CIPD

Championing better work and working lives

Policy report

July 2015

Productivity: Getting the best out of people

The CIPD is the professional body for HR and people development. The not-for-profit organisation champions better work and working lives and has been setting the benchmark for excellence in people and organisation development for more than 100 years. It has more than 135,000 members across the world, provides thought leadership through independent research on the world of work, and offers professional training and accreditation for those working in HR and learning and development.

Productivity: Getting the best out of people

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Foreword

Productivity can be thought of as how effectively organisations, and the people working in them, produce value from available inputs. It's difficult to think of something more important for the success of any organisation, yet, as shown in this report, understanding of the term in business is patchy, to say the least. A third of businesses don't measure their productivity and many of those that say they measure it appear in practice to be thinking about business performance more generally.

The UK has now seen seven years of productivity standstill. In fact, output per hour worked is still nearly 2% lower than it was when the recession started in early 2008. This is in part a consequence of much stronger employment growth than anyone would have predicted. However, weak productivity is also the main reason why average hourly earnings are still some 6% lower in real terms than they were in 2008.

The deepest recession for at least eighty years may have produced a change in mindset. Employees were concerned about keeping their job – even if that meant a pay freeze – rather than progression or finding a better job, and this might explain why labour turnover is still low. Likewise, organisations focused on survival, getting through tough and uncertain times. Changes in strategic direction or major investments may understandably have been put on hold. Changing the size of the workforce through taking on more or fewer people, through use of temporary or agency workers, or through use of part-time work and zero- or short-hours contracts, became more important as a source of flexibility. The Coalition Government elected in 2010 concentrated on steadying the economy and reducing the fiscal deficit.

But with over two years of steady growth behind us, this mindset may increasingly be holding us back. We said that 2014 needed to be a 'year of productivity'. It wasn't, which is why we said at the start of this year that efforts need to be redoubled. Our message to business is simple. With interest rates low, now is the right time to invest in improving product and service offerings, business processes and workforce development – do it now before skill shortages become widespread, rather than waiting for them to emerge. This is also our message to government. With the economy growing steadily, now is the right time to focus on expanding its productive capacity. Sustained productivity growth doesn't just make our businesses more successful and create the conditions for real wage growth – it also means fewer public spending cuts or tax increases are required to meet the Government's stated aim of eliminating the deficit. The Chancellor has said that productivity will be at the heart of his July Budget. Productivity also needs to be at the heart of the Spending Review that will take place this year.

In this report, we present new analysis of two business surveys that help us understand what makes some businesses more productive than others. Business strategy seems to matter – positioning in the marketplace, responsiveness to change and the organisation's internal culture. In addition, we find that firms that invest in workforce training tend to have higher productivity. The use of specific management practices associated with smart and agile working can also have an impact.

While improving productivity is primarily a matter for business, the actions of government at all levels can help or hinder the process. We therefore consider how government can best support productivity growth.

The two surveys we draw on in this report questioned the senior person responsible for HR within the organisation. Our profession has a key role to play in bringing together the needs of the organisation and the requisite understanding of how to engage and motivate people. Not all of our respondents had a good understanding of the term 'productivity', but if we express it a different way – getting the best out of people – it becomes clear how important good people management is.

Peter Cheese
CIPD Chief Executive

Executive summary

Productivity in the UK

Productivity can be thought of as how effectively value (output) is produced from inputs (people, capital equipment, land, energy, and so on). Sustained productivity growth has been the main driver of higher living standards in industrialised capitalist economies.

In principle, there are many ways to measure productivity, but the most common measure is labour productivity and the two statistics usually quoted are output per hour worked and output per worker.

As the first country to industrialise, the UK was the global productivity leader during the nineteenth century before it was overtaken by the USA. For most of the twentieth century, UK labour productivity increased by about 1.6% a year, but this meant the USA moved further ahead. France and Germany caught up with the UK during the 1950s and 1960s and then overtook it. However, between the end of the 1970s and 2007, the gap between the UK and the USA, France and Germany narrowed slightly. This was largely because of structural reforms introduced after 1979 by Conservative and Labour governments.

When the UK entered recession in 2008, labour productivity fell, which is not unusual. What is unusual, though, is that output per hour worked in the fourth quarter of 2014 was still nearly 2% lower than it was in the first quarter of 2008. Employment growth has been very strong in recent years and – as a matter of arithmetic – that keeps labour productivity low. A number of explanations have been advanced for the UK's weak productivity performance which centre on the impact that the recession had on demand, investment and how the economy allocates and reallocates resources between successful and unsuccessful businesses. A lack of productivity growth is also the main reason why average weekly earnings are now some 6% lower in real terms than in 2008.

In contrast to the UK, labour productivity in the USA increased throughout the recession. In France and Germany, there was an initial drop in productivity but this was temporary. As a result, the productivity gap with these countries has widened again.

According to the Office for Budget Responsibility, output per hour is set to grow by 1% in 2015 and by 2% in 2016. However, the lack of a clear and agreed explanation for the lack of productivity growth since 2008 introduces greater uncertainty into any future forecast. This is why the CIPD said that 2014 needed to be a 'year of productivity' and why we said at the start of this year that efforts need to be redoubled.

Methodology

This report presents new analysis of two surveys conducted last year by YouGov on behalf of the CIPD:

- a set of questions included as an (optional) 'productivity focus' section in the CIPD's summer 2014 *Labour Market Outlook* (LMO), a quarterly survey of about 1,000 HR leaders in

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private, public and voluntary sectors in the UK
- a survey of 633 HR leaders in the UK conducted in the late summer of 2014, again covering all sectors, which formed part of a research project looking at how organisations built up their agility (referred to hereafter as 'the HR agility survey').

This report covers private sector businesses and helps us understand why some companies appear to perform better than others. We then consider the implications of our analysis for businesses and government.

The visibility of productivity as a business issue

According to the LMO, 66% of businesses said that 'productivity' was a term widely used within their organisation when talking about how to improve business performance. Manufacturing firms are more likely than service firms to use the term and large firms are more likely than small firms to talk about productivity.

A similar proportion (67%) of firms say they have measures of productivity. This is more likely when 'productivity' is a term used widely in the business (81%) than when it is not used. Large firms are more likely to measure productivity than small firms. Businesses basing their product or service strategy on low cost or added value are more likely to measure productivity than businesses where the strategy is based on high quality or customer service.

However, analysis of two other questions suggests that understanding of what is meant by 'productivity' is patchy. Based on the information provided by respondents about their productivity measures – admittedly very brief and incomplete in most cases – it seems that many firms that say they measure 'productivity' are likely to be measuring business performance in a more general sense.

The HR agility survey provides information on the (relative) importance of productivity as a business priority. 'Increasing productivity' is a current priority for 41% of HR leaders with only 'growth of market share in existing or new markets' (60%) and 'cost management' (59%) attracting greater support. The most commonly mentioned ways in which HR can help to raise productivity are through workforce and succession planning (60%), performance management (59%), improving leadership and management capability (51%) and training and development (51%).

Business perceptions of current productivity trends

When asked about the productivity of their business in the previous year (to summer 2014), 49% of firms surveyed in the LMO thought productivity had increased, 34% thought it had stayed the same, 10% thought it had decreased and 7% didn't know. Firms that measure productivity, firms that base their strategy on premium quality (rather than standard/basic quality), firms that had seen rapid or steady output growth and firms with 10,000 or more employees are more likely than others to say their productivity had increased.

Firms which had expanded or contracted their inputs in the previous 12 months were most likely to have done this through changing the size of their workforce (mentioned by 57% of expanding businesses and 70% of contracting businesses).

Looking ahead, 56% of firms thought they would increase

their output in the year ahead (to summer 2015), 29% of firms thought they would produce the same and 7% expected to produce less. Expectations reflect previous experience: three-quarters of firms who had seen output or productivity increase in the year to 2014 expected to increase output again in the year ahead. Service sector firms were more confident than manufacturing firms.

Nearly half (46%) of firms expecting to increase their output thought they would need to hire more staff, but over half (55%) thought they would use existing staff more efficiently. This *might* be a sign that more firms are looking to 'work smarter' rather than just relying on hiring more people.

Explaining variation between firms in productivity and business performance

Both surveys included questions asking firms to evaluate their productivity or performance relative to peers and/or competitors:

- The LMO asked firms if their productivity was above or below average relative to UK peers and competitors.
- The HR agility survey asked firms if their performance was ahead, in line with or behind that of their competitors.

Although the HR agility survey asked about performance rather than productivity, we note that, for most businesses, the two terms appear to be synonymous.

Questions of this kind tend to result in implausibly high proportions of respondents believing they are 'better' than average and these surveys were no exception. However, the data can still be used to infer which characteristics of firms are associated with higher (or lower) relative performance. We conducted multivariate analyses of both data sets to identify what helps to explain variation in business productivity and performance. Note these are statistical explanations – we cannot establish cause and effect with data of this kind. The analysis suggested there are statistically significant relationships between the following variables and the relative productivity/performance of individual businesses:

- Recent performance and growth of the business – businesses that had grown recently were more likely to rate their productivity highly.
- Organisation size – the largest firms were more likely to have seen recent productivity growth.
- Strategic positioning in the market – firms basing their strategy on 'premium quality' were more likely to rate their productivity highly than firms basing their strategy on 'standard/basic' quality.
- Internal culture – firms that think they will need to change their internal culture in the next five years are less likely to rate their performance highly than firms who are content with their current culture (which type of culture seemed not to matter).
- Whether performance is measured and talked about within the firm – firms that have conversations about 'productivity' or 'agility', or say they measure productivity, are more likely to rate their productivity highly.
- Training and development – firms that had trained most of their workforce in the past 12 months or had increased their training expenditure in the last two years are more likely to rate their productivity highly.
- Use of specific management practices designed to improve agility and performance – the HR agility survey asked firms whether they used a wide range of management practices associated with 'smart' or 'agile' working. Some of these practices had statistically significant effects on performance – some were positive and some were negative.

Implications for businesses seeking to improve their performance

Although understanding of productivity seems to be patchy in many firms, we do not think this is necessarily a barrier to improving productivity. What matters is paying attention to business performance. Organisations where there are widespread discussions about how to improve business performance – backed up by measurement of key outcomes – appear to perform better than firms where there are no such discussions.

Our analysis suggests possible ways for businesses to raise their productivity. In considering the implications, there are three questions we think any business should be asking:

- How much control does the business have over what it is trying to change?
- Does it have the capability to make the change?
- What is the contingency (goodness of fit) with everything else it is doing?

Product or service delivery strategies that are based on premium quality (rather than standard or basic quality) are associated with higher productivity. So, for firms seeking to transform their competitive position, a shift

'Our analysis suggests that management practices associated with "smart working" or "agile working" can have negative as well as positive effects on performance.'

towards higher levels of quality is a way of doing this.

Our results also suggest that business leaders need to regularly check whether the prevailing culture is going to be the right one in the years ahead. Managers need to be self-critical in doing this and test their perceptions of 'what it's like to work here' against those of employees and customers.

Our analysis also confirms that investment in training is associated with higher relative productivity, especially when all or nearly all of the workforce receives regular training.

Our analysis suggests that management practices associated with 'smart working' or 'agile working' can have negative as well as positive effects on performance. This means that firms need to think carefully before implementing new practices, either singly or as part of a 'package'. Are the practices in question addressing the issues of greatest concern to the business? Does the business have the capability to implement them effectively? And how do they fit with other workplace practices and the general approach to people management?

The CIPD has joined forces with the UK Commission for Employment and Skills, the Chartered Management Institute and the Chartered Institute of Management Accountants to launch the Valuing your Talent programme, which will help businesses raise their capability in people management through the development of human capital management metrics and techniques.

Implications for government

There are many ways in which governments can influence productivity. In this report, we focus in particular on how government can help businesses improve their productivity.

An important (if sometimes overlooked) contribution that government makes is through the provision of data on productivity and its components. Better-quality, more comprehensive data needs to be produced on a regular basis. Government also has an important role in leading public discussion about productivity and how to improve it. The breadth of potentially relevant policies also means that government needs to pay attention to how it takes decisions and how policies are implemented.

The Government should give high priority to public spending that supports productivity growth in the Spending Review that will take place this year.

One area that appears to have suffered from fragmented responsibilities is productivity in the workplace. Adoption of high-performance working practices is not as widespread in the UK as appears to be the case in Germany, the Netherlands and the Nordic countries – countries with a long tradition of public authorities, employers and employees working together to improve the quality of work and encourage workplace innovation. Of course, these countries differ from the UK in many other ways, but we think there should be more debate around what we can learn from these models and how that learning could be used to drive improvement in the UK.

Policies should not focus solely on help for individual businesses. Supportive 'ecosystems' are required, including intermediary or connecting institutions and networks that enable businesses to

learn from each other. Developing these 'ecosystems' may be a task best led at local or industry levels. Through financial support from the JPMorgan Chase Foundation, the CIPD is developing projects in three locations – Glasgow, Stoke-upon-Trent and London – which will test out different approaches to helping SMEs improve their people management capabilities.

Our analysis demonstrates the importance of training. In our *Manifesto for Work* (2015), we called for a fundamental review of skills policy to identify how best we can equip our workforce for the challenges of an ageing population and rapid technological change.

Public investment in skills and the promotion of best practice techniques can increase productivity, but this relies on businesses having the appetite and the capability to make effective use of better-qualified people and superior management techniques. Skills policy therefore needs to form part of a broader economic strategy that creates the conditions for upskilling as well as the means of achieving it.

In summary, then, our main recommendations to government are as follows:

- Give public spending that enhances current and future productivity high priority in the forthcoming Spending Review.
- Conduct a fundamental review of skills policy which is explicitly allied to a more inclusive industrial strategy, which in turn extends to large employment sectors such as the retail, care and hospitality sectors.
- Support the creation of voluntary human capital management reporting targets among FTSE 350 firms.
- Lead by example to ensure all public sector organisations report on their investment as a means of providing more insight into how the public sector invests in, manages and develops its people to improve resilience and drive value for service users.
- Improve the co-ordination of public policy around workplace issues, for example to increase the uptake of high-performance working practices.
- Encourage local skills 'ecosystems' to provide business support to enable SMEs to improve their people management and HR practices.
- Continue to invest in the creation of industrial partnerships which focus on supporting SMEs.

Introduction

'This report has been written to improve understanding of what makes some firms more productive than others in the expectation this will influence and motivate businesses to take action to increase their productivity.'

This report is about productivity – how effectively we produce value from inputs. So we can talk about the productivity of different resources used in producing goods and services (people's time and energy, tools and machinery, land, energy, and so on). We can also talk about – and measure – the productivity of individuals, groups, firms, collections of firms (industries) and, indeed, whole countries.

Measurement is important because it is the modest but persistent *growth* of productivity year on year which is responsible for the huge improvements in living standards we have seen in advanced capitalist economies since industrialisation. Economies usually grow if the population increases, because more people are working, but this also means the fruits of their labour have to be more widely shared. Economies can also grow by investing in more capital equipment and machinery but eventually diminishing returns kick in and yet another combine harvester doesn't add much to the volume of harvest. However, new and better machines (such as the inventions that revolutionised the textiles industry) or new methods of production (such as the factory) do generate sustainable increases in income because they mean we can produce more goods and services than previously in a given time period or with a given amount of raw materials or with a given stock of people. Indeed, innovation is one of the most important sources of productivity improvement.

For economists, the importance of productivity is captured by a quotation attributed to Paul Krugman:

'Productivity isn't everything, but in the long run it is almost everything. A country's ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker' (Krugman 1994).

As we shall see, output per worker is one of the standard measures of productivity.

The irony is that, for something so important to our long-term well-being, popular understanding of productivity is lacking. Those who study and measure it understand what it means and why it is important. So do many of the policy community seeking to increase it and those who provide commentary and explanation of what is going on in the economy. But understanding in business is variable. The general public often conflate it with working harder or for longer (when, in its economic sense, it is mainly about working smarter in those hours).

There is nevertheless a pressing need to make better use of the UK's resources and knowledge. This report has been written to improve understanding of what makes some firms more productive than others in the expectation this will influence and motivate businesses to take action to increase their productivity.

Methodology

The data we use in this report are from two sources. One is a set of questions that were included as an (optional) 'productivity focus' section in the CIPD's summer 2014 *Labour Market Outlook* (LMO), a quarterly survey of about 1,000 HR leaders in private, public and voluntary sectors in the UK. Respondents who agreed to answer the productivity questions (and 74% of all LMO respondents did so) were asked about their understanding of the term 'productivity' as well as whether (and how) they measured it. They were also asked how inputs and outputs had changed recently as well as how they were expected to change over the coming year. Respondents were also asked how they rated the productivity of their organisation relative to their peers and competitors.

The second data source is a survey of 633 HR leaders in the UK conducted in the late summer of 2014, again covering all sectors, which formed part of a research project looking at how organisations built up their agility (referred to hereafter as 'the HR agility survey'). Although not focused explicitly on productivity, the survey collected relevant data on the importance of productivity, the prevalence of various smart and agile working practices, organisational culture and an assessment of business performance (relative to competitors).

Further details about the two surveys are provided in Appendix 1. The analysis of these two surveys, placed side by side, gives us a more complete understanding of why some organisations perform better – and are more productive – than others. We used multivariate statistical analyses to help explain variation in productivity, agility and business performance across the organisations surveyed – recognising that we cannot establish causal relationships – and the model results are reported in Appendix 2.

This report only presents results for private sector organisations. Respondents in the public and voluntary sectors were not asked all the questions in the productivity focus section of the LMO. In any case, differences in how productivity and organisational performance are defined and measured in these sectors, and in the factors that influence relative performance, mean that a combined analysis is unlikely to produce meaningful results.

1 Productivity in the UK

'In practice, "productivity" is often used as shorthand for labour productivity. However, it would be equally valid to produce similar measures of the productivity of capital equipment or of the productivity of materials or land or energy.'

This section explains how productivity is defined and how it is currently measured in official economic statistics. It then presents an overview of long-term productivity trends in the UK before concluding with a discussion of the various explanations that have been advanced for the UK's post-2008 productivity slowdown.

Definitions and measures

The ONS *Productivity Handbook* provides a comprehensive but readable explanation of productivity measurement including definitions, explanations of the different productivity measures in use and details of data sources and methodology.[1] These in turn rely on international conventions developed by the OECD and set out in the OECD *Measuring Productivity* manual (OECD 2001).

The very simplest definition of productivity is output divided by inputs. But there are several measures of an economy's output. In practice most aggregate productivity measures (such as those compiled for an industry, a region or a country) use either gross domestic product (GDP) or gross value added (GVA). Productivity measures are defined *per unit of a specified input*, which means we can have multiple productivity measures. The most common input used when measuring productivity is labour and the most commonly used measures of labour productivity are *output per worker* (essentially GVA divided by the total number of people employed) and *output per hour worked* (GVA divided by total hours worked). In practice, 'productivity' is often used as shorthand for labour productivity. However, it would be equally valid to produce similar measures of the productivity of capital equipment or of the productivity of materials or land or energy. While none of these alternative measures are produced by the ONS, measures of 'resource productivity' are common in discussions of environmental sustainability. For example, the European Commission compiles estimates of how much energy is consumed per unit of GVA in each Member State (DECC 2012).

Many analysts and commentators prefer output per hour worked over output per worker as a measure of labour productivity. One reason for this is that individuals work different numbers of hours in a year, so 'per hour' measures allow for more accurate comparisons over time or between countries. For example, according to the OECD, in 2013 the average number of hours worked each year was 2,237 in Mexico but just 1,408 in Norway. Even if the average Mexican and Norwegian worker produced exactly the same amount of output each year, we would not consider them equally productive and output per hour worked makes that explicit. Nevertheless, there will be occasions where output per worker is an informative statistic.

Inputs, of course, are not homogeneous. Some machines perform better than others and some people bring greater skills and experience to their work than others. In both cases, this

will be reflected to an extent in their price. In practice, it is easier to differentiate quantity and quality for labour than it is for capital and ONS do publish supplementary quality-adjusted measures of labour input. These quality-adjusted measures are used by researchers and statistical authorities to analyse the components of growth (a process known as growth accounting).

Hence, in addition to the two 'headline' measures of labour productivity – output per hour worked and output per worker – the ONS now publish experimental statistics which break down the growth in output each year (measured by GVA) into one of four sources:

- labour input (hours worked)
- labour composition (quality)
- capital input
- multi-factor productivity (MFP).

MFP is also known as total factor productivity (TFP) and is sometimes referred to as the 'Solow residual' (after its inventor, Professor Robert Solow). And it is a residual: it's what's left after the estimated contributions of capital and labour have been subtracted from output growth. As for what it represents:

'Conceptually the MFP residual can be thought of as capturing technological progress, including the effect of changes in management techniques and business processes or more efficient use of factor inputs. It is important to note that improvements in the quality of capital are examples of "embodied technical change". In principle, such quality changes are captured in the measurement of capital services and are not included in MFP. MFP is linked, therefore, not to an increase in the quantity or quality of measured factor inputs but rather to how they are employed' (Connors and Franklin 2015, p3).

