staff to have different skills than those needed for single channel operations – they must understand and be able to show customers how to use in-store ordering points, for example, or have the confidence to tell customers to use a new 'click and collect' model. But recruiting staff who can apply technology in a customer-friendly way, while maximising sales opportunities, can be difficult – and there has been a shortage of training programmes to teach these skills (Lewis et al., 2014). Retailers studied by Lewis et al. (2014) tended to adopt a 'learn as you go' approach to training their staff in the use of their new multichannel models. In addition to finding employees with the right skills, retailers may also have to align the goals of staff working in different channels for the same firm, otherwise those working in stores can perceive a threat to their sales and income from new online channels, for example (Lewis et al., 2014). So the introduction of a multichannel strategy must be carefully managed at the strategic, operational and employee levels.

The consequences of online retailing for labour productivity may vary between different segments of the retail sector. Offering online retail services requires investment in IT but can have low marginal costs and offer major benefits from potentially unlimited capacity. Some online retailers can achieve much higher labour productivity from consumer self-service where product research and self-administered purchasing transactions can replace human service, as in the case of white goods (Pike, 2015). Elsewhere, online businesses invest in a virtual 'chat' service for more complicated products. These are often firms outside the retail footprint such as financial services and travel firms, and the retail sector could learn from them. In contrast, supermarkets, which account for around 40% of consumer retail spending in the UK, may experience static or reduced labour productivity. This is because providing an online sales channel for low value items such as groceries is very labour intensive for retailers to employ staff to choose items for customers.

2.5. Making online purchasing and delivery reliable

In practice firms face significant technology-related obstacles when trying to implement a multichannel strategy. Ensuring that IT infrastructure, website and order processing capability are reliable is critical to handle peaks and demands in traffic. There can be substantial adverse publicity and a risk of loss of customer trust when major trusted retailers are unable to fulfil orders, such as Marks and Spencer's difficulties in delivering flowers for Mother's Day due to problems with a courier company and significant delays in Christmas deliveries in 2014. In addition, logistics systems need to adapt to provide deliveries to individual consumers' homes (Lewis et al., 2014). They also need to ensure they are geared up to handle a high volume of returns because research shows around 30 per cent of non-food products ordered online are returned by consumers, compared to six to ten per cent of goods purchased in store (Fernie et al., 2010). There are also challenges and opportunities associated with customer delivery here; for example retailers need to think particularly carefully about how to address the 'last mile' of delivery and what the potential mix is for drones, customer collection from designated outlets, and use of commercial services such as Doddle.

Getting retail organisations to properly invest in the IT systems required for a successful multichannel strategy is not easy. The retail sector in the UK has a history of being slower to invest in information and communication technology (ICT) than their counterparts in the USA (Ortega-Argiles, 2012; Higon et al., 2010). Firms will not see an instant return on their investment and productivity may drop in the early stages of implementation as employees learn the new technology. However, most empirical research shows that in the long-term, high levels of technological sophistication correlate positively with high retail productivity (Higon et al., 2010).

2.6. Changes and challenges for retail stores

For the majority of retailers who implement a multichannel route, it means adding an online element to their existing bricks and mortar stores. However, in recent years several 'pure play' online retailers have chosen to establish a physical presence. Some of these are very basic – Amazon, for example, has introduced lockers throughout the country where customers can pick up the goods they order online. But other online retailers, such as Kiddicare and Simply Be, have opened several shops and online and catalogue-based retailer Screwfix now has over 250 stores (Bamfield, 2013).

Analysis of possible future retail productivity as firms shift from bricks and mortar to online sales channels may show positive potential. One commentator argues that long-term impacts on capital productivity will be beneficial. Reduced need for retail store space arising from growing internet sales will mean that firms can gain higher turnover from a smaller property footprint (Pike, 2015). But to date, major retailers have still been investing in store expansion while online sales are simultaneously expanding, so this outcome will depend on a gradual reduction in 'bricks and mortar' investment over the next ten years. This points again to the need for retailers to embrace omnichannel routes to market to secure customers, achieve and sustain productivity.

Stores have a particular value where they let shoppers see, touch, feel and try on items before buying, which is important when making expensive purchases. There is also an emerging trend for stores to provide a social, entertaining experience, which online retailers find hard to recreate (Lewis et al., 2014; Gallouj et al., 2015). One possible future scenario for retailers is the development of customised lifestyle stores and shopping malls tailored to particular customer segments, based on retailers' careful analysis of consumer data (Gallouj et al., 2015). These centres would include a collection of shops that focus on the designated lifestyle. There may be enhanced productivity opportunities for retailers in niche, high end market segments and centres which normally do not benefit from high volumes of clients. Easy access to consumers from the target group may also enable retailers to develop products and services within their established setting linked by shared values with other firms. Productivity may therefore benefit because of lower costs in product development.

2.7. Local retail communities

Much of the focus in the retail futures literature is in the growth of online commerce, but there is still a role for physical stores. Nearly three-quarters of sales will be made on the high street, in shopping centres, at retail parks and in local corner shops by 2020 despite the growth of e-tailing (Bamfield, 2013). Stores can be more convenient for certain purchases. They allow customers to buy a product and receive it immediately, with no waiting around for delivery. For food and other household goods, this can be crucial as recent research found that almost half (47 per cent) of people now shop for foodstuffs three or more times a week (Bamfield, 2013).