So the MFP residual captures changes in how well economies use the available inputs and the cumulative effect of small improvements has, over time, been substantial. MFP is likely to capture most forms of innovation, how well firms are managed and how efficiently markets work. To an extent, it will capture the impact on economic growth of broader social capital as well as the extent to which systems of government encourage or discourage growth (Acemoglu and Robinson 2012). There's a lot going on in there. Nevertheless, it is a residual and the ONS reminds us that:

'In practice the MFP residual may also capture a number of other effects such as adjustment costs, economies of scale and measurement error in inputs and outputs. For example an improvement in the quality of the labour force not captured by the quality adjusted labour inputs or returns from expenditures that are not currently treated as capital formation within the national accounts framework, such as workplace based training, design and branding, will be incorporated into the MFP residual' (Connors and Franklin 2015, pp3–4).

This means we should avoid reading too much into these more detailed figures, especially when looking at relatively short time periods. The methods used to construct them rely on various statistical techniques which include adjusting data for the state of the economic cycle and this can only be judged confidently with hindsight.[2] So while the 'headline' measures of labour productivity can be published as soon as the ONS has the relevant GVA and employment data, this more comprehensive breakdown can only be published with a lag and in the expectation that further revisions may need to be made. This is why the ONS describes these more detailed analyses as experimental statistics in contrast to output per hour worked and output per worker, which are national statistics.

When it comes to international comparisons, we also need to remember that the average productivity of an economy depends upon its industrial structure. Some industries have higher labour productivity than others because some types of production require lots of capital and relatively few people (such as offshore oil exploration), whereas others are highly labour-intensive (many personal services fall into this category). An economy with a large share of its output in capital-intensive industries will have higher average labour productivity than an economy specialising in labour-intensive industries – even if labour productivity in each industry were identical in both economies. Factors such as availability of land or energy, or size of market, can also contribute to differences in productivity between countries.

For example, labour productivity in the UK retail sector is significantly lower than in the USA and the gap has not closed over time (Griffith and Harmgart 2004). Potential explanations include greater investment by American retailers in ICT and more widespread application of modern management techniques among American retailers. However, more detailed analyses suggest that the gap in like-for-like productivity is much smaller once allowance is made for differences in what is being measured (for example, the extent to which business functions

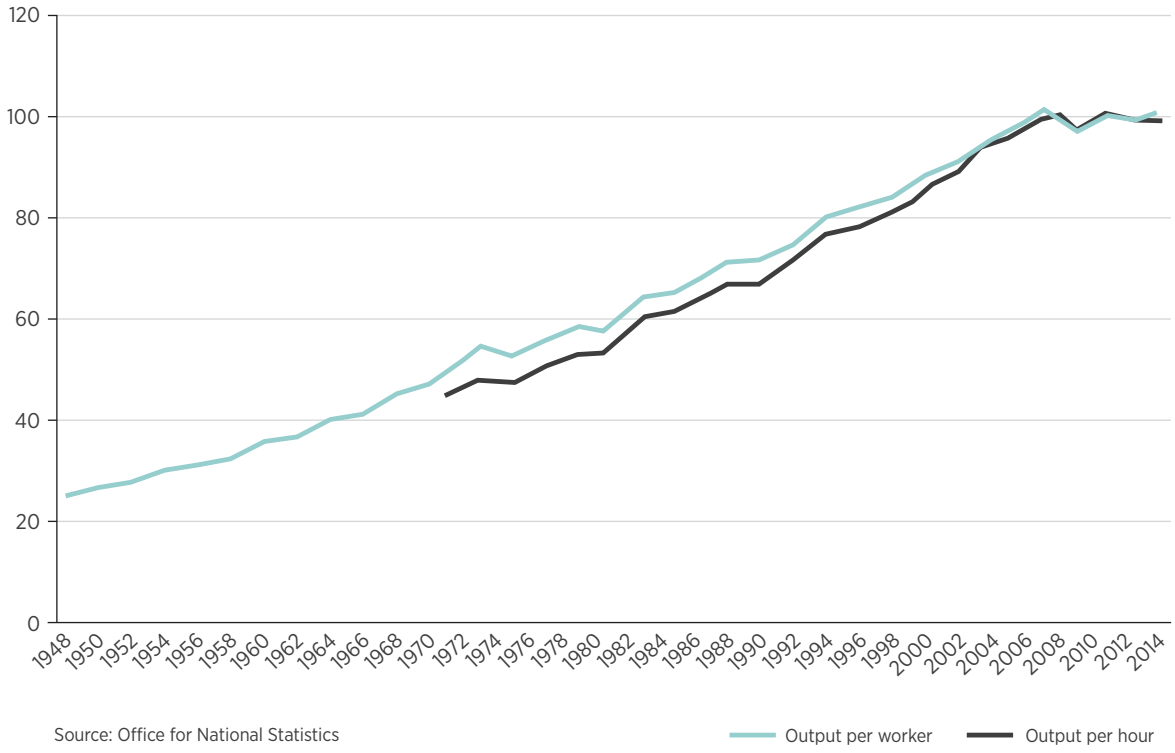
are outsourced or offshored) and for the relative scarcity of land in the UK, which means that UK food retailers have had to focus on small outlets rather than the 'big box' stores common in the USA (Haskel and Sadun 2009, Harchaoui 2012).

Productivity trends

As the first country to industrialise, the UK was the global productivity leader in the nineteenth century. In 1870, GDP per hour worked was 14% higher in the UK than in the USA, although the USA was catching up fast. The USA replaced the UK as the productivity leader around the end of the nineteenth century and its productivity continued to increase at a faster rate than the UK's throughout most of the twentieth century. In the UK, labour productivity increased by an average of just over 1.6% a year for the century between 1870 and 1973 (Crafts 2002). As a result, France, Germany and a number of other European countries were able to catch up with the UK (a process to be expected from countries late to industrialisation and/or rebuilding their economies after wars). Typically, though, these countries continued to grow faster once they had overtaken the UK.

Since consistent data became available for both measures in 1971, output per hour in the UK has tended to grow more quickly than output per worker (see Figure 1). This is because average hours worked per year have been on a downwards trend (CIPD 2014b). Productivity growth slowed down

Figure 1: Labour productivity, 1948–2014 (%)
(2008 = 100)



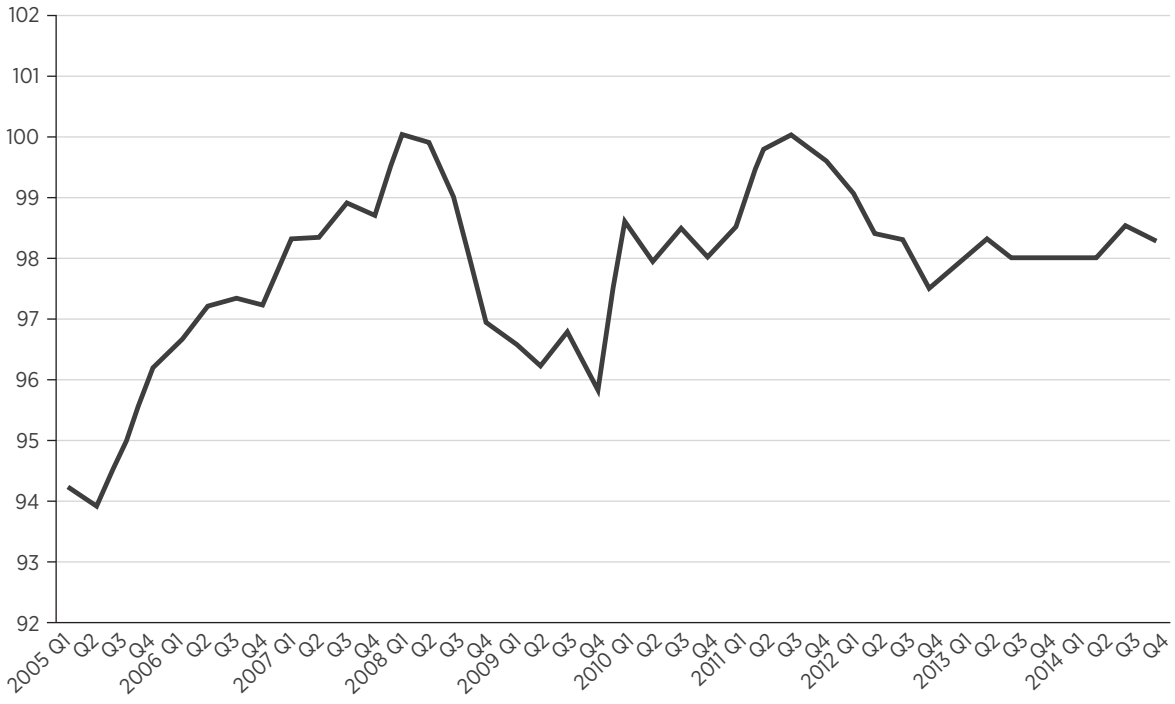
Source: Office for National Statistics

during the 1970s, something that happened in most OECD countries as their economies adjusted to oil price shocks. However, we then saw a period between the end of the 1970s and the peak of the last economic cycle (which ended in the first quarter of 2008) when UK labour productivity grew slightly faster than it did in the USA, France and Germany – making up some of the lost ground. The London School of Economics Growth Commission ascribe this improvement in (relative) performance largely to economic reforms pursued over a quarter of a century by both Conservative and Labour governments (LSE Growth Commission 2013).

The recession brought an abrupt end to this period of growth (see Figure 2). Labour productivity fell during the early stages of the recession, which is not unusual. It then increased slowly for a while and got back to its pre-recession level during 2011 before starting to fall again. As a result, in the fourth quarter of 2014, output per hour worked was still nearly 2% below its pre-recession peak.

Such a long period without productivity growth is highly unusual. Labour productivity also fell in Germany during 2008 and 2009 because the German Government encouraged the preservation of jobs but productivity growth resumed in 2010. In the USA, labour productivity grew throughout the recession. As a result, much of the

Figure 2: Labour productivity, 2005–14 (%)
(Output per hour worked, 2008Q1 = 100)



Source: Office for National Statistics

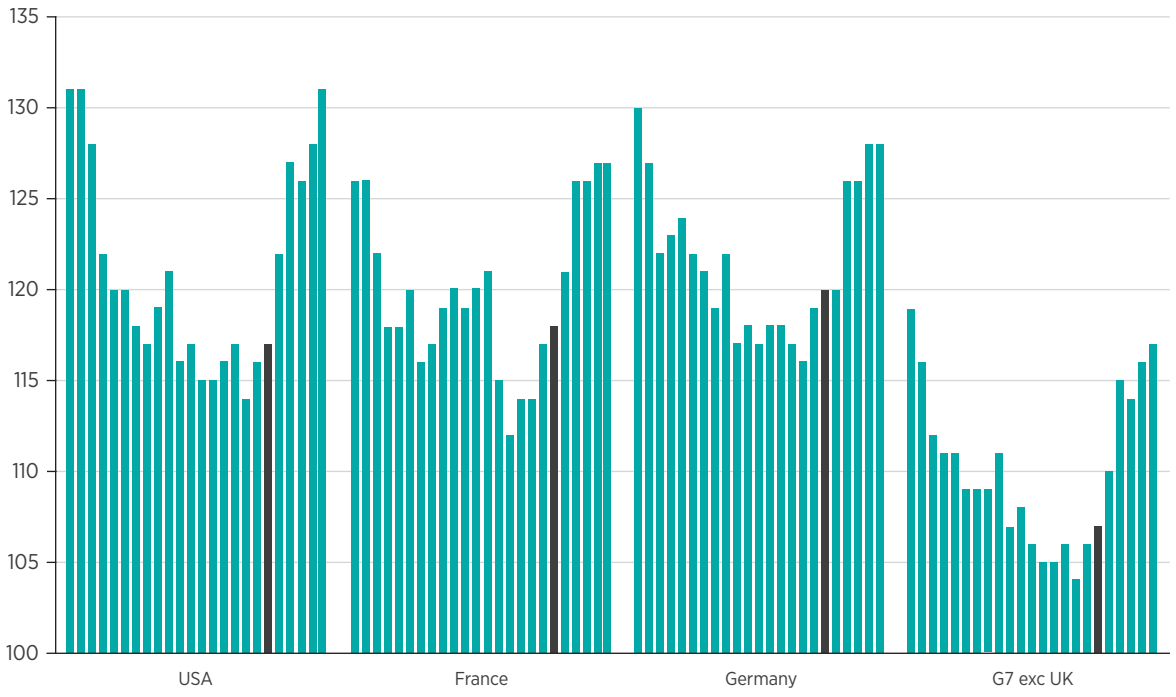
'The ONS breakdown of the components of growth shows that, as expected, total hours worked fell sharply in 2009 before recovering in 2012 and 2013.'

relative improvement in UK labour productivity seen during the 1979–2007 period has been lost in just five years between 2008 and 2013 (see Figure 3).

The ONS breakdown of the components of growth shows that, as expected, total hours worked fell sharply in 2009 before recovering in 2012 and 2013 (see Figure 4). Labour quality is estimated to have made a positive contribution to economic growth every year, as did capital services (although its growth post-recession was weaker). As a result, a lot of the year-on-year variation in growth can only be accounted for by large swings in the MFP residual. So MFP is estimated to have fallen by about 4.5% in 2009 with smaller reductions following in 2012 and 2013.

But if this happened, why did it happen? There is no reason why MFP cannot fall but the implication is that the economy has lost some of its ability to generate value. It both invites and requires explanation.

Figure 3: International comparisons of labour productivity, 1990–2013 (%)
(Current price GDP per hour worked, UK = 100)



The black columns are the 2008 data. The time series for Germany and the G7 excluding the UK begin in 1991.

Source: Office for National Statistics

Figure 4: Composition of GVA growth, 1994–2013

(UK, whole economy, % change p.a.)

Source: Office for National Statistics

Why has UK productivity been so weak since 2008?

As yet, though, we have no clear and agreed explanation why productivity is still below its pre-recession peak – hence references in the literature to the 'productivity conundrum' and the 'productivity puzzle'. A number of potential explanations have been put forward but it is difficult at present to identify which of these are likely to be more important than others.

Economic conditions could well be part of the explanation. Whole-economy productivity is pro-cyclical (Bhaumik 2011). In other words, it increases in good times and tends to fall back when conditions are tough. While output is now above its pre-recession level, there may still be spare capacity in the economy which means that some resources are not being used to their full potential. The Bank of England sees limited spare capacity in the economy (Barnett et al 2014a), whereas the TUC argues that aggregate demand is still well below its maximum potential (TUC 2015).

Productivity depends on the level of investment in the economy. Investment also depends on economic conditions, so it is no surprise that business investment fell by about 20% between early 2008 and late 2009 (see Figure 5). Since then, business investment has been on an upward trend. Public investment followed a different time path, rising slightly during the worst of the recession and not falling until 2011, when fiscal consolidation began in earnest. These are current price measures: the ONS has recently

stated that the volume of investment has returned to its pre-recession levels (ONS 2015).

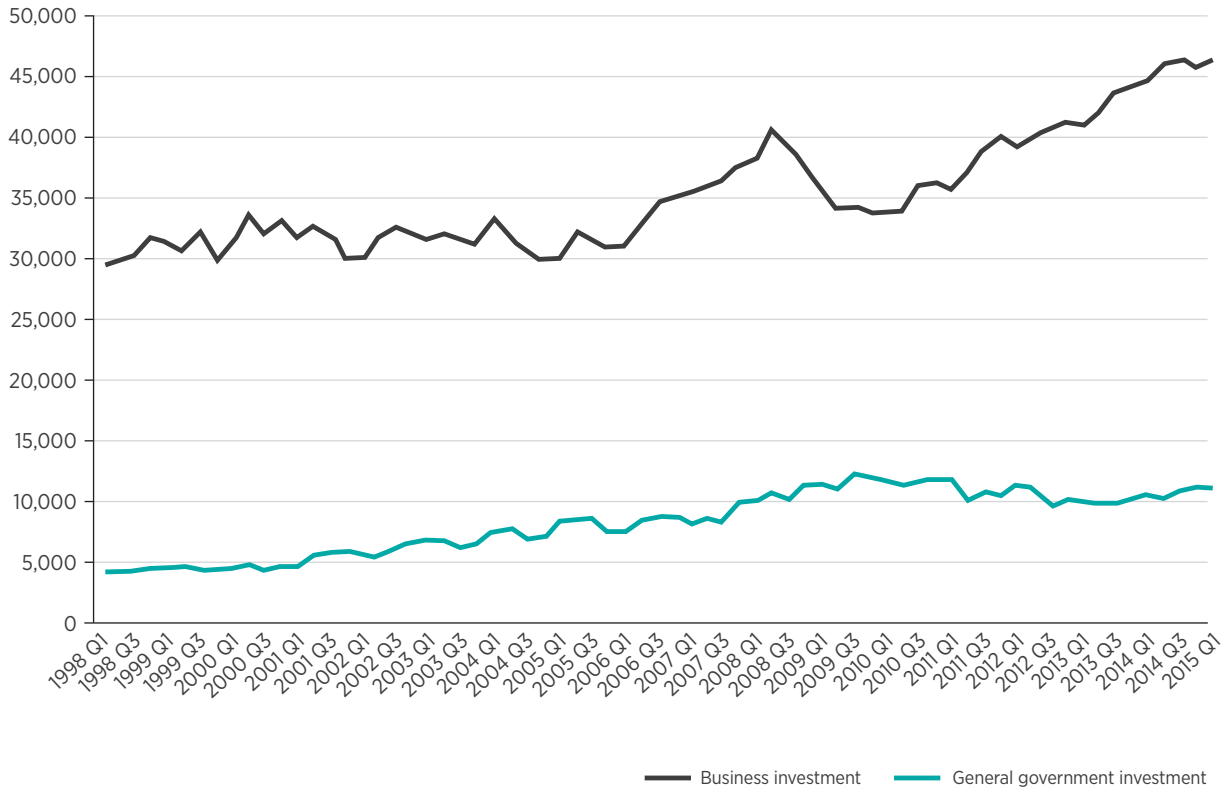
The ONS data mainly measure investment in physical or tangible assets such as buildings, equipment and machinery. Businesses also invest in the creation and maintenance of intangible assets such as brand, workforce skills, workplace systems, organisational culture and the pipeline of new ideas. According to estimates compiled by the ONS and Imperial College on behalf of Nesta, business now invests more each year in intangible assets than it does in tangible assets (see Figure 6).

Intangible investment did not fall by nearly as much post-2008 as tangible investment. However, these data only cover the period to 2011.

ONS figures suggest that one important component of intangible investment, business R&D, has increased in real terms since 2011. By 2013, it was 3% higher in real terms than its pre-recession peak in 2007.

The largest single component of intangible investment is training, and the Employer Skills Survey suggests that total employer spend on training fell by 5% between 2011 and 2013. This doesn't necessarily mean workforce skills are deteriorating, though, because employers have been taking steps to increase the cost-effectiveness of their

Figure 5: Capital investment, 1998–2015
(£ million, current prices, seasonally adjusted)



Estimates are adjusted to exclude the reclassification of British Nuclear Fuels Ltd (BNFL) in 2005.
Source: Office for National Statistics

investment and the average number of days training that each employee received did not change (CIPD 2014f). Furthermore, the latest CIPD survey of learning and development professionals, conducted in January 2015, found that 27% of private sector respondents thought their organisation would spend more in the coming year on learning and development, whereas just 11% thought they would be spending less (CIPD 2015c).[3]

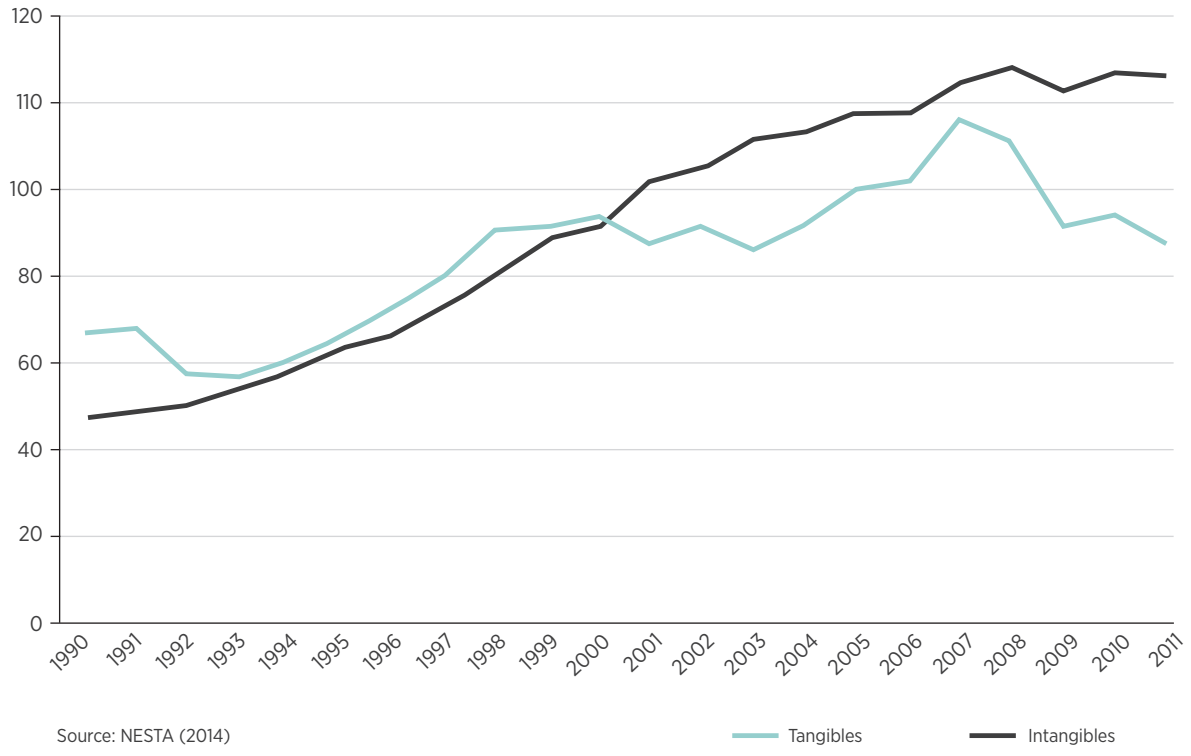
The ONS breakdown of economic growth presented in Figure 4 uses qualifications to measure labour quality. However, some analysts have raised questions about the consistency, quality and economic value of some low-level vocational qualifications (Van Reenen 2013, Mayhew 2015).