The future for two types of physical retailers, convenience stores and high-end, luxury retailers may be optimistic, even without an online presence. Indeed, research has shown that the number of corporate convenience stores, such as Tesco Express, increased by eight per cent between 2011 and 2013, while the number of independent convenience stores grew by 17 per cent (The State of UK Retail Places 2013, cited in Wrigley & Lambiri, 2014). These results have led researchers to conclude that "people value range and diversity of offer but additionally (and arguably increasingly) they value convenience" (Wrigley and Lambiri 2014 pp 15).

Where online retail will affect stores is through greater pressure to compete on price. Many consumers now expect physical stores to offer the same low prices as they can find on the web, despite their higher overheads (Lewis et al., 2014). Price is becoming ever more important to shoppers, both as a reaction to the deals they can find online and as an ongoing consequence of recession, which has left many households with less disposable income (European Commission, 2013). For example, research in four Scottish towns found that price and convenience were dominating shoppers' decisions about visiting high streets versus online purchases (Turner and Gardner, 2014). This is also evident in the increasing market share across the UK of 'discount' retailers, such as Aldi, Lidl and Primark, as well as the growth of 'pound stores', including Poundland and Poundstretcher. One scenario of future retail depicts intense competition between chains causing firms to lower costs and seek efficiencies in production and distribution to achieve economies of scale (Gallouj et al., 2015).

2.8. Opportunities for retailers from 'big data'

The growth of ecommerce and ICT means that it has been possible to capture an increasing amount of information on customers. Across many sectors, understanding how to use 'big data' is a key priority. What constitutes 'big data' is open to interpretation, but the term is generally used to refer to datasets that are too large to be analysed using conventional software and tools (Smith, 2014). Leading organisations, especially in retail, are working out how to harvest the most useful intelligence from the vast and growing volume of digital information. In fact, by some estimates we are generating so much data today that it is physically impossible to store it all (Gantz et al. 2007, cited in McKinsey Global Institute, 2011).

But what exactly can retailers achieve with big data? One analysis identified 16 techniques and technologies – or big data 'levers' – that can be used in the retail sector to improve productivity (McKinsey Global Institute, 2011). It groups these into five main categories: marketing, merchandising, operations, supply chain and new business models. The analysis of big data levers is global in scope and while the retail sector uses US examples, there is potential to exploit big data levers in the UK and elsewhere.

Table 2.1 Big data retail levers

Function	Big data lever
Marketing	Cross-selling Location based marketing In-store behaviour analysis Customer micro-segmentation Sentiment analysis Enhancing the multichannel consumer experience
Merchandising	Assortment optimisation Pricing optimisation Placement and design optimisation
Operations	Performance transparency Labour inputs optimisation
Supply chain	Inventory management Distribution and logistics optimisation Informing supplier negotiations
New business models	Price comparison services Web-based markets

Source: McKinsey Global Institute, 2011

Some of these techniques allow retailers to target their marketing more directly at the customer. One analysis points to the major use of loyalty cards that has informed how Tesco develops and locates its store formats (Burt, Sparks and Teller, 2010). Cross-selling can also exploit consumer data – including their demographics, purchase history, preferences, real-time locations and other facts – to put products they are more likely to buy in front of them and increase the size of their average purchase size. This approach can be seen in Amazon's 'you might also want' prompts on its website. At one point, Amazon claimed that 30 per cent of its sales came via these recommendations. Location-based marketing, meanwhile, takes advantage of the growing number of people who carry GPS-enabled smartphones and other mobile devices, which allows retailers to send promotions directly to consumers when they are in the vicinity of one of their stores. Also, customer micro-segmentation involves retailers using data to divide their customer base into ever more granular 'micro segments'; and to target these segments in different ways. In fact, these segments can be so small and specific that retailers can effectively 'personalise' their approach to individual customers.

Other techniques use big data to help retailers improve the design of their retail outlets. In-store behaviour analysis, for example, involves retailers tracking customers' routes through their stores, using smartphone apps, trackers in shopping trolleys or even video surveillance cameras to help improve store layout, product mix and shelf positioning.

Sentiment analysis, meanwhile, makes use of the vast amount of data customers generate on social media sites. For example, retailers can gauge the reaction to a new marketing campaign in real time by monitoring comments on Facebook, Twitter or YouTube and use this data to revise or modify their approach.

The final marketing lever, enhancing the multichannel consumer experience, involves retailers using big data to integrate their promotions and pricing across online, in-store and catalogues to provide a seamless experience for consumers.

Levers in the merchandising category include assortment optimisation, which involves retailers deciding which products to carry based on local demographics, buyer perception and other big data; and price optimisation, which uses a variety of data sources to assess and inform pricing decisions in close to real time. One retailer, for example, found that rural food customers see butter and rice as a high buying priority, whereas urban consumers tend to prioritise cereals and confectionary – and was able to set its prices in different stores accordingly. Finally, placement and design optimisation refers to store retailers using sales data to ensure they place goods and signage in the most effective locations, while online retailers can use data on page interaction (such as scrolling, clicks and mouse-overs) to adjust the placement of products and adverts on their websites.

The first operations lever is performance transparency. Retailers can now monitor the accuracy, frequency and quality of its retail transactions in almost real time – allowing managers to make any necessary adjustments to operations in a timely manner. Meanwhile, the labour inputs optimisation lever involves retailers using automated time and attendance tracking to create more accurate predictions of staffing needs, which allows them to reduce costs while maintaining service levels. This kind of technology has been deployed by major supermarkets.

In the supply chain, big data can be used to improve inventory management. For example, retailers can combine multiple datasets (such as sales histories, weather predictions and seasonal sales cycles) to ensure they have the right goods in stock at the right time. Retailers can also make use of GPS-enabled telematics to ensure high levels of distribution and logistics optimisation, including improved fuel efficiency, vehicle routing and driver behaviour. Finally, big data can be leveraged to inform supplier negotiations. Retailers can analyse customer preferences and buying behaviour to seek price concessions on their most important products, for example.

The last of McKinsey's two big data levers could place a squeeze on the retail sector and threaten productivity. Savvy shoppers already use price comparison services (such as CompareTheMarket.com, PriceRunner and MySupermarket.co.uk) to compare the price of specific products across multiple retailers, which puts downward pressure on prices – consumers have been found to save an average of ten per cent on goods by using such services. Lastly, web-based markets (such as those provided by Amazon and eBay) allow smaller vendors to reach a much larger market than they could on their own, which increases the competition for larger firms (McKinsey, 2011).

So how much use are retailers making of big data capabilities? Some large retailers such as Tesco and Boots have been collecting customer data for many years through the use of their pioneering loyalty card schemes (Higon et al., 2014). But for others, it is only diffusion of online and multichannel retailing that has prompted them to collect information on consumer behaviour and purchase history. Despite its relevant infancy as a field, the use of big data is already becoming a key differentiator between the best retail firms and the rest:

> "Using the right emerging technologies (big data) and the right knowledge (data scientists) to provide the right answers in the right timing (sic) is becoming a critical success factor for successful retailers." (European Commission, 2013)

Retailers can record information from a multitude of sources, including sales data, product reviews and comments on social media. Capability is still developing, for example, retailers cannot yet track when a customer researches a product online before completing the purchase online (Smith, 2014). Capturing this information is particularly important for retailers, as knowledge creation and ideas for innovation in the retail sector tend to come from gleaning knowledge from customers and suppliers rather than through formal research and development projects (Pantano and Timmermans, 2014).

Despite the wealth of information at their fingertips, many retailers could improve how they analyse their data. One survey found that non-retail firms across the Americas, Europe, Middle East and Africa (EMEA), and Asia increased their one-time investments in customer analytics by 16 per cent from 2012 to 2013. In contrast, retailers increased their one-time investments by just 13.8 per cent, more than two percentage points behind (Germann et al. 2014).

For retailers to fully realise the benefits of 'big data', there are three major conditions for success: getting the right IT infrastructure, accessing employee skills, and managing customer concerns over privacy and security.

For all organisations, not just those in the retail sector, the biggest challenge of harnessing big data is putting in place the IT infrastructure required both to store and analyse the numbers. Newer firms face high capital investment costs, while established firms often face the (often even more difficult) task of trying to combine data from various legacy systems into one consistent standard.

Even when the required IT systems are in place, organisations still need the right people to analyse their data. One estimate suggests that the US faces a shortfall of between 140,000 and 190,000 people with the skills required to process and analyse datasets of this size, as well as 1.5 million managers and analysts capable of interpreting their findings and using them to make decisions (McKinsey Global Institute, 2011). The retail sector in the UK will face similar challenges.

Finally, retailers must overcome consumers' growing fears over the privacy and security of their data. Some research suggests that these concerns may reduce the amount and reliability of data that shoppers choose to make available to retailers (Lewis et al., 2014). Making customers confident about the purposes for which their data will be used, how it will be protected and what information is held on them requires further work by retailers. Here firms could examine the protocols and guidelines of the social and market research fields.

There is little doubt that big data has the potential to transform the retail sector. Estimates from the UK are that it could increase productivity across the sector by at least 0.5 per cent a year through 2020, and that it could help the most pioneering firms to increase their operating margins by more than 60 per cent (McKinsey Global Institute, 2011).

2.9. Conclusions

Changing consumer demographics indicate differing future demands from younger and older consumers. The growing population of older people will seek convenience of goods tailored to single person households, packaged conveniently and purchased locally. Younger people have greater expectations of using online shopping and social media influencing purchasing decisions.

The growth of online commerce means demand for retail space will decline and retailers may be able to make productivity gains from shifting their operations online as long as they have a reliable and smooth logistics and supply chain. The internet also offers opportunities for connecting smaller suppliers with customers from across the world which may help new entrants to consumer markets, although these are usually less productive than large firms.

Within online retailing, there is growing expectation from consumers for a seamless offer from retailers without any distinction in products, look and feel of a brand between mobile, computer or store-based merchandising. Shoppers that use multiple channels to buy goods offer the highest productivity because they have the highest purchase volumes and are an important segment for retailers to please. However, smaller retailers often lack a digital strategy while bigger firms need to ensure this is given sufficient prominence and backed up with suitably skilled staff. The productivity benefits of online commerce are likely to vary between sub-sectors. Sectors where consumers do their own research such as small electronics stand to benefit strongly while the costs of online sales for supermarkets may be higher because of the labour intensive nature of supplying multiple small value items such as groceries. Investment in robust logistics and IT systems to maintain consumer trust and deliver goods efficiently to people's homes are ongoing challenges.

There remain physical opportunities for 'experiential' retail stores offering both luxury goods and those serving local communities with products which require immediate consumption. Developing the social and entertainment dimensions of retailing offers growth prospects to retailers potentially in clusters around a particular theme or customer group. For local stores trading on convenience, they are likely to face price challenges from consumers who may expect costs to be equivalent to those online.