Although we don't have a full and up-to-date picture, the evidence therefore suggests that investment did fall during the recession. Some projects will have been cancelled, delayed or scaled back. Because average earnings were falling in real terms, this may in some cases have led to the employment of extra people as a substitute for capital investment (Pessoa and Van Reenen 2013 call this 'capital shallowing').

Even if some categories of investment are now back to (or above) their pre-recession levels, it may take some time to make good any investment backlog. The Bank of England suggests that any residual weakness in investment could well have had more of a (negative) effect on the ability of companies to innovate than it has had on their ability to deliver 'business as usual' (Bank of England 2015).

Other explanations have been proposed that centre on whether the financial crisis and its aftermath reduced the ability of market forces to reallocate

Figure 6: Tangible and intangible business investment, 1990–2011
(£ billion, 2010 prices)



Source: NESTA (2014)

'A significant proportion of productivity growth normally occurs through "creative destruction" – inefficient businesses close and are replaced by new, higher-productivity businesses using modern technology and up-to-date business methods.'

resources away from less productive businesses towards more productive opportunities (Patterson 2012, The City UK 2013, Barnett et al 2014a). There is evidence that financial crises can have persistent negative effects on output and productivity (Oulton and Sebastia-Barriel 2013).

A significant proportion of productivity growth normally occurs through 'creative destruction' – inefficient businesses close and are replaced by new, higher-productivity businesses using modern technology and up-to-date business methods. However, this effect seems to have been lacking since at least 2008–09 (Barnett et al 2014b, Mason et al 2014, Bryson and Forth 2015). Rates of company failure and workplace closure did not soar in 2008–09 as might have been expected and new entrants did not demonstrate markedly superior productivity to the workplaces they were replacing.

One potential reason for this is what has been termed 'zombie companies'. These are low-productivity companies which, in normal times, would fail because they cannot repay their debts. But interest rates have been so low that even inefficient, unprofitable firms may have been able to pay the interest on their existing debts. Lenders may also have been reluctant to foreclose because of the potential damage to their balance sheets.

Allied to this, labour turnover in the UK has also been very low, which means we have seen less reallocation of people into more productive roles and less of the productivity spillovers that arise when people apply their knowledge and skills in a new organisational setting (Maliranta et al 2008). There are likely to be a number of factors contributing to low labour turnover. Some are structural, such as workforce demographics (an older workforce means less turnover). However, ONS estimates of unfilled vacancies are at their highest level since the data were first compiled in 2001, which suggests there are plenty of job openings to move to. Historically, changing employer has been a way for people to improve their earnings (Carillo-Tudela et al 2014). However, changing job isn't without some risk. If the job doesn't work out, it might not be possible to find another one without spending some time unemployed, which can have a negative effect on future earnings progression (Savage 2011). In addition, although average earnings have failed to keep pace with earnings since 2009, those remaining continuously employed have fared better than the average job changer. Hence it is not surprising that employees have been more reluctant to move jobs than might have been expected given prevailing labour market conditions.

Changes in the structure of the economy will also affect whole-economy productivity. So if the post-2008 period has seen some high-value-added industries shrink in (relative) size, such as offshore oil and gas exploration, this pushes down the whole-economy average. The ONS growth accounting calculations shown in Figure 4 imply that the average quality of the labour force (measured by qualifications) has improved year on year, but these figures only cover the period to 2013. Recent calculations by the ONS and Bank of England suggest that growth in labour input during 2014 came entirely from low-skilled – and presumably low-productivity – employment (ONS 2015, Bank of England 2015).

Another form of structural change arises through the increase in the proportion of those in work who are self-employed, which has risen from 13% in 2008 to 15% by early 2015. Although both the working hours and the earnings of the self-employed are more difficult to measure than they are for employees, data from the Family Resources Survey suggest that the fall in real average earnings has been greater for the self-employed than for employees. So if earnings reflect productivity, we could be seeing a compositional effect that pushes down the whole-economy average. There are reasons why the self-employed might be less productive than people doing the same work but attached in some way to a firm (large or small): the self-employed tend to have less capital to work with and they are more likely to be resource-constrained than a company. However, on average, the self-employed have higher job satisfaction than employees and this could exercise a countervailing effect.

The various pieces of the 'productivity puzzle' may in the end start to fit together as more data become available. Of course, in one sense the answer to the 'puzzle' is very simple. Low productivity during the recession was a consequence of employment staying much higher – and unemployment much lower – than would have been expected given the fall in output. To that extent, many would regard it as the lesser of two evils. But the sustained weakness of productivity is also why average weekly earnings in the UK are still about 6% lower in real terms than they were in 2008.

There are no signs yet that the UK is about to 'make up for lost time'. The economic forecast released by the Office for Budget Responsibility alongside the March 2015 Budget has output per hour worked increasing by 1% in 2015 and by 2% in 2016 before stabilising at 2.5% per year for the period from 2017 onwards, which is (broadly speaking) the pre-recession growth rate (OBR 2015).

However, given our incomplete understanding of the recent past, we cannot assume that even this rate of growth will be attainable in the short to medium term. For example, if labour market slack is greater than forecasters expect, it will take longer for skill shortages to become widespread enough to make employers do something about them – either by training more people or by investing in the technology and systems which mean they need fewer people (or can generate more value from the existing workforce).

Some of the current weakness of labour productivity may be structural – due to factors like the lack of firm entry and exit – and could therefore persist for years to come. This is why the CIPD said that 2014 needed to be a 'year of productivity' and why we said efforts need to be redoubled in 2015 (CIPD 2014a, CIPD 2015a).

Looking further ahead, demographic change means that employment growth will slow down in most countries in the coming decades, so future growth rates will not match those we have seen in the last fifty years unless productivity growth increases (McKinsey Global Institute 2015). But views vary on whether innovation will continue to deliver economic growth on the scale we have become accustomed to (see Nesta 2012, p14, for a summary of opposing viewpoints).

Given its importance for our long-term prosperity, how significant an issue is productivity for UK businesses? This is the subject of the next section.

2 The visibility of productivity as a business issue

Discussion of the 'productivity puzzle' at the aggregate level has included how well productivity is measured in our economic statistics. A similar question arises at the level of the individual firm: is productivity a term familiar to businesses and, if so, is their understanding of the term consistent and in line with the economic concept? Do firms measure productivity and actively seek to manage it? This chapter explores understanding of the term in private sector businesses and its prominence as a business issue.

Understanding of productivity

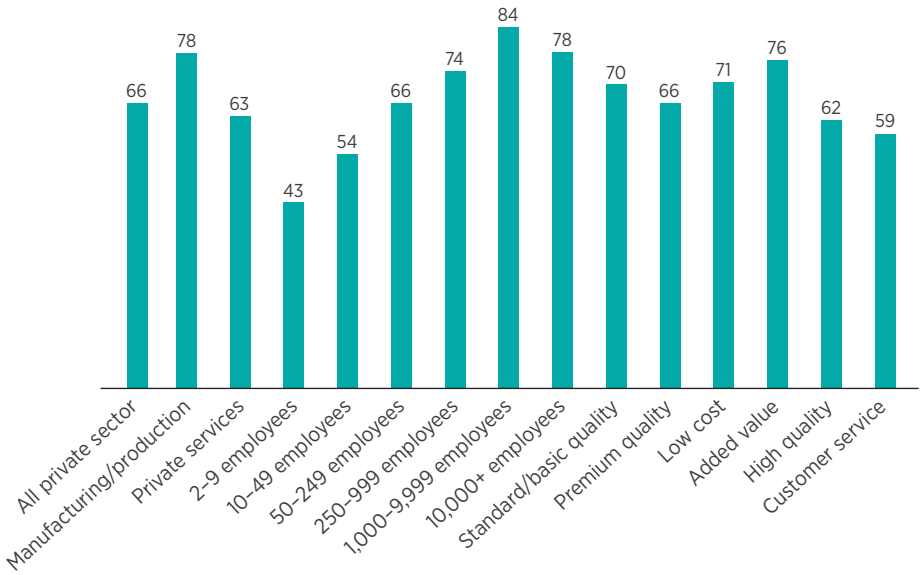
We asked organisations who agreed to complete the LMO productivity focus section: *'When discussing how to improve your organisation's performance, is "productivity" a term often used in your organisation?'*

Of the 468 private sector organisations that completed this section, 66% said that 'productivity' is a word often used in their organisation (see Figure 7). Micro and small businesses were less likely to talk about productivity than larger businesses, and manufacturing firms were more likely than private service firms to do so.

We use two different survey questions to differentiate organisations by their product or service strategy – in other words, where they see themselves in the market (see Box 1). Standard/basic quality oriented firms are slightly more likely to use the term 'productivity' than premium quality oriented firms. However, when a four-way breakdown of competitive positioning is used, we see much greater variation: firms competing on low cost and (especially) added value are much more likely to use the term 'productivity' than firms competing on high quality or customer service.

Figure 7: Whether organisations talk about productivity

(% of private sector organisations who agreed that productivity was a term often used within their organisation when discussing how to improve business performance, n=468)



Source: CIPD *Labour Market Outlook*, summer 2014.

Box 1: Competitive positioning

How a firm chooses to compete in a particular market (local, national or international) is likely to have an effect on its productivity relative to its competitors.

A firm that operates in a low-quality, price-sensitive market segment where margins are tight may not be able to afford to upgrade either its physical capital or its human capital. Furthermore, it may judge there is little need anyway to invest in improving its capabilities beyond those sufficient to operate its current business model. In contrast, a firm that places greater emphasis on quality or innovation in products and services and less (relative) emphasis on price may be more strongly inclined to invest in new technology or in equipping its workers with new skills (and it may find it easier to finance the investment). Analyses of the UK Employer Skills Surveys confirm there is a positive association between business investment in training and the sophistication of a firm's product market strategy (Winterbotham et al 2014).

Questions on competitive positioning were therefore included in the summer 2014 LMO to provide context for the productivity questions.

Two questions were asked. First, respondents were asked whether their product or service strategy could be characterised as one based on standard or basic quality or one based on premium quality. Just over a quarter (26%) of private sector organisations say they base their strategy on standard or basic quality goods or services. This proportion increases with size from 18% of businesses with 2–9 employees to 33% among those with 10,000 or more employees.

Respondents were then asked, *'Which best describes the strategy on which your organisation operates?'* and given four choices:

- low cost – chosen by 8% of private sector organisations
- added value – 27%
- high quality – 26%
- customer service – 37%.

Unsurprisingly, private service businesses are twice as likely as private manufacturing businesses to say they focus on customer service.

Both the smallest businesses (those with fewer than ten employees) and the larger businesses (those with 1,000 or more employees) are more likely than firms in the middle of the size distribution to base their strategies on low cost or customer service. Firms with 1,000 or more employees are also much less likely than smaller firms to adopt a high-quality strategy.

There is a reasonable degree of internal consistency in the answers given to these questions. For example, 73% of businesses adopting a low-cost strategy also say it is based on standard or basic quality and 85% of businesses adopting a high-quality strategy also say their strategy is based on premium quality.

'The breakdowns by competitive positioning suggest that understanding of productivity may be stronger in firms competing on the basis of cost or value than it is for firms competing on the basis of quality.'

We tested the extent to which there is a common understanding of what is meant by 'productivity'. All respondents were given a question designed to be a test of understanding: *'Which of these two phrases is the better description of your organisation's understanding of productivity?'* The two phrases were *'amount of goods and services our organisation produces'* and *'amount of profits/savings generated by each activity'.* The first phrase (which we summarise as the 'gross' definition) is shorthand for output and hence only captures half of the productivity calculation because it makes no adjustment for quantity of inputs (output could simply be high due to the use of large amounts of inputs). The second phrase (the 'net' definition) does imply that inputs/costs have to be taken into account and is therefore closer to the textbook definition of productivity.

Half of the businesses who answered this question chose the 'net' definition (see Table 1). The other half either chose the 'gross' definition (31%) or said that neither phrase was relevant because they had their own understanding of productivity (11%) or said they had no understanding of productivity at all (6%).

Businesses where productivity is not a term used widely were less likely to choose one of these definitions: 16% of these respondents said they had no understanding of the term 'productivity' at all. The breakdowns by competitive positioning suggest that understanding of productivity may be stronger in firms competing on the basis of cost or value than it is for firms competing on the basis of quality.

Table 1: Understanding of productivity, by competitive positioning (%)

	Amount of goods and services organisation produces	Amount of profits/ savings generated by each activity	Neither – we have our own understanding of productivity	No understanding of productivity	Don't know
All private sector	**31**	**50**	**11**	**6**	**3**
Productivity term used by organisation	35	55	9	1	1
Productivity not term used by organisation	25	41	16	16	2
Standard/basic quality	35	55	5	5	<0.5
Premium quality	30	48	13	6	3
Low cost	31	56	3	2	7
Added value	30	59	8	2	1
High quality	40	35	8	13	3
Customer service	25	54	13	4	4

Base: Private sector organisations who completed the 'focus on productivity' section (n=468)

Measurement of productivity

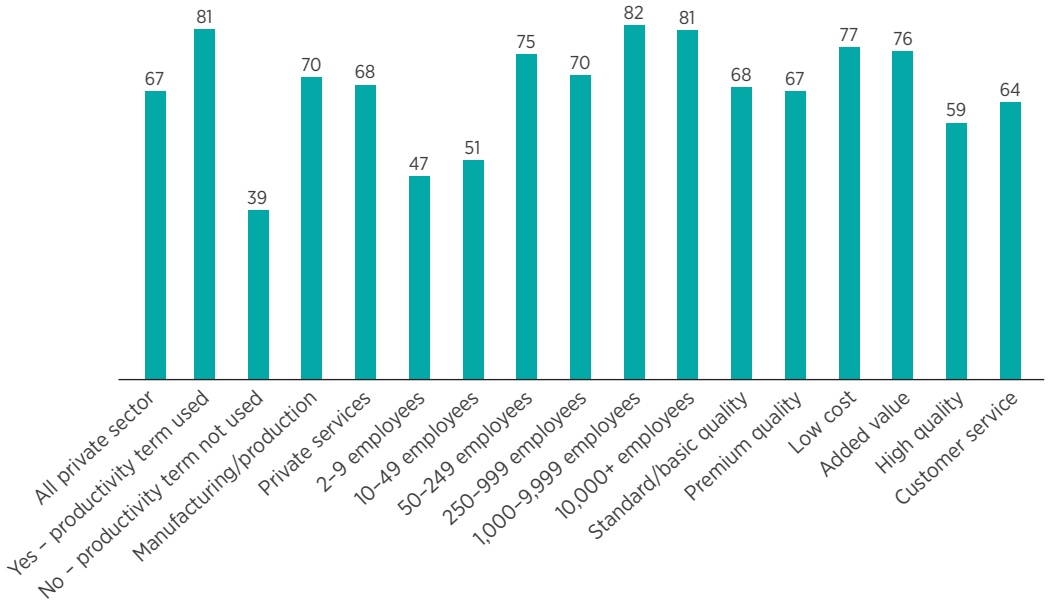
If productivity forms part of an organisation's attempts to manage and improve its performance, are concrete steps taken to measure it? Two-thirds (67%) of private sector organisations say they measure productivity. Over four-fifths (81%) of firms where productivity is talked about also measure it. Interestingly, almost two-fifths (39%) of organisations where 'productivity' is not a widely used term still measure it (see Figure 8).[4]

Small firms are far less likely to have productivity measures than larger firms, although – for all size bands – those firms that talk about productivity are much more likely to have productivity measures. Again, the data suggest that productivity is seen in a different way – or is regarded as less important – by firms basing their strategy on high quality or customer service.

We asked firms who said they had productivity measures to write down, in their own words, *'How does your organisation measure productivity?'* This question was not designed to provide rigorous data. Its purpose was simply to get a flavour of the productivity measures in place. Nevertheless, the responses suggest that understanding of productivity among respondents – those responsible for HR – is patchy at best. Only a few respondents described their productivity measures in terms consistent with its economic definition. When firms say they measure productivity, it seems that many are talking about broader measures of business performance.[5]

Figure 8: Whether organisations measure productivity

(% of private sector organisations who said their organisation had measures of productivity, n=468)



Source: CIPD *Labour Market Outlook*, summer 2014.

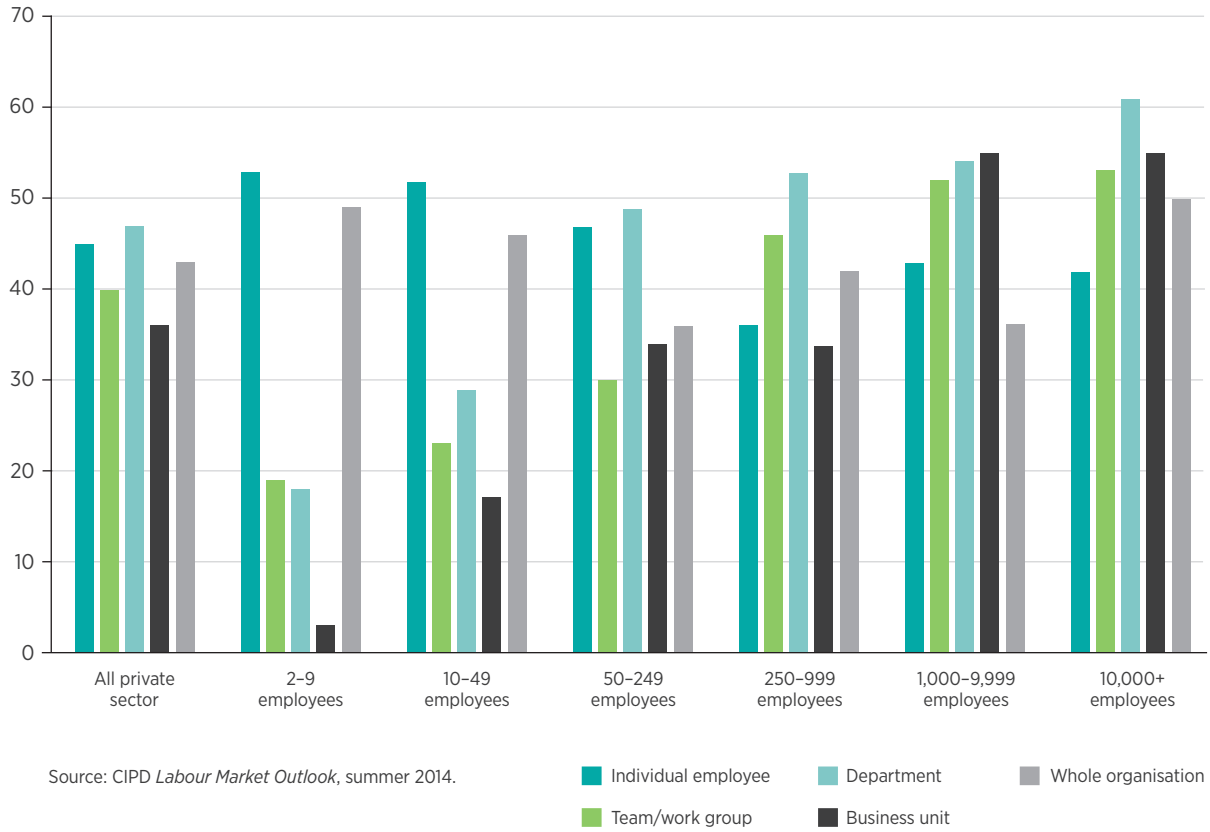
We also asked businesses with productivity measures how finely their data could be broken down between different units within the organisation (see Figure 9). Given the variety of measures that firms collect, it is perhaps no surprise that just 43% of firms say their productivity measure(s) cover the whole organisation or that just 45% have measures which can be disaggregated to the individual employee. Nearly as common are measures that can be broken down to some intermediate level such as a team or work group, a department or a business unit.

Small firms with fewer than 50 employees are most likely to have data for individual employees but are the least likely to have data at intermediate levels – which may be because their size means they do not have elaborate organisational structures. On the other hand, larger firms with 1,000 or more employees are most likely to have productivity measures at the intermediate level.

There is a modest (though statistically significant) positive correlation between having data that can be broken down to an individual level and having data that can be broken down (or aggregated) to the team level (see Table 2). Otherwise, there are no significant correlations in the column headed 'individual employee' – in other words, whether a firm has individual-level productivity data provides no guide about whether or not it has data that can be analysed at team, department, business unit or organisation level. On the other

Figure 9: Granularity of productivity measures

(% of private sector organisations that had productivity measures, n=302)



Source: CIPD *Labour Market Outlook*, summer 2014.

hand, the positive correlations between the three intermediate levels imply that firms that have measures at one of these levels may well have measures at other levels too. In very large firms – those with 10,000 or more employees – correlations are positive and significant across the board (which is consistent with the kind of systematic top-to-bottom approach to performance measurement required by Investors in People or the Business Excellence Model).