Using 'big data' offers major opportunities for retailers in using customer information to make their operations more productive by more targeted marketing, advertising, and efficiency in staffing and supply chain operations. This can be achieved by tracking customer behaviour, stocking different products for different markets, setting pricing carefully and setting up physical and online advertising in a way that maximises sales. A key challenge to tackle will be tracking consumers who research a product and purchase it from a different source. Big data analysis will make demands on good IT infrastructure and highly skilled staff from a variety of disciplines including IT and marketing.

The next chapter examines some of these challenges and opportunities in more detail and outlines some of the ways in which retailers can respond.

3. Enhancing future productivity: priority areas for action

3.1. Introduction

This chapter outlines a number of ways in which retailers can take address current and future productivity challenges. These include developing omnichannel strategies; optimising supply chain and logistics management; sourcing and retaining big data analysis skills; harnessing existing retail innovations and new disruptive innovations; and contributing to building vibrant local retail communities. For UK retailers, new ideas, innovations and business models should address three main areas, all of which have been linked with the sector's poor levels of productivity: its low-skilled workforce, poor management and slow rate of technology adoption (Griffith et al., 2003 cited in Higon et al., 2010).

3.2. Developing omnichannel strategies and operations

Senior managers are responsible for the strategy, operations and human capital of an organisation, and much research has shown that higher managerial quality raises productivity (Bloom et al., 2012 cited in OECD, 2015). Retailers should therefore focus on raising the capabilities of their senior managers to roll out online retail propositions.

This is also important for enhancing development of omnichannel retailing and use of big data. At a strategic level senior managers needs to grasp the potential and fully support any new business model if it is to succeed. For example, the scope and success of a retailer's online strategy is strongly associated with the strength of management support, with some researchers concluding that companies should only launch a new e-commerce initiative "when they enjoy the full support of the management team … success is unlikely to stem from half-hearted or partial strategies of internet adoption" (Montaguti et al., forthcoming). Senior managers also play an important role in establishing the culture required to make an online retail strategy work. For example, many companies still see IT as a back-office cost centre rather than an "engine for business growth" and managers must be able to change this mind-set among staff. They must also be prepared to properly invest in new sales channels recognising that sales volumes will be low until they are fully established (McKinsey Global Institute, 2011; Foster et al., 2014).

These kinds of management capabilities in developing online commerce are already a primary concern for large retailers. But the previous chapter also noted their importance for smaller businesses on UK high streets which lack a digital offer and consumer strategy. One suggestion for tackling the need for capital investment is creating a national high street digital lab as a not-for-profit enterprise (Digital High Street Report, 2014), supported by major retailers and independent firms working together with local authorities and town centres. Its purpose would be to select and offer digital technical services in easy-to-use packages, tools and training. This would enable local high street businesses to develop online commerce, some of which may result in shared marketing and community tools. This would be supported by national/local teams of technical support experts including local digital apprentices. A similar pilot project has already taken place, supported by the Technology Strategy Board (BIS, 2013) and the Association of Town and City Management and the National Skills Academy for Retail has developed a Digital High Street Skills Project, to train 3000 SMEs in basic digital skills.

At a human capital level, effective managers have been found to be better at screening job applicants, developing new work practices, moving over-skilled workers to more suitable roles and removing under-skilled staff (OECD, 2015). These last two points are particularly important for raising an organisation's productivity. Research has shown that around a quarter of workers feel there is a mismatch between the skills they have and the skills required to do their job, so "there is much scope to boost productivity simply by more effectively allocating human talent to jobs" (OECD, 2015). Retail managers can also increase productivity by better matching staffing levels to the seasonal peaks and troughs in demand (Higon et al., 2010).

3.3. Optimising supply chain and logistics management

In order to support the potential performance gains of omnichannel retail, managers need confidence in their supply chain and logistics operations. This is also an important condition for success in using 'big data' on customer behaviour effectively. When retailers add new channels for customers to buy their products they also need to revise or add new logistics systems to ensure they can fulfil their orders (Foster et al., 2014). For example, the supply chains at traditional *bricks and mortar* stores are designed to move large volumes of goods in and out of their distribution centres as quickly as possible – they often sit in the warehouse for less than a day. In contrast, online operations need warehouses where large palettes of goods can be broken down into individual units, stored and then shipped rapidly to individual consumer addresses (Xing & Grant, 2006 cited in Fernie et al. 2010). Furthermore, the supply chain needs to be geared up to handle 'reverse logistics' – handling returns and repackaging goods as quickly as possible ready for resale because of the higher levels of returns for online purchases. The importance of logistics should not be underestimated "over the past decade many e-tail businesses have failed primarily because of an inability to provide cost-effective order fulfilment" (Fernie et al., 2010). Firms can work co-operatively with suppliers to build their capabilities and take advantage of real-time data feedback on sales and demand to plan logistics and delivery more effectively.

3.4. Sourcing and retaining big data analysis skills

Staff providing key support services for retail include IT consultants and data analysts. Both groups have skills deficits that the UK retail industry needs to address if it is to improve its levels of productivity. Chapter Two has highlighted the potential growth and opportunities of using 'big data' to achieve improved productivity but one of the key conditions of success is having the skills in place to manipulate and analyse consumer behaviour. This illustrates the importance that securing the skills of key workforce groups and motivating them will be to retail productivity in the future.