Productivity as a business priority

Recent CIPD surveys have found that (increasing) productivity is typically one of the more commonly mentioned business priorities. For example, 37% of senior HR professionals and 30% of senior business leaders in the private sector surveyed in the 2013 CIPD *HR Outlook* identified productivity as a business priority (CIPD 2013). Looking ahead, 35% of HR leaders and 32% of business leaders said productivity would remain one of their priorities in three years' time.

Just over two-fifths (41%) of private sector respondents in the HR agility survey say 'improving productivity' is one of the current priorities for their business, the third most commonly chosen objective after 'growth of market share in new and existing markets' and 'cost management' (see Figure 10).

Table 2: Correlation analysis of extent to which productivity measures can be broken down

Data can be broken down to level of:	Individual employee	Team/work group	Department	Business unit	Whole organisation
Individual employee	**1.000**				
Team/work group	**0.119**	**1.000**			
Department	0.088	**0.381**	**1.000**		
Business unit	-0.036	**0.262**	**0.321**	**1.000**	
Whole organisation	0.044	0.095	**0.221**	**0.256**	**1.000**

Correlations highlighted in bold are significantly different from zero (5% significance level).

Base: Private sector organisations that had productivity measures (n=302)

Figure 10: Current business priorities

(% of private sector organisations, n=388)

Source: CIPD HR agility survey, summer 2014.

There is some variation in the priority given to productivity by different types of business (see Table 3). The largest SMEs (those with 50–249 employees) are more likely to prioritise productivity than smaller firms or larger firms.

Organisations describing themselves as having a family culture are least likely to identify productivity as a priority, whereas organisations who describe their culture as structured are most likely to select productivity as a priority (see Box 2).

HR practices to increase productivity

Respondents in the HR agility survey were also given a list of HR 'practices' and asked to identify the ones which their organisations would be focusing on to achieve their chosen business priorities. This provides an indication (from the perspective of senior HR leaders) of *how* organisations think they will go about increasing productivity (see Figure 11).

Four practices were mentioned by more than half of respondents: workforce and succession planning, performance management, improving leadership and management capability, and training and development. These could be interpreted as reflecting quite 'traditional' or 'individual-centred' notions of productivity and how to improve it: selecting the type of worker needed and training them; making sure they are well managed; and ensuring systems are in place to manage their performance (presumably to reward high-productivity individuals and teams and to take action where productivity is low).

Broader structural or cultural changes, such as knowledge-sharing or organisational restructuring, are less frequently mentioned, although more than 40% of respondents still identify them as something to focus on. Two practices often adopted to release discretionary effort from employees – increasing employee engagement and focusing on their well-being – were mentioned by 35% and 39% of respondents respectively.

These data do not provide any indication of how important firms think each practice is in delivering productivity improvements or on their capability to deliver improvement (although it seems reasonable to assume respondents would not select practices if they thought their organisation would be incapable of delivering them). But they do provide insight on the tools that HR believe will deliver wider business priorities. For example, if we look at the HR practices identified in support of another common business priority – cost management – we find HR leaders putting much less emphasis on leadership and management, knowledge-sharing and employee engagement (compared with increasing productivity) and much more emphasis on adjusting terms and conditions, reward management and service delivery.

Table 3: 'Improving productivity' as a business priority, by size of organisation and organisational culture

	% selecting 'improving productivity' as priority	Rank (among business priorities)	Most commonly selected priority for this group
Size of organisation			
2–9 employees	37	3rd	Market share
10–49 employees	39	3rd=	Market share
50–249 employees	50	4th	Market share
250+ employees	40	4th	Cost management
Organisational culture			
Family	32	3rd	Market share
Structured	49	4th	Cost management
Dynamic	41	3rd	Market share
Results-oriented	42	3rd	Market share

Base: Private sector respondents (n=388)

Source: HR agility survey, summer 2014

Box 2: Organisational culture

Respondents to the HR agility survey were asked to describe *'the culture prevailing in your organisation at the moment'* by choosing one of four descriptions:

- *'An organisation with a family feel, held together by loyalty and tradition. Leaders are viewed as mentors or parents.'* (Family) – chosen by 31% of private sector respondents.
- *'A formalised and structured place to work, where procedures govern what people do and hold people together.'* (Structured) – chosen by 26% of private sector respondents.
- *'A dynamic, entrepreneurial, and creative place to work. People stick their necks out and take risks.'* (Dynamic) – chosen by 11% of private sector respondents.
- *'A result-oriented organisation whose major concern is with getting the job done. People are competitive and goal-oriented, and are held together by an emphasis on winning.'* (Results-oriented) – chosen by 32% of private sector respondents.

Cultural type is related to size of firm. Small firms are predominantly family firms: 60% of those with 2–9 employees and 50% of those with 10–49 employees identify with this cultural type. In contrast, the likelihood of being structured or results-oriented increases with size – from 5% structured and 19% results-oriented among firms with 2–9 employees to 39% structured and 42% results-oriented among firms with 1,000+ employees. A dynamic culture is most popular in the smallest firms (16% in firms with 2–9 employees) but the drop-off with size is less pronounced and it is only in the largest firms that this culture becomes rare (just 6% in firms with 1,000+ employees).

Culture is often a source of competitive advantage and central to employer brand. But it can also be a straitjacket. Respondents were asked: *'In five years' time, does your organisation have an ambition to have changed your culture to any of the following [the same four descriptions] or do you plan to keep the same culture?'* The question did not test whether any ambition to change culture was realistic but it does identify organisations where the culture may be out of line with the values or intended direction of the business.

A small majority (53%) of private sector organisations do not intend to change their current culture. This is most common for family firms (69%) and dynamic firms (65%). In contrast, just 41% of structured firms and 45% of results-oriented firms want to retain the current culture. In fact, 42% of structured firms want to become either dynamic or results-oriented – more than the proportion wanting to stay as they are. Results-oriented firms looking to change are most likely to say they want to become dynamic.

Figure 11: HR practices to improve productivity

(% of private sector respondents who had identified 'increasing productivity' as a business priority, n=157)

Source: CIPD HR agility survey, summer 2014.

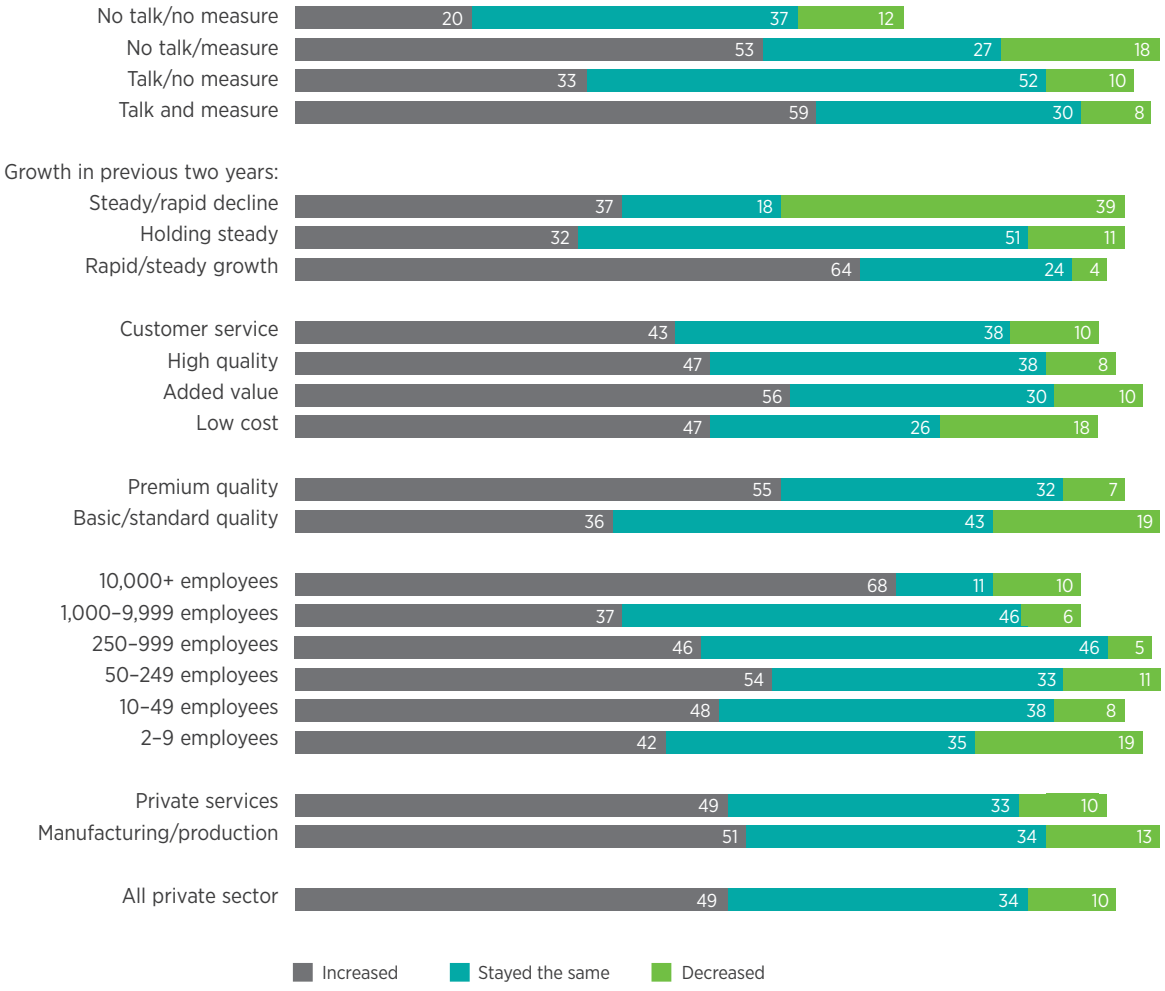
3 Business perceptions of current productivity trends

We also sought information in the LMO about the recent experience of businesses – whether they were expanding or contracting, how they adjusted inputs when demand changed and what this meant for productivity.

Recent changes in productivity

LMO respondents were asked, *'Overall, during the past year, have levels of productivity at your organisation increased, decreased or stayed the same?'* Just under half (49%) of all private sector respondents said productivity had increased, while a third (34%) said it had stayed the same, a tenth (10%) said it had fallen and 7% said they didn't know (see Figure 12).

Figure 12: Change in productivity in the past 12 months
(% of private sector organisations, n=468)



Totals do not add to 100% because 'don't know' responses are not reported.

Source: CIPD *Labour Market Outlook*, summer 2014.

Organisations with productivity measures – irrespective of whether it is a term widely used within the business – are far more likely to say productivity had increased than organisations without productivity measures. Measurement appears to trump conversation.

Respondents were asked whether the size of their business (output) had grown in the previous two years, and almost two-thirds (64%) of those firms who had experienced steady or rapid output growth also said productivity had risen. While there is a common-sense explanation why growing firms might find it easier to increase their productivity – they will be stretching their workforce and their assets, rather than cutting them back – causality may also run in the opposite direction. If high-productivity firms can take advantage of it by cutting prices or improving quality, they will take business from competitors.

Premium-quality firms are significantly more likely to have seen productivity growth than standard-quality firms. However, the other competitive positioning variable shows less variation.

Over two-thirds (68%) of the largest firms (with 10,000 or more employees) said productivity had grown, appreciably higher than for any other size band.

We compared responses to this question with responses to other questions to check for internal consistency. The result was reasonably reassuring: responses were internally inconsistent in just 16% of cases (see Box 3).

Box 3: Validity of answers to productivity growth questions

Given the imperfect understanding of what productivity means and the variety of ways in which respondents said it is measured, we need to examine carefully responses to questions focused on recent changes in productivity.

The productivity growth question is a 12-month retrospective question. Respondents were asked similar 12-month retrospective questions about output (production, sales, and so on) and inputs (staff, machinery, and so on). Since we can define productivity for these purposes as outputs divided by inputs, responses to the latter two questions produce a 'prediction' for productivity growth:

- If the amount of goods and services has increased and the level of inputs has stayed the same or decreased, this implies an increase in productivity. Likewise if output stays the same but inputs reduce.
- If the amount of goods and services has decreased but the level of inputs has stayed the same or increased (or output stays the same but inputs rise), this implies a decrease in productivity.
- However, if both outputs and inputs have moved in the same direction (or both stayed the same), the effect on productivity is ambiguous and depends in practice on which effect is biggest.

Comparing these implied changes with actual responses to the productivity growth question produced the following results:

- Of the 52% who said productivity had increased, 20% came from the implied increase category, 27% came from the ambiguous category and 5% came from the implied decrease category (the percentages are slightly different from Figure 12 because this analysis excluded all cases with a 'don't know' response to any of the questions, leaving 419 observations).
- Of the 36% who said productivity had stayed the same, 5% came from the implied increase category and 5% came from the implied decrease category, with 26% being ambiguous.
- Of the 12% who said productivity had fallen, 5% came from the implied decrease category and 6% from the ambiguous category, with just 1% from the implied increase category.

This means that just 16% of responses are inconsistent (=5+5+5+1). The remainder are either fully consistent or not inconsistent.

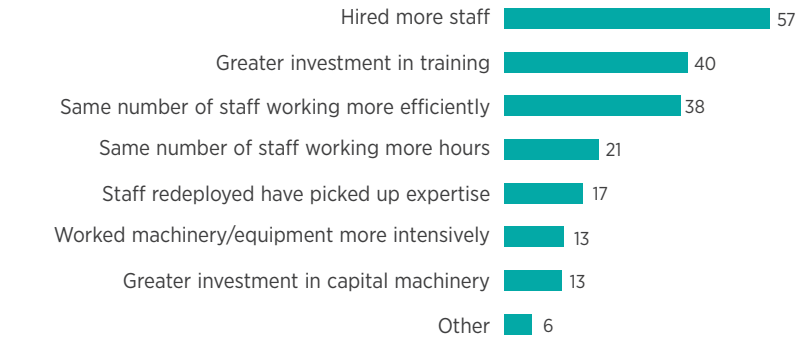
'The most common means of scaling up or back on inputs was to change the size of the workforce.'

Firms that had expanded or contracted inputs were asked how they did this (see Figure 13). The most common means of scaling up or back on inputs was to change the size of the workforce, mentioned by 57% of expanding businesses and 70% of contracting businesses. The second most common reaction was to invest more or less in training and some firms also varied working hours.

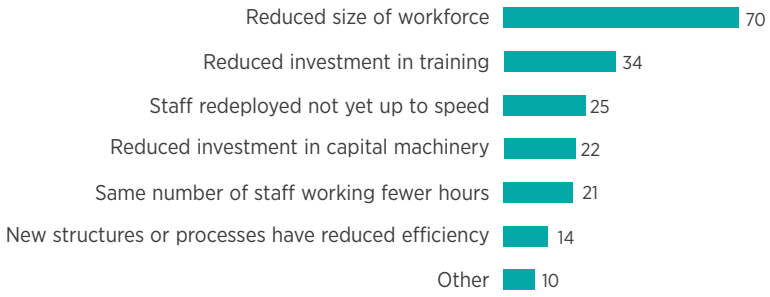
This is consistent with the ONS whole-economy data for the year to summer 2014 – productivity virtually static, but high employment growth. A quarter or less of businesses did anything to increase or improve their capital stock. And making more efficient use of staff – 'working smarter, not harder' – was mentioned by just 38% of firms where inputs had expanded, with 14% of firms where inputs had decreased placing the blame on working practices that had hampered efficiency.

Figure 13: Ways that firms expanded and contracted in the previous 12 months
(% of private sector respondents who had increased/decreased inputs)

'What specific inputs have increased?' (n=165)



'What specific inputs have decreased?' (n=88)



Respondents could select more than one method of contraction or expansion.

Source: CIPD *Labour Market Outlook*, summer 2014.

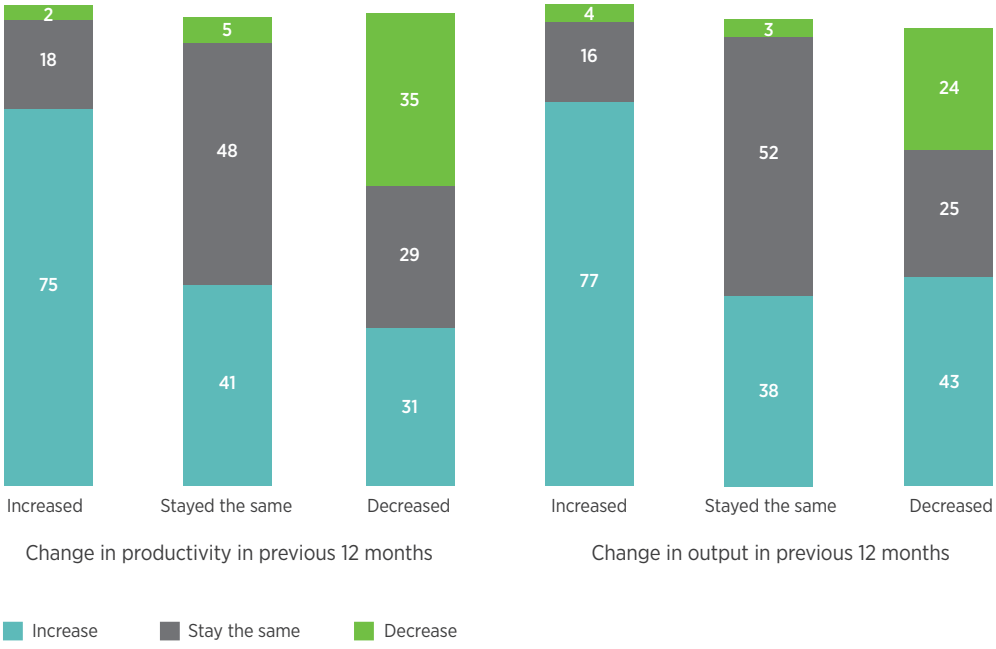
Expectations for the year ahead

The year to summer 2014 saw business confidence pick up as well as GDP. The favourable macroeconomic environment explains why 56% of firms expected to increase output in the year to summer 2015. However, over a third of firms had less confidence: 29% expected to stay the same and 7% thought they would produce less.

Expectations were conditioned by recent experience (see Figure 14). Over three-quarters of firms that had seen output or productivity increase in the past year thought output would grow again in the year ahead. And whereas hardly any of these growing firms expect contraction in the year ahead, 24% of firms whose output had fallen and 35% of firms where productivity had fallen in the previous year expect to produce less.

Figure 14: Growth expectations for the coming 12 months

(% of private sector organisations, n=468)



Totals do not add to 100% because 'don't know' responses not reported.

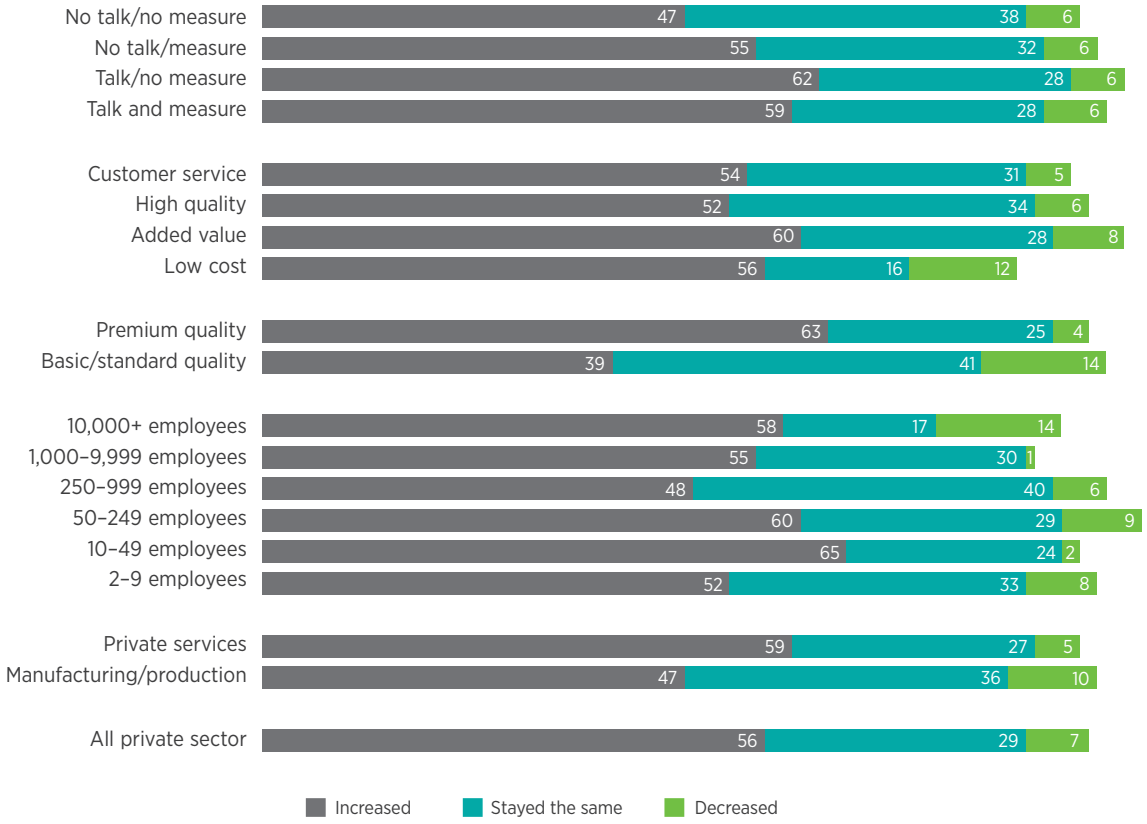
Source: CIPD *Labour Market Outlook*, summer 2014.