At Head Office level, retailers face a challenge to find the talent required to harness the power of 'big data'. There are estimates that the UK may require 56,000 new big data practitioners per year by 2020 and retailers will have to compete for these (Self, 2015). Without the right talent in place, even the highest levels of IT and technological investment will not bring the desired productivity gains; and, as noted in Chapter 2, there is a widespread shortage of employees with the skills needed to analyse big data and managers capable of interpreting their findings. To find these staff will require recruiting data analytics skills externally. It may also involve searching across the organisation for existing analytical and technical talent, as employees with these skills are seldom found in a single unit; more often than not, they are scattered across several different teams and departments (McKinsey Global Institute, 2011). The roles that staff may be required to perform will include many of the marketing and supply chain functions outlined in Table 2.1.

Evidence from HE providers developing curricula for these areas shows that they increasingly consider building in employability skills for students who are specialising in data analytics (Self, 2015). Retailers are developing an awareness of the hybrid skills required for these roles and considering graduates from computing, maths, psychology and marketing disciplines. They require data mining capability, strategic choice about the focus of analysis to prevent data mining for its own sake, and capability in consumer marketing. These skills enable retailers both to martial the data available to them, to understand and illustrate the implications for developing services to attract and retain customers and then to create engaging and compelling marketing messages to reach the chosen market segments.

But in order to attract and retain such graduates, retailers may need to think carefully about their wider people management strategies. The sector is sometimes perceived as less attractive to highly skilled professionals (Vokes et al., 2015) and such staff may have numerous competing opportunities in other sectors (BIS, 2013). Retailers will need a detailed grasp of the motivations and means of best engaging big data analysts to maintain a sufficient talent pool. Evidence from UKCES Employer Skills Survey shows that 86% of retail employers could adopt more High Performance Work practices to nurture and maximise the value of staff talent through effective job design, training, involvement in decision-making, autonomy and career progression (UKCES, 2013).

3.5. Harness retail innovations

For retailers to improve their productivity, they need to go beyond upskilling the workforce and improving the quality of their management by building innovation capability. These innovations could come in any aspect of the business, but den Hertog's (2002) four-dimensional model of service innovation (Wrigley et al., 2005 cited in Higon et al., 2010) suggests four main areas where retailers can innovate:

- New service concepts (e.g. new store formats)
- New client interfaces (e.g. online shopping)
- New service delivery systems (e.g. home delivery)
- New technological options (e.g. client profiling and data mining).

With the rapid and continuing growth of online shopping, bricks and mortar retailers need to give people a reason to visit shops. Research has shown that consumers want to be engaged and entertained when shopping and to see more innovation at the point of sale (Pantano, 2014). When choosing a shopping destination, consumers value the personal service they receive, as well as the atmosphere and social interaction (Wrigley & Lambiri, 2014).

At the high end of the market, luxury retailers can afford to create a unique store experience that may not be possible through digital channels. At the other extreme, discount retailers can offer products that are uneconomical for online retailers to handle such as stock close to its spoilage date (Sealey, 2013). But retailers in the middle need to discover new service concepts and new store formats that will lure consumers away from their laptops and tablets and onto the high street and retail parks (Digital High Street Report, 2015). One suggestion is that "the most successful stores are likely to draw on two new models of shopping: experiential and modern enhanced" (Bamfield, 2013).

The 'experiential store' is a new model of bricks and mortar retailing where stores engage customers by allowing them to interact with their products and get detailed technical advice from staff on how best to use them. The Apple store is the one of the most commonly quoted examples but other retailers, especially those selling technical products, have adopted some of these characteristics such as Richer Sounds. Here, customers are actively encouraged to try out all of the company's products in-store with knowledgeable sales assistants on hand to answer their questions. The store even hosts regular workshops where customers can learn how to make better use of their iPhones, iPads and MacBooks. This pioneering store format has been a big success: sales at Apple's stores are four times higher than those at any other electrical store (Bamfield, 2013). Another example is Hamley's toy shop, where customers (especially children) are encouraged to play with products before buying (Bamfield, 2013).

The 'modern enhanced store' makes extensive use of technology and connectivity to create a compelling shopping experience. It requires retailers to:

> "Think of customer journeys as an integrated series of physical and digital interactions, and to think of physical spaces in the context of their seamless interaction with digital and social media and how to make this memorable and distinctive." (Digital High Street Report, 2015).

For example, customers may be given access to Wi-Fi enabled interactive displays and tablets where they can find product information and reviews and 'virtually' try on new clothes or accessories. They may be able to enter the dimensions of their living room and see how new furniture might look in their home, changing the design, colours and patterns with one touch. They could then share the results with friends on social media and involve them in their buying decision (Bamfield, 2013; Pantano, 2014; Digital High Street Report, 2015). This can have benefits for retail performance because creating these kinds of stores can make customers less price sensitive as well as increase footfall (European Commission, 2015).

The 'experiential' and 'modern enhanced' approaches will not be appropriate for every type of retailer, of course. But even smaller stores could bring in new ways of engaging customers, for example, "an independent delicatessen might offer, as many do now, courses in breadmaking, food preparation or cookery to create awareness and make people feel involved in the products" (Bamfield, 2013).

The second area of innovation, new client interfaces, has also seen some development in recent years – most notably, of course, in the form of retailers' websites and mobile apps. A more recent trend, however, is for retailers to move into the social media space. Most now have profile pages on Facebook, Twitter or Instagram. Even the smallest independent shops can have a presence, because set up costs are low. Social media has revolutionised the interactions between retailers and their consumers, allowing them to have real-time, two-way conversations. But using social media not only helps engage customers. The data their comments, photos and other interactions generate can also be analysed to provide insights – which can lead to further innovations. Again, however, retailers will require employees skilled in social media analytics to make full use of the data (La Valle et al, 2011 cited in European Commission, 2015).