Service firms tend to be more optimistic about growth than manufacturing firms (see Figure 15). Having productivity measures also makes a smaller (positive) difference to growth expectations than it does to retrospective accounts of change in outputs and productivity. Again, 'premium quality' firms are more likely than their 'standard/basic quality' peers to be looking to grow.

Businesses expecting growth were asked how they thought this would be achieved (see Figure 16). Less than one sixth (15%) plan to invest in capital machinery, compared with 21% who plan to invest in training and 22% who intend to redeploy staff. A continued emphasis on the external labour market to meet demand pressures is evident, with 15% of businesses thinking they would increase the hours of existing staff and 46% expecting to increase the workforce.

Growing firms are, however, starting to think about increasing their efficiency. Whereas 38% of businesses that had grown in the previous 12 months said they had used their existing staff more efficiently (increasing their productivity), the proportion expecting to do this in the next 12 months is 55%. A greater emphasis on 'smart working' might be expected if firms expect the labour market to tighten, making additional recruitment more

Figure 15: Output growth expectations for the coming 12 months
(% of private sector organisations, n=468)



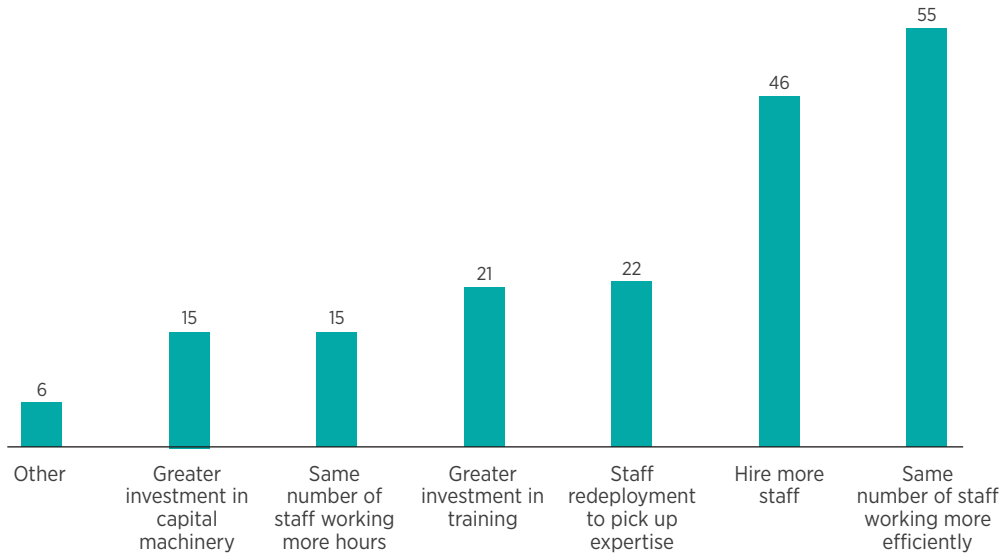
Totals do not add to 100% because 'don't know' responses are not reported.

Source: CIPD *Labour Market Outlook*, summer 2014.

expensive and/or risky. However, if this was the case, more investment in labour-saving technology (capital equipment) might also have been expected. Another possibility is optimism bias: some firms intend to introduce new working practices and then fail to do so (or find they are ineffective) and then have to resort to more recruitment and/or overtime. With the data we have it is not possible to say which of these hypotheses is more likely to apply.

Figure 16: Ways that firms expect to grow in the coming 12 months

(% of private sector organisations who expected output to increase, n=264)



Respondents could select more than one method.

Source: CIPD *Labour Market Outlook*, summer 2014.

4 Explaining variation between firms in productivity and business performance

Productivity varies significantly from firm to firm even within the same industry: the difference between high- and low-performers can be as much as two- or three-fold (Syverson 2011). Differences in the quality of inputs may be part of the explanation, but most of the difference is probably due to factors that cannot be bought and sold, such as managerial competence, organisational culture and the firm's approach to innovation (Fox and Smeets 2011). Competition does drive low-productivity firms out of business and firms do learn from each other, but these drivers towards convergence can take a long time to have an effect. In this section we look at the reasons why some firms think their productivity and performance are superior to their rivals.

Self-assessed business productivity

The LMO included a question designed to capture data on each organisation's (relative) productivity level: *'To the best of your knowledge, comparing your organisation with your peers and competitors within the UK, would you rate your productivity as … well above average, above average, average, below average, or well below average?'*

We let respondents decide who their peers and competitors were. We expect private sector firms to be thinking of the firms they compete against when answering this question, although some may also use firms they do not compete against as reference points (such as firms operating in other markets with similar

Box 4: Can you get honest results when the people providing the data are wearing rose-tinted spectacles?

Questions asking respondents to rate the performance of their organisation relative to an average or standard, and to say whether they are above or below it, have been used in business surveys for a long time. For example, the Workplace Employment Relations Study (WERS) surveys have included a question on financial performance relative to peers and competitors ever since the first survey in 1980, with similar questions being added on labour productivity in 1990 and product or service quality in 1998.

The distribution of answers to this type of question is usually skewed towards whatever end of the distribution is regarded as the 'better' outcome, with many more organisations performing above average than performing below average.

If we look at the question in WERS asking managers how they would rate labour productivity in their workplace relative to peers and competitors, we see this pattern in every single survey. In the latest survey, carried out in 2011, 53% of managers in workplaces with 25 or more employees thought their labour productivity was a little or a lot above average, while 42% thought their productivity was average and just 5% thought it was below average.

This pattern is not restricted to business data. Most employees rate their performance above the average for their workplace and most drivers think they are safer than the average driver.

Analysts have looked at these data extensively and, in some cases, they have been able to compare 'subjective' measures of business performance against 'objective' measures of the same variable obtained from financial records or other administrative data (Wall et al 2004, Forth and McNabb 2007). The picture is mixed but, in most cases, there was a degree of agreement between the sources. These data can provide useful insights if we are prepared to assume that people's relative assessment of their position is reasonably accurate. As long as businesses who rate themselves 'well above average' perform better on average than businesses who rate themselves 'above average', for example, then identifying which variables explain why some businesses are in one group and not in the other provides meaningful information about the drivers of business performance. To put it another way, data provided by people wearing rose-tinted spectacles are fine provided we are prepared to assume that everyone was wearing them when they completed the survey.

capabilities or business models). When there is little or no direct competition, which is the case for many public sector organisations, peer organisations (other local authorities or schools or hospitals) are more likely to be the reference point. To avoid the question appearing too daunting, we asked respondents to focus on the UK, although, in some industries, the competition may primarily be based overseas.

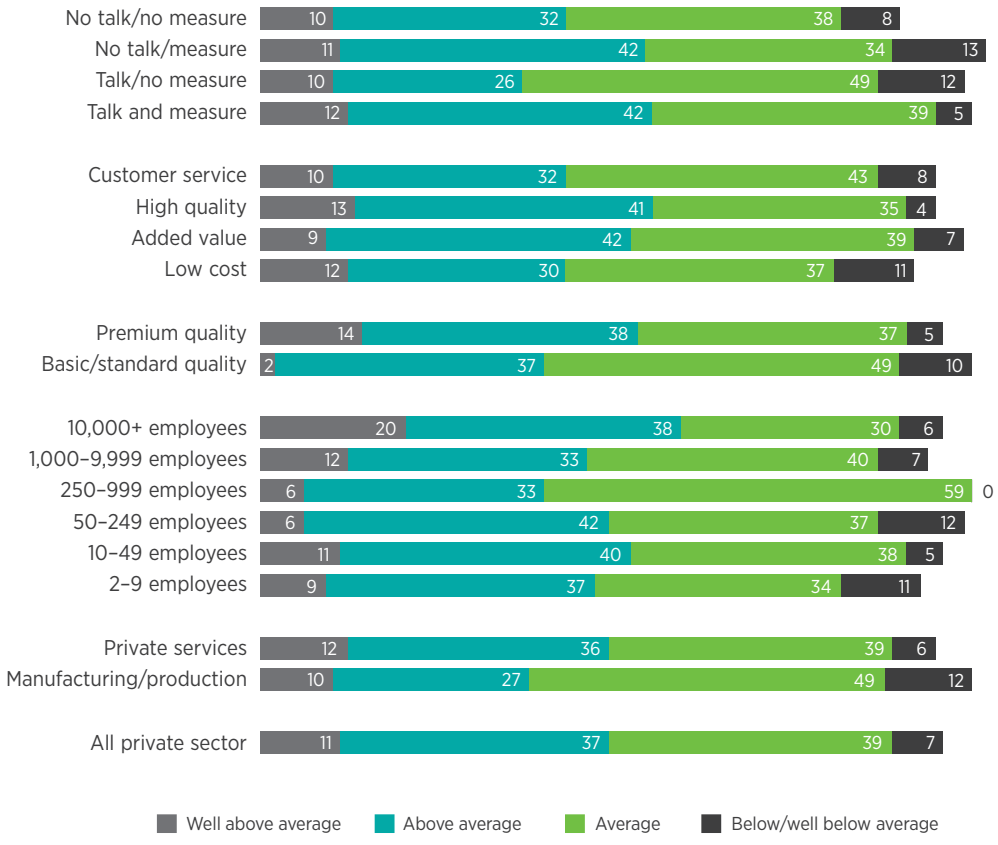
Questions like this – asking respondents to rate 'themselves' relative to a reference group – have been used for a long time in business and social surveys. A common feature of this type of question is that an implausibly high proportion of those responding rate themselves above average (if above equals 'good') and an implausibly low proportion rate themselves below average (if below equals 'bad'). The LMO was no exception. Almost half (48%) of private sector firms rated their productivity 'well above average' or 'above average' and just 7% rated their productivity 'below average' or 'well below average', with the proportion in the latter group so miniscule that we combined them with the 'below average' responses when reporting the results. This means we should not pay much attention to the absolute percentages in the above and below average groups. However, the reason why these questions continue to be used is that the *relative* position of businesses in the distribution provides useful information about the factors that make some firms perform better than others (see Box 4).

There are some systematic differences between types of firm in how they answered this question (see Figure 17).

Manufacturing firms are less likely to regard their productivity as above average than private service firms and are more likely to regard their productivity as average. One possible explanation is that manufacturing firms are usually competing with overseas firms in UK and export markets. They might have a more realistic view of their own performance because they are aware of what the very best global companies are capable of.

Figure 17: Self-assessed productivity relative to UK peers and competitors

(% of private sector organisations, n=468)



Totals do not add to 100% because 'don't know' responses are not reported.

Source: CIPD *Labour Market Outlook*, summer 2014.

Firms with 10,000+ employees are more likely than smaller firms to describe themselves as above average (and well above average), whereas firms in the 250–999 employee size band are least likely to rate themselves above average.

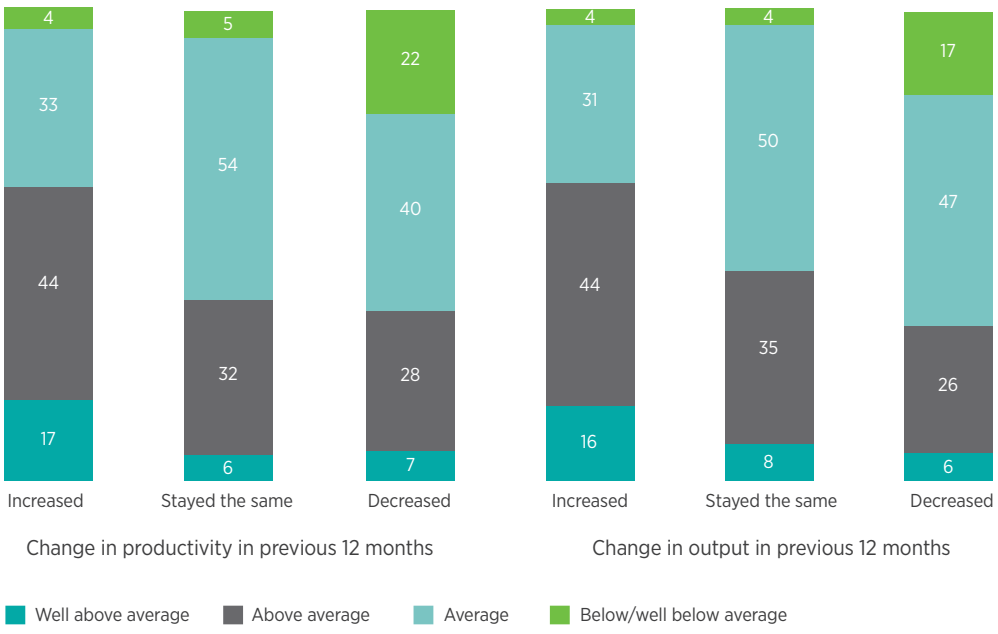
Competitive positioning appears to make a difference, with 39% of 'standard/basic quality' firms rating themselves above average compared with 52% of 'premium quality' firms. Our other strategy measure shows less variation, although 'added value' and 'high quality' firms are more positive about their productivity than 'low cost' or 'customer service' firms.

Firms that say they measure productivity are more likely to rate themselves above average than those that do not measure productivity, regardless of whether or not productivity is talked about within the organisation.

There is also a positive association between how firms rate their productivity and their perception of recent changes in output and productivity (see Figure 18). Firms where output had grown in the preceding year are more likely to say their productivity is better than average than firms where output or productivity had not increased. Similarly, the proportion of firms who think their productivity is below average is considerably higher in firms that had seen output or productivity fall in the preceding year.

The LMO also collected data on recent training activity including trends in expenditure, the proportion of the workforce who had received job-related training in the previous 12 months and whether firms used programmes to develop skills among potential employees, such as apprenticeships. There is a clear positive correlation between training and productivity. Firms that had increased their training expenditure and firms that had trained all (or nearly all) of their

Figure 18: Self-assessed productivity, by change in productivity and output in the previous year
(% of private sector organisations, n=468)

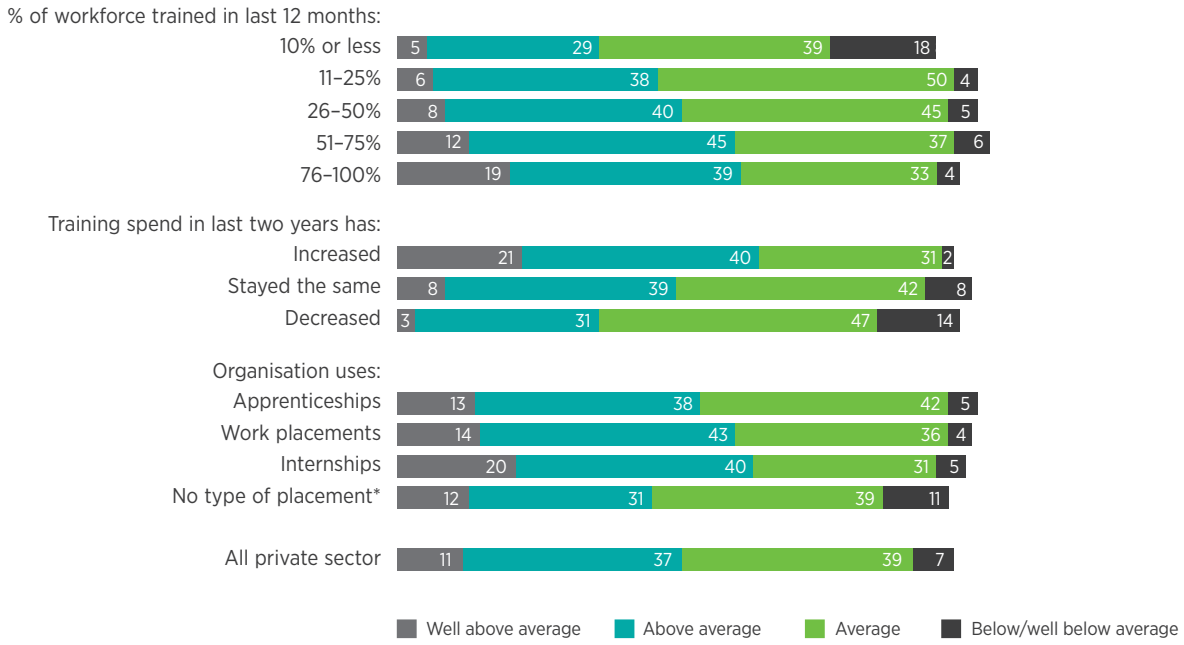


Totals do not add to 100% because 'don't know' responses not reported.

Source: CIPD *Labour Market Outlook*, summer 2014.

Figure 19: Self-assessed productivity, by training activity

(% of private sector organisations, n=468)



* Organisations that did not offer apprenticeships, work placements, internships or 'other' placements (the latter were too small a number to be reported separately).

Totals do not add to 100% because 'don't know' responses are not reported.

Source: CIPD *Labour Market Outlook*, summer 2014.

workers are much more likely than others to rate their productivity 'well above average'. Falling training spend or a workforce where few had received training recently are much more common among firms rating themselves below average (see Figure 19).

We also found that firms are a little more likely to regard their productivity as 'above average' or 'well above average' if they employ migrant workers. Whereas 46% of firms who did not employ any migrants place themselves in these categories, the proportion rises to 50% for firms that employ A8 migrants (those from the countries in Eastern Europe that joined the EU in 2004) and 54% for firms employing non-EU migrants and firms employing migrants from the EU15 (countries primarily in Western Europe that were EU member states before 2004).

This would imply a positive correlation between employment of migrants and relative productivity. However, there is also a positive correlation between employment of migrants and size of firm (large firms are more likely to employ any migrants) and, as we saw above, large firms are also more likely to say their productivity is above average. So it is possible that employment of migrants has no independent effect on productivity once we account for size of firm (indeed, this turns out to be the case). We therefore estimated two multivariate models to provide a more rigorous *statistical* explanation of the variation in productivity between firms – one for productivity relative to peers and competitors and one for the change in productivity in the previous 12 months (see Table 4). Full details of the models can be found in Appendix 2.

Table 4 highlights the variables that had a statistically significant association with productivity (relative to other firms or over the past 12 months) and whether this is positive (associated with

Table 4: Multivariate analysis of LMO productivity data

	Productivity relative to UK peers and competitors	Change in productivity in previous 12 months
Variables included in the analysis:	**Variables with a statistically significant effect:**	**Variables with a statistically significant effect:**
Whether productivity is a term used in organisation		
Whether productivity measured		Productivity not measured [-ve]
Competitive positioning	Standard/basic quality [-ve]	Standard/basic quality [-ve]
Industry		
Size of firm	50–249 employees [-ve]	10,000+ employees [+ve]
Training activity and use of placements	% of workforce trained in past 12 months [+ve] Training spend steady or had fallen in past 2 years [-ve] Use of apprenticeships [-ve] Use of work placements [+ve]	76–100% of workforce trained in past 12 months [+ve] Training spend had fallen in past 2 years [-ve] Use of work placements [-ve]
Employment of migrants		
Growth of business over past 12 months	Clear relationship [+ve]	Output had fallen [-ve]

higher productivity) or negative. These are statistical explanations of which variables account for the dispersion of productivity across firms. Causation cannot be inferred from this model. Even where we find no statistically significant results, this does not mean there is no effect on productivity. It may be that a bigger sample or more accurately measured data would produce different results.

The results confirm that productivity is in practice affected by short-term business conditions. Firms that had seen output increase tended to have higher productivity than firms who were cutting back.

We also see a strong and positive relationship between training and productivity, whether it is measured by the percentage of the workforce to have received training in the last 12 months or by recent trends in training spend. The results for use of apprenticeships and work placements (a negative effect for apprenticeships, a positive one for work placements – although negative on productivity growth!) are more puzzling and we do not have a straightforward explanation for these results.[6]

We tested our two classifications of competitive positioning against each other and found that the 'standard/basic quality'/'premium quality' dichotomy best helped to explain these data, with 'premium quality' firms tending to have higher productivity.

The data also suggest that firm size is related to productivity, although not in a straightforward way. There is a (relatively weak) effect where firms with 50–249 employees tend to have lower relative productivity and a much stronger effect where firms with 10,000+ employees are more likely to have reported a productivity increase in the past year.

Once other variables are accounted for, whether or not 'productivity' is a term used widely within a business has no effect on the firm's productivity performance. Firms that didn't measure productivity tended to have a worse productivity performance in the previous 12 months. However, in statistical terms, this relationship is relatively weak. In addition, given the very wide variety of data collected under this heading, this result may be capturing a more general effect – that firms without performance measures are unlikely to be well managed.

Agility, organisational culture and self-assessed business performance

Respondents to the HR agility survey were asked: *'How well is your organisation performing relative to your competitors?'* Unlike the LMO, there is no specific reference to productivity, but it seems that most LMO respondents were, in any case, basing their answers on a broader notion of organisational performance.

The distribution of responses is similar to the LMO, with 41% of firms rating themselves 'ahead' or 'significantly ahead' of the competition, 46% saying they are 'holding steady' and just 10% saying they are behind or significantly behind the competition (see Figure 20). For reporting purposes we have combined the 'behind' categories because the proportion saying they are 'significantly behind' is extremely small.

Small firms are less likely than large firms to rate themselves ahead of the competition, although firms with 250+ employees are more likely to say they are ahead of the competition and more likely to say they are behind the competition.

Firms that have a 'dynamic' culture are more likely than other firms to say they are ahead of the competition. A more powerful differentiator, however, appears to be whether or not the firm is content with its current culture: those thinking they will need to change their culture in the next five years are far less likely to think of themselves as ahead of the competition.

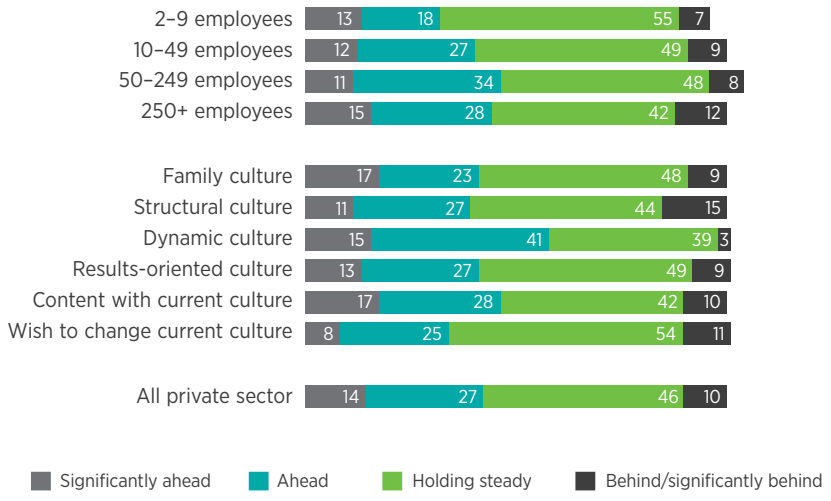
The survey also asked organisations whether they used any of a long list of 'agile working practices', which covered use of atypical work, flexible resourcing options, flexible working patterns, skills flexibility options, 'smart working' practices and flexible workplace design practices. In many cases, there is little difference in the distribution of performance ratings between firms using a particular practice and the private sector average (see Figure 21, which measures the *difference* in the percentage of firms rating themselves ahead or significantly ahead of the competition). The practices with the highest positive scores are use of apprentices, trainees or similar work placements, non-hierarchical structures, use of technology to share knowledge internally and use of remote or mobile working. In contrast, the practices with the largest negative scores are bidding for tasks, output-only contracts, external work hubs or co-locating with other organisations, short-hours contracts, annualised hours contracts and quality circles.

A more powerful influence on how firms judge their performance is their assessment of how well they respond to change – their agility. Firms that say they respond more quickly or more effectively to change than their competitors are much more likely to rate their overall performance favourably than firms that say their response can only match – or even falls behind – their competitors.

This suggests agile working practices could have an effect on business performance in two ways. One is a direct effect on performance through increased productivity (note that many of the agile working practices listed in Figure 21 could be regarded as high-performance working practices). The second effect is indirect and comes through improved responsiveness to change.

Figure 20: Self-assessed performance relative to competitors

(% of private sector organisations, n=388)

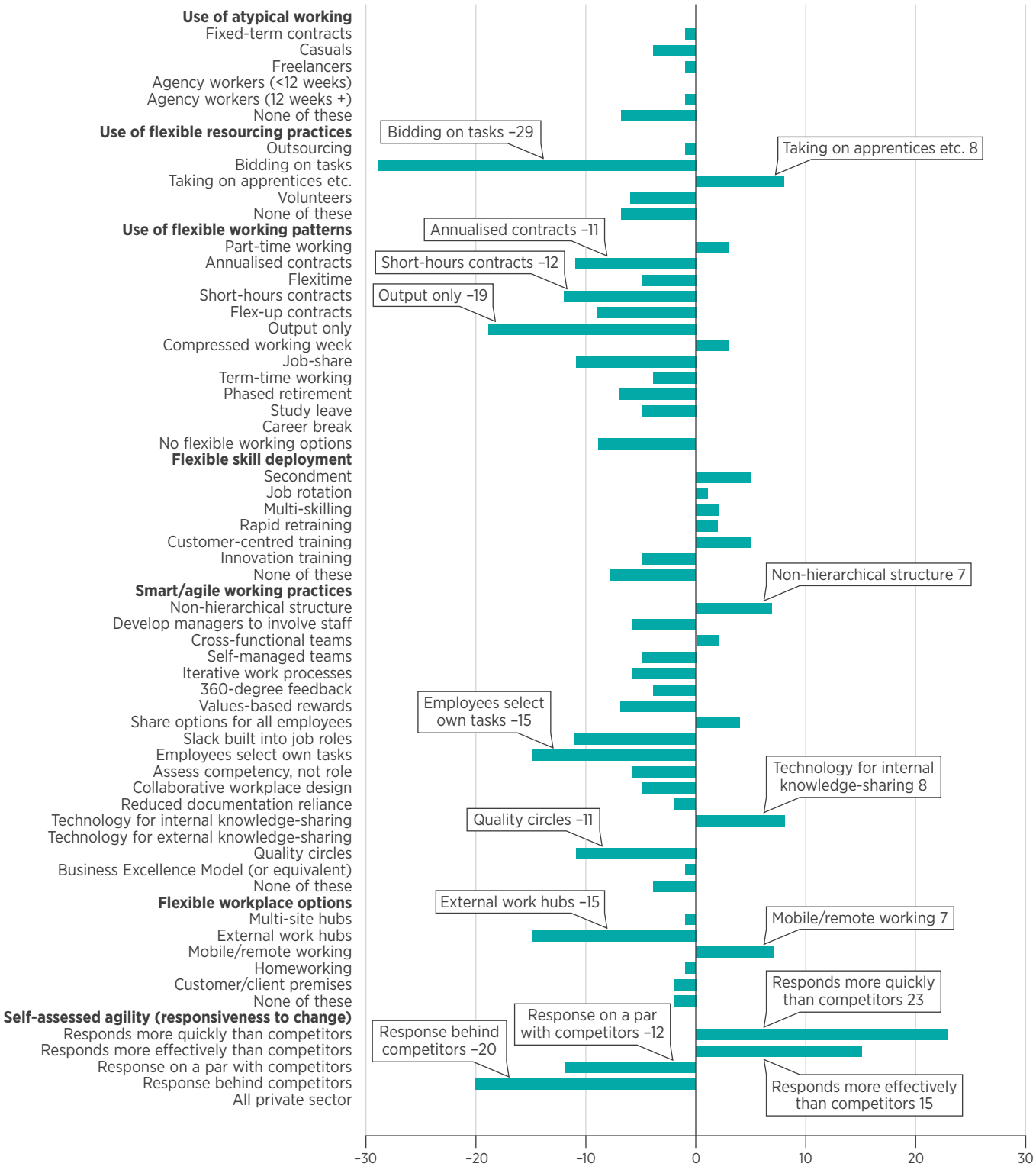


Totals do not add to 100% because 'don't know' responses are not reported.

Source: HR agility survey, summer 2014.

Figure 21: Self-assessed performance, by agile working practices

(*difference* in % of private sector organisations who said they were 'ahead'/'significantly ahead' of their competitors from the private sector average (41%), n=388)



Source: HR agility survey, summer 2014.

This guided our approach to multivariate analysis of these data. As well as a model explaining variation in business performance, we also estimated two models explaining variation in agility (whether or not the *speed* and *effectiveness* of response to change were ahead of competitors) to capture this indirect effect (see Table 5). Full details of the models are set out in Appendix 2.

Table 5: Multivariate analysis of HR agility survey data

	Whether speed of response ahead of competitors	Whether effectiveness of response ahead of competitors	Performance relative to competitors
Variables included in the analysis:	**Variables with a statistically significant effect:**	**Variables with a statistically significant effect:**	**Variables with a statistically significant effect:**
Agility			Speed of response [+ve] Effectiveness of response [+ve]
Whether 'agility' a term used in organisation		Not used [-ve]	Not used [-ve]
Size of firm	50–249 employees [-ve]		1,000+ employees [+ve]
Culture	Dynamic [+ve]	Wishes to change culture/ don't know if wishes to change culture [-ve]	Wishes to change culture [-ve]
Use of atypical work	Agency workers for up to 12 weeks [+ve]		
Use of flexible resourcing practices	Outsourcing [-ve]		Use of apprenticeships, trainees, etc. [+ve] Bidding on tasks [-ve]
Use of flexible working patterns	Flex-up contracts [+ve] Output-based working [+ve] Term-time working [+ve] Career breaks [+ve] Short-hours contracts [-ve] Job-share [-ve] Study leave [-ve]	Term-time working [+ve] Annualised hours [-ve]	Flexitime [-ve] Flex-up contracts [-ve] Job-share [-ve] Phased retirement [-ve]
Policy on flexible working			Flexible working arrangements reflected in contracts [-ve] Flexible working agreed informally with line manager [-ve]
Use of skill deployment practices	Job rotation [+ve]	Secondment [+ve] Customer-centred training [+ve]	
Use of smart/agile working practices	Workplace design for collaboration [+ve] Business Excellence Model or equivalent [+ve] Shares for all employees [-ve] 'Slack' in employee roles [-ve] Employees select tasks within project [-ve]	Technology to encourage internal knowledge-sharing [+ve] Iterative work processes [-ve] 360-degree feedback [-ve]	Technology to encourage internal knowledge-sharing [+ve] 360-degree feedback [+ve] Leadership development to encourage staff involvement [-ve] Technology to invite ideas from outside [-ve] Quality circles [-ve] Iterative work processes [-ve] Assessing tasks by competency, not role [-ve]
Use of workplace flexibility practices	Working from car [+ve] Work-hub/co-working with other organisations [-ve]	Working from car [+ve]	Mobile/remote working [+ve] Multi-site work hubs [-ve] Homeworking [-ve] Working from car [-ve]

'Firms wishing to change their culture have lower effectiveness of response and lower performance than firms who see no need for change.'

The model results confirm that agility – responding to change more quickly or more effectively than competitors – has a direct positive association with a firm's ability to stay ahead of the competition more generally. In statistical terms, the model explaining speed of response to change fits the data better than the model explaining effectiveness of response to change, which suggests that the working practices covered in the HR agility survey have greater power in explaining rapid adjustment than effective adjustment (this also means that factors not covered in the models are more important in accounting for effectiveness of response).[7]

Unlike 'productivity', firms that do not use the term 'agility' are less likely to consider themselves effective in responding to change or in staying ahead of competitors.[8]

As with the LMO, there is evidence that large firms are more likely to say they are performing better than the competition.

Unsurprisingly, firms that describe their culture as 'dynamic' are more likely to say they respond to change quickly. However, none of the four cultural descriptors is associated with higher or lower business performance. What seems to matter is how well the prevailing culture meets the anticipated needs of the business. Firms wishing to change their culture have lower effectiveness of response and lower performance than firms who see no need for change.

Flexible working, management practices and self-assessed business performance

With two exceptions – training activity and employment of migrants – the LMO did not collect data on management practice. Yet the management practices in place – and how rigorously they are implemented – are important elements of business performance (Bloom et al 2011). The HR agility survey collected information on the use of many 'agile working practices' and the results show they do help to explain why some firms appear to perform better than others. In most cases, we can identify plausible explanations for the model results but it is important not to read too much into the results for individual working practices.[9]

There are a few significant correlations between agility/performance and the use of atypical working and flexible resource deployment options. Firms that use agency workers for short periods are more likely to say they react quickly to change. Outsourcing is associated with slower response to change. Use of apprenticeships, placements and internships are associated with better business performance. These placements may be sources of 'extra hands' when needed, but these particular results may also reflect a broader point – successful firms see the value in training the next generation of workers.

In contrast, the use of 'bidding for tasks' – inviting people outside the firm to bid for spare work when it is available – is associated with lower business performance. It is also a good illustration of the qualified nature of the conclusions we can draw from these results. Now it is quite possible that 'bidding for tasks' is an inefficient management practice that will drop out of fashion for good reasons. However, unlike other terms used in this survey, such as 'job-share' or 'multi-skilling', 'bidding for tasks' is not a well-understood and

familiar concept. Respondents who say their organisation uses this practice may not be thinking of the same thing. In addition, only 5% of firms say they use 'bidding for tasks'. Its novelty could mean that implementation is patchy. Furthermore, we have no information on *when* these practices began to be used, *why* they were chosen or *whether they are central to the firm's ways of working*, which means we cannot rule out the possibility of reverse causality. 'Bidding for tasks' might not be a cause of poor performance but a consequence of it – introduced in below-par firms in order to improve performance.

There are a number of statistically significant associations – negative as well as positive – between the use of flexible working practices and agility/performance. The use of flex-up contracts, for example, is associated with a more rapid response to change but with less effective business performance. While agility as a whole is correlated quite strongly with business performance, this result suggests there may be trade-offs in the use of individual business practices. Activating (or de-activating) people on flex-up contracts may give businesses the ability to change output quickly, but the uncertainty might be demotivating for some employees.

The use of job-share arrangements is associated with a negative impact on both speed of response and overall business performance. We note here that 25% of private sector respondents in the HR agility survey said they use job-shares (rising to 40% in firms with 250 or more employees). This widespread availability is consistent with results from other employer surveys (BIS 2014). However, take-up of job-share arrangements is far less common and, where they are used, it is typically for only a fraction of the workforce – insufficient, we think, to have a material impact on the performance of the business. We suspect these results are picking up some broader aspect of management style or organisational culture that is correlated with use of job-shares.

We think a similar explanation may account for the negative relationship between performance and flexitime (used by a third of firms and widespread across all size bands). Again, other sources suggest that many employees enjoy some flexibility in their working hours without being covered by a formal flexitime arrangement. Hence use of formal flexitime may be a signal of a bureaucratic approach to employee management that may no longer be fit for purpose in some firms. Alternatively, absence of flexitime could simply mean that firms find it easier to benefit from unpaid overtime.

Firms also answered a number of questions about their approach to flexible working and we found a negative impact on business performance when firms said flexible working arrangements were written into contracts and when flexible working arrangements were implemented informally in discussions with line managers. We think this is because the management of flexible working, again, reflects broader workplace culture and management–employee relations. Implementing flexible working through changes to employment contracts is a rigid and structured approach to employee management: while it safeguards arrangements for those given them, it is of little value to employees whose needs for flexibility may be occasional and variable. Equally, leaving the matter entirely to line managers may be indicative of a lightly managed organisation that is prepared to tolerate inconsistency (and possibly even capriciousness) on the part of managers. Arguably both are likely to be organisations where trust between employees, line managers and central/senior management (represented by HR) is low. In between these extremes, we have about 40% of firms that combine a degree of formality and consistency with a degree of management discretion and flexibility – these firms tend to perform better.

A small number of practices intended to increase workers' knowledge of different business areas (such as job rotation) are associated with speed or efficacy of response to change.

A much larger number of selected 'smart' or 'agile' working practices have positive or negative correlations with agility/performance. One of the largest such effects in quantitative (positive) terms is where firms use technology to share knowledge and encourage collaboration within the organisation. Given the increased emphasis in the practitioner literature on open innovation models, it is therefore surprising that using technology to invite participation and encourage knowledge-sharing with people outside the organisation has a (roughly offsetting) negative impact. However, less than an eighth of firms say they use technology to collaborate externally – and even fewer use it without also using technology for internal knowledge-sharing – so this result may be picking up something idiosyncratic about these particular firms.

We suspect the negative effect of 'leadership and management development to encourage staff involvement' on relative performance has a much simpler explanation – if a firm has to say they do this, it is a good sign that something is not right with relations between management and employees!

A number of practices associated with a more 'democratic', less hierarchical management style have mixed or negative effects on agility/performance, including 360-degree feedback, opening up share option schemes to all employees, allowing employees to decide themselves how to divide tasks within a project, and a focus on competence rather than role (or status) in assigning work and assessing performance. This may be because, whatever their benefits, these practices slow down decision-making. But it could also be because they are relatively new practices that have yet to bed down or because they have been introduced as a response to poor performance.

Finally, workplace flexibility practices can affect performance. When organisations operate from work hubs or premises with other organisations, this slows down their perceived speed of response. This could arise from a need to negotiate changes to requirements with co-located firms and/or third parties. About 10% of firms said some of their employees work from their car – it is unclear whether this is occasional use alongside other forms of working, or their main workplace – and this is associated with speed and efficacy of response but not with performance, where the effect is negative. A negative result was also found for homeworking alongside a positive one (of similar size) for mobile or remote working. We suspect this set of results is probably capturing variation in technological sophistication across companies. Mobile or remote working – the use of smartphones, remote log-in, videoconferencing and so on – will typically be used by homeworkers as well as by workers on the move. Indeed, five-sixths of firms that use mobile or remote working also use homeworking. The relatively small proportion of firms that have people working from home or in their car *without* the technology permitting mobile or remote working are probably laggards in their adoption of all forms of technology-related innovation.

To recap, then, the analyses summarised in this section provide evidence of factors that may systematically affect – for better or worse – the relative productivity and performance of individual businesses:

- recent performance and growth of the business
- organisation size
- market positioning
- organisational culture
- whether performance is measured and talked about within the firm
- training and development of employees
- use of management practices designed to improve agility and performance.

In the next section we will consider the implications of our analysis for businesses looking to improve their performance. We must remember that our analysis is necessarily partial: we did not have reliable and comprehensive data on all the internal and external factors likely to have an effect on business performance (it is arguable if any study can!). In particular, thinking about external factors, we had little data on the product markets in which firms were competing and the extent to which they were exposed to international competition. When it came to internal factors, we did not have data on performance management and reward systems. Quality of management, innovative activity and technological sophistication were not measured explicitly. Nor did we have any information on the employees in these firms (apart from whether they had been trained and whether any were migrants) or on the quality of relationships between management and employees. This means that potentially important undercurrents such as employee engagement and trust in senior management could not be considered explicitly. Some of our results could be capturing the impact of these broader factors rather than the impact of specific management practices or activities.

5 Implications for businesses seeking to improve their performance

In this section we consider what our analysis means for businesses looking to improve their performance.

Does it matter if few businesses understand what productivity means?

The LMO data showed that 'productivity' is not a widely used or understood term. A third of businesses didn't use the term at all when discussing how to improve the business. A third didn't measure productivity. When given a choice, almost a third of respondents picked a definition synonymous with output (and thus incomplete). One in 16 admitted they had no idea what 'productivity' meant. Even when firms said they had productivity measures, details were often sketchy and few had measures which were described with enough clarity to suggest they met the key requirements of a productivity measure: that it captures net, rather than gross, value and that it is expressed as a ratio where the denominator is time, labour or some other suitable measure.

Does this matter? Would the UK's productivity weakness be less severe – and easier to put right – if all businesses had a productivity crammer? The answer is yes and no. Businesses don't need to understand what the term means or how to measure it to be highly productive – but they do need to be doing three things very well:

- Our analysis showed no significant relationship between self-assessed productivity and whether the term 'productivity' was used in conversations about how to improve the business. In our view, what matters is *having those regular conversations about how to improve the business,* using them to involve and energise the entire workforce and then implementing the outcomes of those discussions with pace and vigour. Whether profits, sales, costs, productivity or some other term becomes the focus of those conversations is unlikely to make much difference provided that people within the company share a common understanding of its meaning.
- Our analysis suggested that firms that measured productivity were more likely to say their productivity had increased in the previous 12 months. It is, of course, possible that having measures – whatever their quality – simply gave firms a bit more confidence that they were on top of the issue and meant they felt more confident in being positive about how they were doing. Again, though, having productivity measures may not be very important unless a business chooses to place productivity at the centre of its conversations on how to improve the business – lack of data would then be a big problem. In our view, what matters here is having robust *measures of performance* that form part of an effective *performance management system* which is used to drive improvement.
- Measures on their own are of limited value without an *understanding of the business*

'The LMO data showed that "productivity" is not a widely used or understood term.'

processes that generate the data and the ability to relate performance measures to the efficient and effective working of the business. While the classic textbook definition of productivity may not strike a chord with many firms, efficiency and effectiveness are two closely related concepts with much greater currency in business.

'What would work in my business?' Putting our findings in context

Our analysis provides some suggested ways in which businesses might be able to improve their productivity – in the sense that it suggests (but can never prove) that a business not previously doing X (or doing X to a certain level) might have an increased probability of moving into a higher (relative) performance bracket if it decided to implement X (or practise X at a new, more intense or more sophisticated level) – all other things being equal and unaffected. This is as far as one can push analysis of this kind.

Any business contemplating change would then need to consider three important questions:

- How much *control* does the business have over what it is trying to change?
- Does it have the *capability* to make the change?
- What is the *contingency* (goodness of fit) with everything else it is doing?

For example, our analysis suggests that firms that have seen their output grow recently tend to say they have higher relative productivity. To an extent this simply demonstrates that more productive firms are more successful. However, there are also good reasons why growing firms find it easier to raise their productivity: they are likely to be making more intensive use of fixed capital equipment and (semi-fixed) specialist personnel than firms with spare capacity and they are more likely to be generating enough surplus to invest in new equipment and workforce development (increasing future productivity and cementing a virtuous circle). A study of UK firms over the period 2001–10 confirms this two-way dynamic between high productivity and high-revenue growth (Du et al 2013). Yet, in most cases, a firm cannot decide unilaterally that it will become bigger and produce more without the risk of running into financial difficulties: it must find enough new customers prepared to pay a reasonable price for the goods or services in question and that depends in part on aggregate demand – something outside its control – and the behaviour of competitors, which may or may not be something it can influence.