A handful of retailers have introduced client interfaces that allow customers to customise products prior to purchase. For example, the Spanish footwear company Munich launched an online service where customers could choose the colours and materials for their shoes and then have them delivered to their home in less than two weeks (European Commission, 2015). The Build-A-Bear Workshop has built a whole retail model around the idea of letting customers create their own products. This theme of 'co-creation' and personalisation of products is likely to offer major opportunities to future stores, where shopping becomes more of a social and cultural experience (Kent, 2007 cited in Sealey, 2013).

The third area of innovation concerns new service delivery systems. We have already seen the rapid rise of 'click and collect', where customers can order an item online and then collect it in a store or other nominated location. Over a third (35%) of UK shoppers now use click and collect, and this number is set to double over the next three years (Deloitte, 2014 cited in Wrigley and Lambiri, 2014). To introduce click and collect stores need to plan space to store products, as well as designated customer collection points (Foster et al., 2014).

There is also scope for retailers to radically overhaul home delivery to improve productivity and profit. Research has shown that expanding a timed delivery window from 180 minutes to 225 minutes can cut transport costs by between six and 12 per cent, while increasing it to 330 minutes can save 17 to 24 per cent (Nockold, 2001 cited in Fernie et al. 2010). Moving to a 24-hour delivery window, meanwhile, can cut costs by between 40 and 60 per cent (Punakivi & Tanskanen, 2002 cited in Fernie et al., 2010). As more than half of UK households are not at home during the day retailers able to tackle this challenge could change the face of online retailing and make substantial cost savings (Fernie et al., 2010).

The final innovation area relates to technological options. In retail, the biggest technological option concerns the application of 'big data' techniques, particularly around understanding customer behaviour and delivering personalised marketing. These 'levers' that retailers can use to improve productivity include in-store behaviour analysis, sentiment analysis and customer micro-segmentation (McKinsey Global Institute, 2011). These kinds of techniques and technologies involve innovations to back-end processes and this is particularly important in retail, as (in contrast) front-end innovations, such as new products, are highly visible to competitors and can easily be copied (Currah & Wrigley, 2014 cited in Higon et al. 2010). For example, Amazon's Kindle was followed by many imitations, but the company's 'recommendation algorithms' have proved much harder for its rivals to replicate.

Which of these four areas of innovation a retailer decides to focus on will depend on the situation and needs of the business. However, whichever options a company chooses to explore, its innovations should all be geared towards a common goal: improving shoppers' experiences and making their purchases easier. Research has shown that reducing customer effort required to purchase goods helps increase their loyalty (Dixon, Freeman & Toman, 2010 cited in European Commission, 2015). This means retailers should put the customer at the centre of their decisions, or adopt a 'customer-centric' view (European Commission, 2015). It can involve eliminating the elements of shopping that consumers find difficult, such as queues, inconvenience and lack of stock (Sealey, 2013; European Commission, 2015). For example online customers need to log on to websites, read and confirm the purchasing terms and conditions, and removing or easing any of these pre-purchase steps could be helpful (European Commission, 2015). Exploration in biometric technologies to replace 'log in' systems may be helpful here.

Newly emerging technologies offer the retail sector some tantalising options for creating new products and services. Identifying and capturing these has seen companies like Apple and Amazon transform the music and publishing industries with MP3s and e-books. These 'disruptive' technologies ripped through the traditional retail model for these goods – even Amazon's own book-selling business model (Sealey, 2013). Book retailers such as Foyle's have found ways of reinventing their stores with a social, educational and leisure function.

One study identified 12 potentially disruptive technologies. Although not expressly identified for the retail sector, firms could harness these to bring non-consumers to market or to create new innovations (McKinsey and Company 2013, cited in Sealey, 2013).

Table 3.1 Disruptive technologies

Technology	Details
Mobile internet	4.3 billion consumers now have access to all of the information on the internet in the palm of their hands
Automation of knowledge work	Powerful computer appliances can interpret human statements and rapidly provide the correct answer
Internet of things	Objects can now use internet technology to communicate with other objects and people
Cloud technology	Scalable, on-demand computing power that enables business to launch services at a fraction of former costs
Advanced robotics	More agile robotic machines that can even perform minute and accurate surgery on humans
Autonomous vehicles	Cars and transport methods that drive themselves
Next generation genomics	Fast genetic profiling combined with big data systems enables rapid scientific discoveries
Energy storage	Improved ability to store energy for future usage reducing issues with energy over production
3D printing	Manufacturing technique that can build previously unimaginable products and unique items
Advanced materials	New materials with superior characteristics for advanced applications or functions
Advanced oil and gas exploration	Previously inaccessible gas and oil pockets are now open for exploration
Renewable energy	Solar, wind and other environmentally-friendly energy sources are improving in efficiency

Source: McKinsey and Company, 2013

There are a number of interpretations for how some of these technologies could be used for enhancing retail productivity (Sealey, 2013). For example, self-driving vehicles and robotics could reduce store and home delivery costs. 3D printing and advanced manufacturing would enable customers to have products made to fit exact size specifications in store, and automatic product tracking could provide immediate replacement when an item is sold. Mobile technology is already replacing till payments in store through use of tablet computers. More advanced is the concept of a mobile, automated store which tours the country, uses robotics to deliver customer service and offers instant manufacture with 3D printed advanced materials. It would be backed up by cloud computing, big data analytics of customer demographics and systems to plan optimal routes, location and timings of store availability. While considerable capital investment would be needed at start-up, high productivity could be achievable through minimal labour costs in delivery.