Equally, our results suggest that large firms (those with thousands of employees) may enjoy some performance advantage over smaller firms. In some markets, the economies of scale and scope they enjoy must outweigh any disadvantages caused by the need to have bureaucratic decision-making procedures. But a firm with, say, 500 employees cannot become one with 5,000 employees just like that. Even if the owners had the means and willingness to shoulder the enormous financial risks arising from expansion on this scale, there are practical difficulties associated with organic growth (acquiring additional capital equipment, recruiting employees, finding new customers) as there are with growth through mergers and acquisitions (establishing a fair price, managing the integration of diverse business models and cultures).

It may, nevertheless, be the case that *growth-oriented firms* are in a better position to take opportunities to increase their productivity than firms content to maintain their current size and market position – and this is something within management's control. The pursuit of growth can, indeed, be a matter of survival, especially in fast-changing product markets. A study of large American companies found that firms whose average revenue growth over a cycle was less than average GDP growth were five times more likely to be acquired or go out of business than faster growing firms (Smit et al 2005).

Product or service delivery strategies based on *premium quality* (rather than standard or basic quality) are associated with higher productivity. So, for firms seeking to transform their competitive position, a shift to significantly higher levels of quality is one means of doing so. Equally, a strong focus on quality throughout the business is a means of continuous (often incremental) improvements that, over time, can add up to very significant changes in performance.

In some cases, this might require a process of evaluation and discovery in order to understand what 'quality' means to current and potential customers and employees. In other cases, the changes required may be readily understood and the question is whether the firm has the will, the means and the capability to make the investments in capital equipment, workforce development and marketing required to reposition the brand.

Our results also suggest that business leaders need to pay attention to *organisational culture*. Of the four cultural types given to firms in the HR agility survey, none of them is associated with a superior or inferior level of performance. What matters is whether or not managers think the prevailing culture is the right one for where the business will be in five years' time. Periodic reflection is needed about the culture of the business and its suitability for the challenges ahead. This will need to include the alignment of internal culture with external market positioning (something we could not test in this report because the variables on strategic positioning and internal culture were collected in different surveys). Businesses also need to be self-critical (Schein 2010). What are the unspoken assumptions and values underpinning life in the organisation? Do the conscious and unconscious actions of the organisation on a day-to-day basis reinforce or detract from the desired culture? What do visible symbols (artefacts) imply about the culture? What do employees and customers think?

Implications for investment and management practices

Our analysis also confirms that *investment in training* is associated with higher relative productivity, especially when this is both regular and widespread across the workforce.

Workforce training is typically a necessary condition for effective implementation of complementary investments in tangible assets (such as new machinery or ICT) or intangible assets (such as brand or new management practices). The analysis of the HR agility survey indicated that the *management practices in place within a business* are sometimes associated with differences in performance. While the introduction of a new management practice, such as internal knowledge-sharing, is clearly within the control of corporate leadership, this is an aspect of business improvement where the practical effect will be determined by the firm's implementation capability and whether or not it fits well with what is already in place. Our research did not measure how widely or how effectively any specific practice was implemented but this matters in terms of effect (indeed, our findings about the linkage between business performance and the implementation of flexible working patterns support this view). Nor did our analysis discover identifiable patterns in the ways that firms used these practices in combination with – or against – each other that enhanced or offset their overall impact on performance. Their use appears to have been primarily discrete and ad hoc.

The research literature on high-performance working, in contrast, suggests that their (positive) impact on performance is often increased when particular 'bundles' of practices are combined (CIPD 2014f). While the application of these practices depends on the organisational context (such as industry), the overall principle underlying the effectiveness of 'bundles' of practices is that, when combined, they represent a more coherent approach to people management. This in turn increases the likelihood that the approach becomes embedded within the organisation.

In other words, when considering different options for workplace change, managers occasionally need to take a step back and consider their combined effect as well as looking at each option in isolation – the cumulative impact may exceed (or fall short of) the sum of individual changes. Managers should also consider how the impact of workplace change can be reinforced when it is embedded in the organisation's culture and ways of working. Of course, as implied in the HR agility survey, it may sometimes be the prevailing culture and ways of working that need to change.

This approach, however, may require a level of knowledge and analytical skills that are likely to exceed many firms' capabilities. To help address this, the CIPD has joined forces with the UK Commission for Employment and Skills, the Chartered Management Institute and the Chartered Institute of Management Accountants in a major research programme (Valuing your Talent, CIPD 2014c) to explore existing good practice and disseminate learning and support for professional development among the HR, management and accountancy professions to improve capability within companies.

6 Implications for government

'Increasing productivity has been an explicit or implicit policy objective throughout the post-1945 period. Sometimes the link has been very explicit.'

In this final section we turn our attention to government policy and how it can help businesses improve their performance (and productivity).

We use the term 'government' throughout this section to refer to both the UK Government and relevant public authorities at any spatial level (for example, governments in Scotland, Wales and Northern Ireland, the Mayor's Office in London, Local Enterprise Partnerships, local authorities and so on).

Which government policies have an impact on productivity?

Increasing productivity has been an explicit or implicit policy objective throughout the post-1945 period. Sometimes the link has been very explicit. In 2007, the Labour Government put 'raise the productivity of the UK economy' at the top of its list of public service agreements – which entailed production of a delivery plan setting out how government would try to achieve its objective together with regular monitoring of progress. In contrast, the 1992–97 Conservative Government brigaded its efforts under the banner of competitiveness and the Coalition Government presented its efforts as part of a 'Plan for Growth' – yet there is much similarity in the policies covered by these different frameworks.

This is because all governments influence productivity through a very wide variety of decisions that they take about public spending and taxation, regulation, the provision of public goods and services and the goods and services that they purchase from the private sector (see Table 6).

How government can lead the public debate on productivity

In addition, governments make important – but often overlooked – contributions through the provision of economic data on productivity and its components and through the support they provide for public discussion about productivity and how to improve it. Support for public discussion can be direct or indirect (through funding academic research, for example) and productivity might not be its explicit focus. We agree with the CBI that better-quality, more comprehensive data needs to be produced on a regular basis. However, we do not agree with their recommendation that this task should be given to the Office for Budget Responsibility (CBI 2014). In our view, it does not fit easily with the OBR's current responsibilities and capabilities. As international comparisons are vital to making sense of the UK data, the OECD and leading research institutions – either in the UK or overseas – might be more suitable partners.

The data collected is now starting to increasingly reflect the role that so-called knowledge-based capital and investment in intangible assets (such as R&D, design, training, organisational change and software development) play in business innovation (Hulten 2013). Indeed, as we saw in Section 1, businesses now invest more in intangible assets than

Table 6: A framework for productivity policy in a modern economy

Broad policy objective	Examples of relevant UK policies*
Macroeconomic stability	Inflation targeting and forward guidance for monetary policy Stability of public finances
Improve quality of labour supply	Investment in primary, secondary and tertiary education Apprenticeships
Increase capital investment	Support through tax system for investment (such as tax allowances) Financial and non-financial support for inward investment
Improve infrastructure	Transport infrastructure (road, rail) Investment in energy supply network and renewable energy sources ICT infrastructure (including broadband coverage) Investment in innovation infrastructure (such as National Weights and Measures Laboratory)
Increase competition and efficiency of markets	Investigate anti-competitive markets and business practices Development of voluntary and mandatory (regulatory) standards for product quality and safety, health and safety at work Minimum labour standards (such as National Minimum Wage)
Encourage entrepreneurship and business growth	Finance for business start-ups and growth-oriented SMEs Reserved shares of public procurement for SMEs Business advice Financial and non-financial assistance to exporters
Encourage creativity and innovation	Public expenditure on scientific research R&D tax credits Targeted support for business R&D (such as Catapult Centres) Intellectual property legislation
Provision of public goods and public services	The productivity of the public sector counts towards UK productivity. An efficiently managed public sector should mean less need for taxation of private sector activity.

* Some of these policies have been devolved in Wales, Scotland and Northern Ireland.

they do in tangible assets. This makes it all the more troubling that many organisations seem to lack the capability to understand and quantify the value of critical intangible assets, such as human capital (CIPD 2014c). In part, this is because of a lack of expertise within businesses in the generation and analysis of data on human capital. However, it also reflects limited demand for this type of data from key stakeholders such as government, regulators and investors (CIPD 2015b).

In the CIPD's view, one way to address this would be for government to set voluntary human capital reporting standards for FTSE 350 organisations for a small set of agreed human capital measures, such as the overall cost of investment in the workforce, recruitment costs, total investment in training and development and employee engagement scores. This could provide the necessary stimulus for more organisations to report these data and for the development of increasingly robust and consistently defined metrics. Regular reporting of relevant metrics by a wide range of organisations should, over time, generate an evidence base capable of providing valuable insights into the links between investment in human capital and sustainable business performance.

In addition, government could lead by example and ensure that consistent human capital reporting becomes part of the annual reports of all public sector bodies.

Reliable and informative data is necessary for informed discussion about productivity, but it does not guarantee that any discussions take place or that discussions lead to economically or socially productive action. Government has an important role here in leading the discussion – sometimes from the front, sometimes behind the scenes – and it needs to be thoughtful and flexible in how it does this.

For example, during the 2000s, the DTI funded several sector competitiveness studies which included international benchmarking and detailed analysis of the possible explanations for differences in productivity and other performance measures between the UK and other countries. These studies were commissioned in order to support ongoing dialogue between the Government, industry and other stakeholders about what those sectors needed to do and how government might be able to support it (see, for example, DTI 2005). This approach might not have been suitable in other situations, such as an industry where firms had little experience of sharing information and working together to solve common problems, or an industry where firms only collaborated with government if there was the prospect of financial assistance.

If we add public sector procurement to the list in Table 6, every Whitehall department has some influence on UK productivity – leaving to one side the governments of Wales, Scotland, Northern Ireland and sub-national actors. This means that government needs to consider the co-ordination of its own decision-making and the arrangements in place to ensure policies are implemented in a consistent and mutually reinforcing way. In practice, a large share of the policies listed in Table 6 are the responsibilities of HM Treasury, the Department for Business, Innovation and Skills and the Department for Education and these policies fit easily within the economic focus of these departments. Decision-making can be more challenging in departments with a less obvious economic role: the impact of decisions on economic performance and productivity may not be recognised or regarded as secondary to other policy objectives.

There is no 'magic bullet' solution to the challenges that arise from the inherent complexity of government and the multiplicity of ways in which government influences productivity. Reorganisation of the machinery of government could help or hinder. Better co-ordination could be achieved through changes to decision-making processes or through the involvement of independent advisory bodies with a remit to consider the bigger picture. In Australia, for example, the Productivity Commission acts as a source of advice and external challenge.

There needs to be a stronger focus on workplace productivity

One area that appears to have suffered from fragmented responsibilities and a lack of co-ordination is productivity in the workplace. As we have seen, the management practices used within a business can have an impact on productivity. The quality of management and leadership in an organisation affects both its competitive positioning and its culture. Trust and engagement are necessary for businesses to get the best from their workers. Yet these issues have seldom been discussed in any depth in recent productivity, growth or innovation strategies. There is a need for better co-ordination between government departments and more dialogue with employers, professional bodies and unions to help make policy-making in this space become more strategic, while involving the key stakeholders whose networks can help disseminate evidence of what works and improve practice on the ground.

Adoption of high-performance working practices is not as widespread across the UK economy as appears to be the case in Germany, the Netherlands and the Nordic countries (CIPD 2014f). It is probably no accident that these countries have much stronger traditions of the public authorities, employers and employees working together to improve the quality of work and encourage workplace innovation. However, we also have to recognise that these countries differ from the UK in many ways and have long-established traditions of social dialogue and social partnership. This means that policies that work in those countries may not deliver the same results in a different institutional and cultural setting (Bishop 2015).

Nevertheless, we think there should be more debate around what we can learn from high-performance working models and how that learning could be used to build momentum around workplace productivity in the UK.

The vital role of public investment

Government spending makes some critical contributions to current and future productivity. In some areas, such as primary, secondary and tertiary education, the lion's share of UK expenditure is financed by government. In other areas, public spending strengthens the efforts of the private sector: for example, public expenditure on university research, collaborative research programmes and R&D tax credits facilitate a higher level of private sector investment in R&D (Becker 2014).

In the coming months, the Government will finalise its public expenditure plans for the financial years 2016–17 and

beyond, including allocations to each government department and to major budget headings. Further cuts will be required if the Government is to meet its fiscal policy objectives and this means that budgets are going to be under severe pressure.

In our view, the Government should give additional priority to those items of public spending that have a strong impact on productivity – including those where the impact may not be seen until well beyond the end of this parliament.

Building an economic infrastructure that will help businesses and learners adapt to future challenges

A lesson from innovation policy which we think applies to any attempt to help businesses raise their own productivity is that policies should not focus solely on the needs of individual businesses. A supportive 'ecosystem' is also needed.

One approach to developing this ecosystem is through the creation of industrial partnerships, which have been set up in eight sectors including aerospace, automotive, the creative industries and tunnelling.

The thinking behind this approach is that the bringing together in these partnerships of public funding for skills development and private funding from employers will enable employees at all levels to benefit from industry collaboration in strengthening their technical, management and leadership skills.

SMEs will also be supported in gaining access to industry standard skills development. But engaging with SMEs and supporting them to develop their people management capability will be challenging as most SMEs have never been involved in any government skills initiative and are not part of well-ordered supply chains or existing business networks.

An alternative – but not mutually exclusive – approach involves a stronger focus on building capability and strengthening networks at a local level in order to exploit agglomeration economics and the benefits of clustering (Mason and Nathan 2014).

Through financial support from the JPMorgan Chase Foundation, the CIPD is developing projects that will test different approaches to helping SMEs improve their people management capabilities (see Box 5).

Our analysis shows that work-related training is important. Policy-makers have been trying to make the UK's vocational education training system work as well as Germany's since Victorian times – indeed, before the creation of modern Germany in 1871. While our understanding of why systems differ and what makes them perform has improved, it is less clear if anyone has the blueprint for making the UK's system world class – especially when population ageing and technological change are likely to increase the importance of training and retraining throughout working life. In our *Manifesto for Work*, we call for a fundamental review of skills policy focused on these future challenges, which we think is likely to reinforce the importance of individuals taking charge of their career development (CIPD 2015c).

And while public investment in skills and the promotion of best practice techniques can help businesses move into higher-value market segments and thereby increase their productivity, this does rely on businesses having both the appetite and the capability to make effective use of better-qualified people and superior management techniques. In the past, this has not always been the case (Delbridge et al 2006,

Box 5: Support on the ground to raise capability in SMEs

In summer 2015 the CIPD will be launching an innovative 'incubator' programme, supported by the JPMorgan Chase Foundation, to run three HR business support pilots for SMEs in Hackney, Glasgow and Stoke-on-Trent. We aim to focus on SMEs of fewer than 50 employees, as they are unlikely to have a dedicated HR professional. The year-long pilots will provide support to SMEs by:

- directly supporting SMEs with their people issues
- unlocking demand for investing in people management capability
- providing easy access to high-quality support for SMEs and signposting services/opportunities
- inspiring SMEs to invest in and employ young people.

The pilots will also support the co-ordination of local partnerships and networks to provide people management support and services.

Keep and Mayhew 2014). Skills policy therefore needs to form part of a broader economic strategy that creates the conditions for upskilling as well as the means of achieving it.

In summary, then, our main recommendations to government are as follows:

- Give public spending that enhances current and future productivity high priority in the forthcoming Spending Review.
- Conduct a fundamental review of skills policy which is explicitly allied to a more inclusive industrial strategy, which in turn extends to large employment sectors such as the retail, care and hospitality sectors.
- Support the creation of voluntary human capital management reporting targets among FTSE 350 firms.
- Lead by example to ensure all public sector organisations report on their investment as a means of providing more insight into how the public sector invests in, manages and develops its people to improve resilience and drive value for service users.
- Improve the co-ordination of public policy and workplace issues, for example to increase the uptake of high-performance working practices.
- Encourage local skills 'ecosystems' to provide business support to enable SMEs to improve their people management and HR practices.
- Continue to invest in the creation of industrial partnerships which focus on supporting SMEs.

Appendix 1: Details of surveys

The fieldwork for both surveys was carried out by YouGov Plc using the bespoke YouGov online system administered to members of the YouGov Plc GB panel who have agreed to take part in surveys (in the case of the LMO, there is also an additional selection of CIPD members).

In both surveys the target respondents are responsible for HR within their organisation, which may or may not be their sole and primary function. The surveys were targeted towards senior business leaders or those at senior officer level and above.

Both surveys were also designed to be representative of the UK population of public and private sector organisations (with two or more employees) by size of employer and by sector once weighted. Unless stated otherwise, all results in this report are weighted.

Summer 2014 LMO

Fieldwork was conducted in June 2014. In total, respondents from 1,026 organisations responded to the main survey. Breakdowns of respondents by sector, size of employer and industry are provided in CIPD 2014d. One fifth (20%) of respondents said their HR responsibilities extended wider than just the UK.

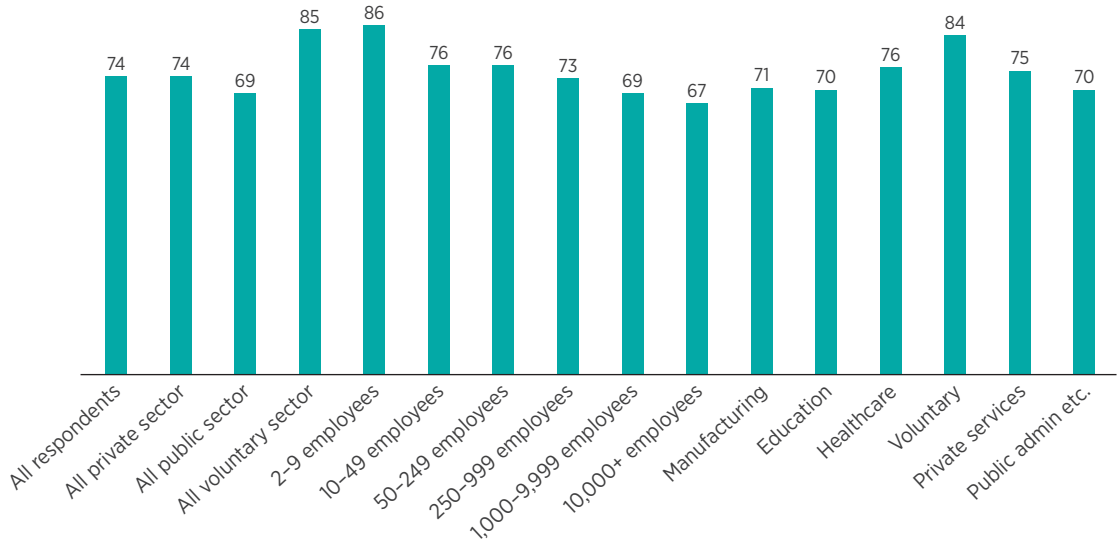
1,003 respondents were asked if they wished to complete the section focusing on productivity and 743 (74%) opted to do so. Figure A1 shows that the variation across the sample is not great. Voluntary sector respondents were more likely than others to answer these questions and those in the largest organisations/the public sector (often the same respondents) were a little less likely to answer this section but the differences are unlikely to mean that aggregated results from these questions are unreliable.

HR agility survey

Fieldwork was conducted in September 2014. In total, respondents from 633 organisations responded to the survey of HR leaders. Unlike the LMO, there were no optional sections. The profile of responses by sector and level of responsibility of respondent are reported in CIPD 2014e and are very similar to those for the LMO.

Figure A1: Response rates for the productivity focus questions

(% of respondents who agreed to answer the additional questions)



Data are unweighted.
Source: CIPD *Labour Market Outlook*, summer 2014.

Appendix 2: Details of multivariate modelling

Summer 2014 LMO

Ordered logit model explaining variation in productivity levels

Dependent variable: relative productivity [1 = 'well above average' to 5 = 'well below average'] – **a positive model coefficient implies a *negative* effect on [relative] productivity**

	Initial model			Streamlined model(a)		
	Coefficient	Standard error		Coefficient	Standard error	
Whether productivity a word used in your organisation [base = yes]						
No	0.123	0.253		0.126	0.239	
Don't know	1.010	0.866		0.837	0.801	
Whether measures of productivity used in your organisation [base = yes]						
No	0.392	0.254		0.287	0.242	
Don't know	0.003	0.615		0.182	0.585	
Basis of product/service strategy [base = premium quality]						
Standard/basic quality	**0.726**	**0.255**	***	**0.714**	**0.226**	***
Basis of strategy [base = low cost]						
Added value	–0.076	0.412				
High quality	0.596	0.443				
Customer service	0.140	0.420				
Other	–0.398	1.033				
Industry [base = agriculture, forestry, etc.]						
Manufacturing	0.222	1.086				
Construction	0.467	1.152				
Mining and extraction	–1.120	2.237				
Energy and water supply	1.852	1.392				
Primary and secondary schools	–0.447	1.274				
Further and higher education	0.010	1.294				
NHS	0.616	1.386				
Voluntary/not-for-profit	–0.306	1.100				
Hotels, catering and leisure	0.341	1.108				
IT	–0.440	1.208				
Transport and storage	–0.420	1.120				
Consultancy services	–0.163	1.157				
Finance, insurance and real estate	0.084	1.119				
Wholesale/motor trade	0.145	1.231				

	Initial model			Streamlined model(a)		
	Coefficient	Standard error		Coefficient	Standard error	
Other business services	–0.047	1.086				
Public administration – central government	**4.037**	**1.985**	**			
Information and communication	1.328	1.239				
Retail	–0.383	1.089				
Professional, scientific and technical	–0.483	1.148				
Administrative and support services	0.263	1.235				
Organisation size [base = 2–9 employees]						
10–49 employees	–0.022	0.334		–0.050	0.323	
50–249 employees	**0.844**	**0.387**	**	**0.693**	**0.360**	*
250–999 employees	0.492	0.380		0.331	0.344	
1,000–9,999 employees	0.429	0.424		0.324	0.364	
10,000+ employees	–0.267	0.440		–0.375	0.382	
Proportion of workforce trained in past 12 months [base = 10% or less]						
11–25%	**–0.607**	**0.368**	*	–0.512	0.349	
26–50%	–0.330	0.361		–0.262	0.399	
51–75%	–0.544	0.384		–0.593	0.365	
76–100%	**–1.072**	**0.347**	***	**–1.128**	**0.312**	***
Don't know	–0.200	0.620		–0.323	0.575	
Spend on training in past 2 years [base = increased]						
Stayed the same	**0.897**	**0.248**	***	**0.739**	**0.233**	***
Decreased	0.559	0.357		**0.583**	**0.338**	*
Don't know	0.927	0.578		0.752	0.540	
Organisation uses apprenticeships	**0.483**	**0.245**	**	**0.502**	**0.231**	**
Organisation uses work placements	–0.294	0.238		**–0.391**	**0.223**	*
Organisation uses internships	–0.399	0.297		–0.319	0.226	
Organisation uses other form of placement	0.488	0.406		0.354	0.375	
Organisation employs migrants from EU15	–0.271	0.372				
Organisation employs migrants from EU8	–0.051	0.297				
Organisation employs migrants from outside EU	0.038	0.299				
Growth of business over last 12 months [base = rapid growth]						
Steady growth	**0.753**	**0.399**	*	**0.759**	**0.379**	**
Holding steady	**1.541**	**0.415**	***	**1.556**	**0.395**	***
Steady decline	**2.768**	**0.530**	***	**2.749**	**0.510**	***
Rapid decline	**4.410**	**1.167**	***	**3.926**	**1.126**	***
N	431			432		
Likelihood ratio χ^2 test statistic	307.64 (53)		***	275.64 (26)		***
McFadden Pseudo R^2	0.259			0.232		

(a) Variables covering competitive positioning (four-way classification), industry and employment of migrants were dropped as each failed a likelihood ratio test of joint significance.

* = significant at 10% level ** = significant at 5% level *** = significant at 1% level

Base: Private sector respondents who answered the productivity focus questions excluding 'don't know' responses to the questions on relative productivity and standard/basic versus premium quality.

Ordered logit model explaining variation in productivity growth

Dependent variable: change in level of productivity in last 12 months [1 = increased, 2 = stayed the same, 3 = decreased] – **a positive model coefficient implies a *negative* effect on growth productivity**

	Initial model			Streamlined model(a)		
	Coefficient	Standard error		Coefficient	Standard error	
Whether productivity a word used in your organisation [base = yes]						
No	**0.462**	**0.271**	*	0.495	0.250	**
Don't know	–13.859	653.168				
Whether measures of productivity used in your organisation [base = yes]						
No	**0.522**	**0.268**	*	**0.529**	**0.251**	**
Don't know	0.431	0.655		0.594	0.613	***
Basis of product/service strategy [base=premium quality]						
Standard/basic quality	**1.087**	**2.800**	***	**0.808**	**0.237**	***
Basis of strategy [base = low cost]						
Added value	–0.127	0.456				
High quality	0.324	0.485				
Customer service	0.437	0.461				
Other	–1.843	1.197				
Industry [base = agriculture, forestry, etc.]						
Manufacturing	–1.780	1.100				
Construction	–1.611	1.175				
Mining and extraction	–14.106	1400.715				
Energy and water supply	–1.724	1.513				
Primary and secondary schools	–1.585	1.394				
Further and higher education	–1.133	1.318				
NHS	–1.910	1.458				
Voluntary/not-for-profit	–1.823	1.126				
Hotels, catering and leisure	–1.903	1.134	*			
IT	–1.628	1.272				
Transport and storage	–2.920	1.169	**			
Consultancy services	–1.410	1.163				
Finance, insurance and real estate	–2.025	1.160	*			
Wholesale/motor trade	0.126	1.211				
Other business services	–1.325	1.113				
Public administration – central government	–16.532	1153.816				
Information and communication	–1.410	1.309				
Retail	–2.316	1.108	**			
Professional, scientific and technical	–1.284	1.188				
Administrative and support services	–1.412	1.241				

	Initial model			Streamlined model(a)		
	Coefficient	Standard error		Coefficient	Standard error	
Organisation size [base = 2–9 employees]						
10–49 employees	–0.392	0.358		–0.316	0.335	
50–249 employees	–0.326	0.419		–0.342	0.383	
250–999 employees	–0.493	0.400		–0.282	0.352	
1,000-9,999 employees	0.164	0.456		0.167	0.384	
10,000+ employees	**–1.216**	**0.548**	**	**–1.224**	**0.460**	***
Proportion of workforce trained in past 12 months [base = 10% or less]						
11–25%	–0.402	0.400		–0.133	0.370	
26–50%	–0.439	0.384		–0.388	0.353	
51–75%	–0.657	0.409		–0.543	0.387	
76–100%	**–0.848**	**0.366**	**	**–0.692**	**0.323**	**
Don't know	0.220	0.645		0.185	0.604	
Spend on training in past 2 years [base = increased]						
Stayed the same	0.180	0.280		0.229	0.259	
Decreased	**0.780**	**0.383**	**	**0.715**	**0.355**	**
Don't know	0.365	0.611		0.484	0.512	
Organisation uses apprenticeships	0.111	0.275		–0.022	0.255	
Organisation uses work placements	**0.846**	**0.270**		**0.753**	**0.251**	***
Organisation uses internships	–0.240	0.345		–0.069	0.313	
Organisation uses other form of placement	0.303	0.526		0.303	0.469	
Organisation employs migrants from EU15	0.466	0.348				
Organisation employs migrants from EU8	0.169	0.333				
Organisation employs migrants from outside EU	–0.320	0.348				
Growth of business over last 12 months [base = rapid growth]						
Steady growth	–0.649	0.437		–0.466	0.407	
Holding steady	0.516	0.438		0.657	0.407	
Steady decline	**1.528**	**0.550**	***	**1.577**	**0.518**	***
Rapid decline	–0.445	1.410		–0.395	1.349	
N	429			428		
Likelihood ratio χ^2 test statistic	284.06 (53)		***	234.86 (25)		***
McFadden Pseudo R^2	0.305			0.253		

(a) Variables covering competitive positioning (four-way classification), industry and employment of migrants were dropped as each failed a likelihood ratio test of joint significance.

* = significant at 10% level ** = significant at 5% level *** = significant at 1% level

Base: Private sector respondents who answered the productivity focus questions excluding 'don't know' responses to the questions on relative productivity and standard/basic versus premium quality.

HR agility survey

Logit models explaining variation in speed and effectiveness of response to change

Dependent variable: when facing change responds more quickly/more effectively than competitors [yes/no] – **a positive model coefficient implies a speedier/more effective response to change**

	Speed of response			Effectiveness of response		
	Coefficient	Standard error		Coefficient	Standard error	
Whether agility a word used in your organisation [base = yes]						
No	0.074	0.404		**–0.616**	**0.335**	*
Size of firm [base = 2–9 employees]						
10-49 employees	–0.732	0.532		0.373	0.430	
50-249 employees	**–1.064**	**0.631**	*	0.105	0.505	
250-999 employees	–0.409	0.636		-0.802	0.566	
1,000+ employees	–0.573	0.670		-0.461	0.575	
Organisational culture [base = family]						
Structural	–0.726	0.531		0.475	0.400	
Dynamic	**1.054**	**0.523**	**	0.577	0.451	
Results-oriented	–0.055	0.434		-0.071	0.357	
Whether organisation wishes to change culture in next 5 years [base = no]						
Yes	–0.246	0.380		**–0.493**	**0.299**	*
Don't know	0.534	0.599		**0.986**	**0.482**	**
Use of atypical work:						
Fixed-term contract employees	0.373	0.378		–0.038	0.301	
Casual workers	0.356	0.375		0.193	0.313	
Freelancers	–0.066	0.386		–0.376	0.334	
Agency workers for up to 12 weeks	**0.954**	**0.426**	**	–0.549	0.372	
Agency workers for 12 weeks or more	–0.248	0.582		–0.229	0.452	
Use of flexible resourcing practices:						
Outsourcing	**–0.691**	**0.399**	*	–0.45	0.342	
Bidding for tasks	–0.215	0.869		–0.637	0.687	
Apprentices/trainees/interns	0.254	0.378		0.113	0.291	
Volunteers	–0.526	0.700		0.857	0.605	
Other	0.120	1.200		0.251	0.690	
Use of flexible working patterns:						
Part-time working	–0.200	0.391		–0.113	0.335	
Annualised hours contracts	–0.964	0.752		**–1.059**	**0.538**	**
Flexitime	0.316	0.405		–0.015	0.334	
Short-hours contracts	**–1.436**	**0.542**	***	0.342	0.392	
Flex-up contracts	**1.829**	**0.533**	***	0.361	0.408	
Output-based working	**1.275**	**0.763**	*	–0.289	0.689	
Compressed working week	–0.303	0.587		0.198	0.466	
Job-share	**–1.814**	**0.554**	***	0.170	0.417	
Term-time working	**1.038**	**0.576**	*	**0.719**	**0.474**	*
Phased retirement	0.253	0.511		0.421	0.397	

	Speed of response			Effectiveness of response		
	Coefficient	Standard error		Coefficient	Standard error	
Study leave	**–1.082**	**0.435**	**	0.002	0.373	
Career break	**1.117**	**0.512**	**	–0.501	0.464	
Other	0.746	0.792		–0.347	0.865	
Policy on flexible working:						
Flexible work offered to all	–0.215	0.362		0.246	0.281	
Flexible working considered only when request received	0.181	0.386		–0.299	0.316	
Flexible working arrangements reflected in contracts	–0.036	0.379		0.250	0.299	
Flexible working agreed informally with line manager	0.206	0.337		–0.262	0.293	
Use of flexible skills deployment practices:						
Secondment	0.113	0.505		**0.921**	**0.412**	**
Job rotation	**0.849**	**0.410**	**	0.070	0.347	
Multi-skilling	0.164	0.353		0.344	0.303	
Rapid retraining	0.594	0.431		–0.497	0.379	
Customer-centred training	–0.293	0.474		**0.658**	**0.358**	*
Innovation training	0.180	0.455		0.206	0.362	
Other	0.901	0.902		0.242	0.822	
Use of 'smart'/'agile' working practices:						
Non-hierarchical structures	0.080	0.577		0.246	0.281	
Leadership capability that encourages staff involvement	–0.227	0.420		0.141	0.331	
Cross-functional working teams	–0.256	0.408		–0.013	0.341	
Self-managing teams	0.013	0.456		0.013	0.425	
Iterative work processes (such as sprints)	0.800	0.650		**–1.058**	**0.639**	*
360 feedback	–0.243	0.469		**–0.751**	**0.395**	**
Values-based rewards	0.601	0.477		–0.028	0.415	
Share options for all employees	**–2.192**	**0.767**	***	0.614	0.487	
Slack built in job roles for experimentation	**–2.604**	**0.901**	***	–0.107	0.601	
Employees select own tasks within defined project	**–1.325**	**0.596**	**	–0.500	0.522	
Assigning tasks and assessing performance by competency	0.264	0.402		0.564	0.357	
Workplace design to encourage collaboration	**0.955**	**0.489**	*	–0.031	0.405	
Reduced document reliance	0.573	0.524		0.156	0.432	
Use of technology to encourage knowledge-sharing within organisation	–0.437	0.397		**0.644**	**0.312**	**
Technology to invite ideas from outside organisation	0.786	0.509		0.358	0.464	
Quality circles	–0.024	0.561		–0.507	0.477	
Business Excellence Model or equivalent	**3.465**	**0.719**	***	–0.405	0.616	
Use of workplace flexibility practices:						
Multi-site working hubs, offered some/all employees	0.179	0.450		–0.410	0.373	
Work-hub/co-working with other organisations, offered some/all employees	**–1.930**	**0.589**	***	–0.070	0.403	
Mobile/remote working, offered some/all employees	0.234	0.486		–0.060	0.399	
Homeworking, offered some/all employees	–0.250	0.450		0.476	0.383	
Working in car, offered some/all employees	**0.949**	**0.424**	**	**0.611**	**0.347**	*
Working at client/customer, offered some/all employees	0.045	0.375		–0.303	0.318	
N	388			388		
Likelihood ratio X^2 test statistic	162.8 (67)		***	85.09 (67)		*
McFadden Pseudo R^2	0.319			0.157		

Base: Private sector respondents. * = significant at 10% level ** = significant at 5% level *** = significant at 1% level

Ordered logit model explaining variation in business performance

Dependent variable: how well is the firm performing relative to its competitors [1 = significantly behind, 2 = behind, 3 = holding steady, 4 = ahead, 5 = significantly ahead] – **a positive model coefficient implies a positive association with performance**

	Initial model			Streamlined model(a)		
	Coefficient	Standard error		Coefficient	Standard error	
Responds to change more speedily than competitors	**1.816**	**0.283**	***	**1.709**	**0.270**	***
Responds to change more effectively than competitors	**1.197**	**0.244**	***	**1.187**	**0.236**	***
Whether agility a word used in your organisation [base = yes]						
No	**–0.564**	**0.269**	**	**–0.614**	**0.255**	**
Size of firm [base = 2–9 employees]						
10–49 employees	0.018	0.211		0.000	0.375	
50–249 employees	0.217	0.241		0.285	0.415	
250–999 employees	0.125	0.264		0.279	0.413	
1,000+ employees	**0.796**	**0.260**	***	**1.560**	**0.419**	***
Organisational culture [base = family]						
Structural	0.112	0.337				
Dynamic	0.129	0.396				
Results-oriented	0.002	0.304				
Whether organisation wishes to change culture in next 5 years [base = no]						
Yes	**–0.643**	**0.243**	***	**–0.693**	**0.227**	***
Don't know	–0.513	0.438		–0.652	0.412	
Use of atypical work:						
Fixed-term contract employees	–0.101	0.249				
Casual workers	**–0.453**	**0.252**	*			
Freelancers	0.161	0.263				
Agency workers for up to 12 weeks	–0.221	0.292				
Agency workers for 12 weeks or more	0.173	0.366				
Use of flexible resourcing practices:						
Outsourcing	0.305	0.274		0.190	0.252	
Bidding for tasks	**–1.203**	**0.565**	**	**–1.174**	**0.549**	**
Apprentices/trainees/interns	**0.768**	**0.238**	***	**0.719**	**0.225**	***
Volunteers	0.034	0.493		–0.188	0.474	
Other	0.981	0.679		0.931	0.636	
Use of flexible working patterns:						
Part-time working	0.299	0.272		0.243	0.254	
Annualised hours contracts	–0.320	0.428		–0.502	0.394	
Flexitime	**–0.603**	**0.271**	**	**–0.562**	**0.263**	**
Short-hours contracts	–0.012	0.333		–0.153	0.315	
Flex-up contracts	**–0.920**	**0.350**	***	**–0.856**	**0.325**	***
Output-based working	–0.648	0.578		–0.740	0.565	
Compressed working week	0.385	0.375		0.379	0.345	
Job-share	**–0.660**	**0.366**	**	**–0.650**	**0.312**	**
Term-time working	0.005	0.344		0.119	0.314	

	Initial model			Streamlined model(a)		
	Coefficient	Standard error		Coefficient	Standard error	
Phased retirement	**–1.026**	**0.326**	***	**–0.969**	**0.317**	***
Study leave	–0.473	0.301		**–0.489**	**0.291**	*
Career break	0.315	0.343		0.256	0.322	
Other	0.499	0.615		0.493	0.592	
Policy on flexible working:						
Flexible work offered to all	0.159	0.133		0.326	0.225	
Flexible working considered only when request received	0.188	0.146		0.349	0.253	
Flexible working arrangements reflected in contracts	**–0.324**	**0.144**	**	**–0.616**	**0.229**	***
Flexible working agreed informally with line manager	**–0.325**	**0.132**	**	**–0.658**	**0.227**	***
Use of flexible skills deployment practices:						
Secondment	0.268	0.328				
Job rotation	–0.284	0.284				
Multi-skilling	**0.448**	**0.236**	*			
Rapid retraining	0.283	0.306				
Customer-centred training	0.075	0.300				
Innovation training	–0.425	0.310				
Other	0.130	0.667				
Use of 'smart'/'agile' working practices:						
Non-hierarchical structures	0.124	0.393		0.157	0.383	
Leadership capability that encourages staff involvement	**–0.715**	**0.279**	**	**–0.737**	**0.254**	***
Cross-functional working teams	0.150	0.284		0.156	0.266	
Self-managing teams	0.278	0.354		0.328	0.334	
Iterative work processes (such as sprints)	**–0.971**	**0.463**	**	**–0.995**	**0.446**	**
360 feedback	0.358	0.297		**0.461**	**0.268**	*
Values-based rewards	–0.114	0.352		–0.069	0.323	
Share options for all employees	–0.736	0.422	*	–0.506	0.383	
Slack built in job roles for experimentation	0.088	0.545		0.222	0.567	
Employees select own tasks within defined project	–0.055	0.419		–0.157	0.396	
Assigning tasks and assessing performance by competency	**–0.735**	**0.305**	**	**–0.631**	**0.291**	**
Workplace design to encourage collaboration	0.283	0.349		0.312	0.321	
Reduced document reliance	0.199	0.364		0.267	0.352	
Use of technology to encourage knowledge-sharing within organisation	**1.081**	**0.268**	***	**0.974**	**0.259**	***
Technology to invite ideas from outside organisation	**–0.955**	**0.370**	**	**–1.105**	**0.353**	***
Quality circles	0.283	0.349		**–0.674**	**0.312**	**
Business Excellence Model or equivalent	0.260	0.470		0.177	0.413	
Use of workplace flexibility practices:						
Multi-site working hubs, offered some/all employees	**–0.543**	**0.319**	*	**–0.690**	**0.297**	**
Work-hub/co-working with other organisations, offered some/all employees	0.127	0.350		0.225	0.333	
Mobile/remote working, offered some/all employees	**0.860**	**0.328**	***	**0.914**	**0.321**	***
Homeworking, offered some/all employees	**–0.918**	**0.317**	***	**–0.939**	**0.298**	***
Working in car, offered some/all employees	**–0.666**	**0.283**	**	**–0.564**	**0.273**	**
Working at client/customer, offered some/all employees	0.258	0.258		0.267	0.244	
N	372			372		
Likelihood ratio χ^2 test statistic	252.02 (69)		***	240.27 (54)		***
McFadden Pseudo R^2	0.222			0.211		

(a) Variables covering organisational culture, use of atypical work and use of flexible skills deployment practices were dropped as each failed a likelihood ratio test of joint significance.

Base: Private sector respondents. * = significant at 10% level ** = significant at 5% level *** = significant at 1% level

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Endnotes

[1] See http://www.ons.gov.uk/ons/guide-method/method-quality/specific/economy/productivity-measures/productivity-handbook/index.html

[2] Del Gatto et al (2011) present and appraise the current techniques in use.

[3] It is a very different picture in the public sector and the voluntary sector, where many more respondents expect L&D budgets to contract than expand.

[4] Before being asked whether their organisation measured productivity, all respondents were shown the following text, which provides a working definition of productivity: *'This quarter's Focus section looks at organisations' attempt to increase their productivity. Rather than focusing on the amount of goods or services an organisation produces (outputs), we are seeking to explore the ratio of inputs (labour, capital machinery) to outputs (amount of goods or services produced). Please consider this definition when answering the next set of questions.'* As the LMO is an online survey, we do not know whether all respondents read it carefully.

[5] We did analyse and code all the verbatim responses and a note setting out our analysis is available on request from the authors.

[6] We must also bear in mind there is a small probability that these results are spurious (this applies, of course, to any 'statistically significant' effect).

[7] Respondents tended to differentiate between speed and effectiveness of response. Just 23% of firms who said they responded more quickly than competitors also said they responded more effectively.

[8] Unlike the LMO, the HR agility survey did not test respondents' understanding of the term 'agility'.

[9] In particular, the HR agility survey did not collect data on industry. If some practices are particularly common or rare in certain industries and respondents in those industries are also more or less likely than average to rate their performance highly, the lack of industry controls could produce a spurious model result – we think this might explain the negative result for quality circles in the business performance model. In the modelling, we also tried replacing variables measuring the presence of individual agile working practices with variables measuring the number of agile working practices in place (a common procedure in the HRM practice-performance literature) but we found these produced inferior results.

[10] The LMO collected data on industry and the multivariate analysis found no important industry effects, but this could have been due to the small sample size.

[11] See https://www.gov.uk/industrial-partnerships-an-overview

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