Harnessing these kinds of innovative ideas and translating them into a commercial reality is challenging. But there are opportunities for retailers to work with sources of ideas available in Higher Education settings to transform their service offering, deliver products and engage customers, reaping benefits of higher productivity. Government has been developing sources of information to help retailers engage with experts in future retail trends and opportunities at selected institutions and providing information and toolkits to enable this (BIS, 2013). While retailers will understandably not wish to share commercially sensitive sources of possible competitive advantage, they stand to benefit from promoting the results among complementary businesses involved in developing vibrant local retail sectors.

3.6. Building vibrant local retail communities

Retail is characterised by a number of powerful major supermarkets and large multi-product retailers e.g. in homeware, and a large number of smaller independent firms. At a local level, government has also noted the room for opportunities for retailers to play a bigger role in Local Enterprise Partnerships (LEPs) (BIS, 2013). So far LEPs have given limited attention to retailers, despite the high volumes of people employed in the sector noted in Chapter 1. Retail has a major place in economic development across the UK because of its sectoral presence across all areas. Plans for ongoing devolution of central government responsibilities in England for education, planning, transport and skills issues, provides opportunities for retailers to exert influence over economic development in their local communities.

3.7. Conclusion

This chapter draws attention to several actions required by the retail sector to reap future productivity gains. These include the role of senior management commitment in making omnichannel retail strategies effective, coupled with investment in IT and staffing.

Firms are at different stages in adopting online commerce. Support for smaller independent retailers in UK high street communities is especially important, for example, through a digital lab with backing from major retailers, town centres and local authorities to train small firms in building their digital sales capability.

A further key element is building a reliable and seamless logistics and supply chain operation which minimises the time that stock is in transit and can cope with higher volumes of returned goods from online purchases compared to in-store. This can be achieved by monitoring sales patterns and predicting demand more accurately to ensure delivery systems are resilient.

While technology remains critical, staff with specific skillsets are crucial to helping retailers achieve future success. Bringing together staff with skills in marketing, IT, consumer psychology and buying to make sense of the insights gained from 'big data' analysis will be essential. This will involve ensuring that the mix of hybrid skills required is delivered through HE providers developing courses in the area. Firms are in turn responsible for making sure the sector is attractive to specialists who may not typically consider a career in retail and adopting high performance work practices that are needed to motivate and retain them.

More broadly, retailers need to develop innovations in how products are delivered to attract and maintain consumer engagement and purchasing. Giving people a reason to visit physical stores through building leisure and luxury experiences around interacting with products is one opportunity. Another is to give customers option of co-developing or customising goods prior to purchase. For online purchases, retailers need to improve efficiency of making home deliveries and use technology to personalise and target marketing precisely.

There are also a number of disruptive innovations that may offer opportunities for retailers. It is difficult to predict what the opportunities might be but these could include cloud technologies, the internet of things and implications from advanced robotics, 3D printing and self-driving vehicle. Such innovations might enable development of mobile pop-up shops which can be semi-automated and need minimal labour. Firms will need to work with experts developing basic retail research in Higher Education to commercialise and exploit the innovations. Lastly large retailers need to work with partners to help build vibrant local retail communities. There is room for retailers to exert a more powerful voice, for example, via Local Enterprise Partnerships, and have a positive influence on local economic development.

The last chapter brings together all of the broad principles which retailers need to address and develops some priorities for action in relation to each theme.

4. Achieving change: what can employers do?

4.1. Introduction

In the light of the literature reviewed and productivity performance and challenges experienced by retailers, there are a number of options for action. There are four main priorities for retail employers in making the most of future productivity opportunities. This chapter summarises the kind of action that employers can take in the form of developing digital strategy, developing big data strategy and harnessing suitable skills, choosing suitable retail innovations and developing vibrant retail communities.

4.2 Developing digital strategy

Developing a digital strategy to take advantage of the productivity gains to be made from omnichannel and especially online retailing will be increasingly important for retailers. There are different needs though, depending on the stage of development in different types of retail business highlighted in Table 4.1.

Table 4.1 Priorities by stage of development

Type of retail business	Digital/online strategy priority
Sophisticated users	Omnichannel services and maximising supply chain efficiencies
Developing users	Developing full range of online services and scaling up capabilities
Non-users of online commerce	Implement basic website and e-commerce capability

Source: IES, 2015

For those retailers at the most advanced end of the spectrum, ensuring seamless integration of all routes to market will be the most important focus for attention. Building a single brand for consumers regardless of type of interaction will help maximise sales volumes among high volume purchasers. Retailers who are offering online purchases but with a limited range of goods need to make sure they scale up their capabilities to offer their entire product range online and via mobile channels, as this will improve productivity. As online retailing grows, they will need to ensure that they have capacity to service orders. All retailers will require patient and persistent effort to ensure that supply chain and logistics operations are consistently reliable and can cope with peaks in demand and may require some supplier development. For those retailers who do not yet have a web presence, establishing a simple and robust solution to provide basic product information and e-commerce capability will be a key starting point.

4.2. Developing big data strategy and harnessing suitable skills

Firms which have not yet harnessed the power of customer data stand to benefit from using this to target their marketing and product development initiatives towards activities that will be most productive. This requires careful assessment of what elements of customer data they can analyse and for what purpose, to avoid becoming deluged with data that gives no clear messages.

Developing big data analysis capability will require sourcing suitable staff with the best blend of technical and creative skills. Likely sources of talent include graduates from ICT and computer science programmes, as well as the growing number of postgraduate programmes in big data science and analytics. These may not consider retail as the most obvious sector in which to build their careers, so employers need to work out the best methods of attracting such highly skilled workers. This could include partnering with local university careers services and running competitions offering financial rewards and paid projects to solve a technical challenge. More broadly, the retail sector may need to roll out career pathways from apprenticeship routes into more specialist, technical roles, as well as into generalist retail management. Firms also need to ensure that HR management practices are sufficiently well developed to retain workers by offering progression opportunities, the chance to learn new skills and influence over how work is done.

4.3. Choosing innovations wisely

The pressures of evolving consumer demand help stimulate a dynamic approach in the sector where retailers innovate quickly to tap into emerging tastes and opportunities. A number of market possibilities are available to retailers here from developing experiential shopping formats where consumers visualise products or co-create them, gain an information-based experience or use technology to customise products such as clothing before purchase within an increasingly short time frame. New service delivery systems can enable faster and more flexible delivery. Technologies that can identify customer needs and prompt them with personalised product suggestions at the moment when they will be most receptive to buying, such as when walking past a store, may ensure that marketing efforts are focussed carefully. There are a number of potential sources of disruptive innovations that may fundamentally change the nature of retail products or services and compared to other sectors, retail has relatively low entry costs so it may be easy for new entrants to change markets radically. In order to access and apply new ideas, retailers need to work with the entrepreneurs developing new technologies. There is also a role for

government here in matching inventors of new technologies with retail applications with firms who want to invest in and exploit them.

4.4. Developing vibrant local retail communities

Retailers lie at the heart of communities across the UK and the sector is a highly significant employer. Large chains and small retailers stand to benefit from healthy high streets. Retailers can build their productivity potential by taking up opportunities available to them through LEPs and local community channels. This would include participating in the government's ongoing plans for devolution of economic development responsibilities to shape the future of the communities and consumers they serve.

4.5. Conclusions

This report has outlined some key dimensions of the productivity challenges that face UK retailers. Labour productivity growth over the past twenty years and since recession has been impressive compared to other UK sectors. Labour productivity levels are relatively high compared to some other key European nations and the European average and retail investment levels are also high. But retail labour productivity levels remain persistently lower than the UK average. There are other major challenges affecting retail productivity around low pay, job quality and career progression which the sector is already working to address (see Vokes et al., 2015).

The reasons for low retail labour productivity are complex and multi-faceted. One issue is the labour-intensive nature of many retail services, for goods which can be essential but of low value compared to other sectors. Another challenge is the large share of micro-firms in the sector who are likely to be slower to adopt advanced people management techniques and to embrace the opportunities of online retailing.

Despite high levels of investment in training among retail firms, skills gaps persist and there is relatively low absolute adoption of High Performance Work Practices to recruit, retain and motivate staff through offering autonomy, involvement and attractive career progression. Skills gap challenges point to either misalignment of training content, ineffective training or additional training investment required. Some key skills gaps among retail staff lie in advanced IT/software skills and planning and organisation skills. Closing these gaps would contribute to reducing the productivity gap between retail and other key sectors in the UK.

Research into the global future of retail has uncovered a number of technological opportunities arising from the availability of 'big data' on consumer behaviour (McKinsey, 2011). This provides opportunities to shape marketing, choice of stock, pricing, advertising in a much more targeted fashion and to organise supply chain and logistics management more efficiently.

One major capability gap is the need to offer a seamless omnichannel sales environment. Only around half of SMEs have a website presence and there is potential for substantial expansion of online shopping. For other retailers, developing a single brand for consumers who increasingly do not distinguish between different purchasing channels and expect a full product range across all sites should be a key goal. The prospect of a shift to online sales offers the possibility of improving productivity by reducing existing overcapacity in retail floor space and selling higher volumes of goods with a reduced physical presence.

Delivering more goods through online channels has major implications for scaling up supply chain and distribution capability and ensuring it is absolutely robust and reliable to win and maintain consumer trust. This has diverse implications for retail employment, as some jobs may shift from physical customer service to providing web support or to roles within the transport and distribution supply chain. Other roles may no longer be required so productivity may increase as a result of less labour intensive business models. Some retailers, especially at the higher end of the market, may focus on providing a leisure experience with physical stores offering interactive product customisation options, harnessing technology to help customer envisage how they will use available products in their homes and lives. There is potential for large and small retailers to collaborate on both online and physical revitalisation of high streets to build vibrant retail communities e.g. through initiatives co-ordinated by LEPs.

A key element of enabling online sales is harnessing the power of big data to predict consumer needs, tailor products to suit individuals and market segments and engage them at points when they are most receptive to marketing (McKinsey, 2011). It can inform store design, inventory management and enable increased supply chain efficiency. While many major retailers already make extensive use of big data capabilities, there is potential both for them to exploit these further and for others to adopt these technologies. To do this, they need to develop and harness the skills of people who blend capability in analysis, data interpretation, psychology and marketing, working with education to ensure these skills are embedded in relevant courses at apprenticeship, graduate and other levels. Individuals with these skills have job opportunities in a number of sectors so retailers will need to

maximise their appeal as an attractive area of work in which talented staff can grow their careers.

Overall this report illustrates that future challenges for the retail sector require a mix of investment in physical assets and people in order to benefit from the potential productivity gains available.

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