MAKE uk
The Manufacturers' Organisation

PIECING TOGETHER THE PUZZLE

GETTING UK MANUFACTURING PRODUCTIVITY GROWTH BACK ON TREND

INTRODUCTION

The UK's productivity puzzle has been well discussed, with productivity growth flat lining since the financial crisis. While a slowdown has been experienced in other countries, in the UK it is more pronounced.

Our report in May 2018, *Unpacking the Puzzle (UTP)*, looked at the contribution from UK manufacturing to that decline and some of the factors that may have caused this. Historically the UK manufacturing sector has been a strong contributor to productivity growth across the economy with sub-sectors contributing positively year on year. However since the financial crisis productivity growth across sub-sectors has seen year on year fluctuations.

The good news is that manufacturers agree with government that there needs to be a focus on productivity as part of the industrial strategy with 84% saying in a recent survey that 'productivity should be the top priority of the industrial strategy'. However the right interventions are needed at the right time to address the challenge. In particular while other solutions to the productivity puzzle may be theoretical, manufacturing has a proven track record of achieving productivity growth. International benchmarking can also be used to indicate the size of the prize.

say in a recent survey that 'productivity should be the top priority of the industrial strategy'.

Piecing together the Puzzle, takes our previous report and updates the factors with new evidence, investigates the dynamic of foreign ownership on productivity performance and outlines solutions on how to get UK manufacturing productivity growth back on trend.

8 KEY POINTS ABOUT OUR RESEARCH

1. The factors that affect UK manufacturing productivity growth outlined in *UTP* (labour vs. capital use, company size, source of revenues and management practices) are all the right ones and have been reinforced with additional analysis in this report.
2. These factors are all linked, with management practices being a central part of the puzzle. Weak management practices contributes to underinvestment in capital equipment which in turn restricts size. Additionally weak management practices limits the efficiency of non-product related revenue streams (where these exist).
3. Ownership is also important, and is explored further in this report. Foreign owned manufacturing firms have higher levels of productivity compared to domestic firms. While this is the same as our comparator countries, in the UK the gap between the two is widening.
4. The dynamic of foreign ownership also reinforces the link between management practices and higher levels of productivity with foreign owned firms having higher scores for management practices and with it higher productivity levels.

UK owned and operated firms have weaker management practices than foreign owned ones for a number of reasons:

5. The reduction in the supply of finance since the financial crisis impacted on the capability to fund investments, denting the ability to undertake continuous improvement efforts. This would have been less of a problem for foreign owned firms who had ready access to internal funds.
6. Additionally UK managers may have been more risk averse, with surveys showing a low willingness to grow or a preference for stability over productivity improvement. This behaviour may have been further exacerbated by the financial crisis.

7. To fix this challenge requires an immediate focus on boosting levels of investment in productive capital across UK manufacturing, this can be achieved by reintroducing the Regional Growth Fund and tying this to productivity metrics alongside accelerated depreciation of assets over the Annual Investment Allowance threshold.
8. Alongside that will be the need for steady focus on improving management practices. This includes demand stimulation for management training through the mechanism of the Apprenticeship Levy and the creation of a Continuing Professional Development account scheme for individuals to incentivise management training in more functional areas such as financial management.

WHAT AFFECTS PRODUCTIVITY?

In our previous work we analysed five factors which affect productivity – namely capital investment, the use of labour, company size, source of revenues (referred to as complex business operations in *UTP*), and management practices.

In this new report we aim to explore these factors in more detail and to bring new evidence to explain the "productivity puzzle". The final section will look at some policy options to deal with the puzzle.

Capital vs labour

Capital investment and labour use are two sides of the same coin and that's why we have analysed them together.

There is wide recognition that investment is key to productivity growth. However, this should not be taken as silver bullet since several other factors need to be accounted for.

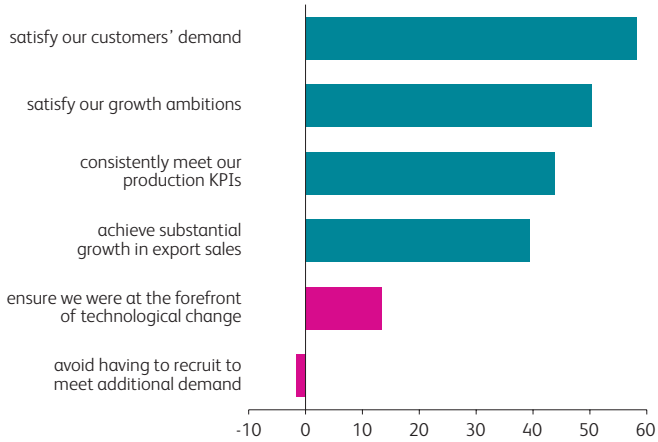
In *UTP* we outlined how the UK has invested less than other countries after the financial crisis and how companies relied more on labour rather than capital (chart 18 *UTP*). According to Eurostat, investment in machinery and equipment in the UK was equal to roughly 11% of sector GVA in 1997 and it plummeted to less than 6% in 2015. The proportion is well below the one reported for other European countries (chart 15 *UTP*) with manufacturing productive stock index trending downward since the peak registered in 2000 (chart 16 *UTP*).

Official data tell us a story of under-investment which dented productivity growth and to explore this topic further, we asked manufacturers in a recent survey to complete the following sentence:

"We are investing enough to…"

Chart 1: Companies' investment was enough to meet demand but not enough to avoid extra recruitment

% of companies who agree with the following statements starting with "We invested enough to …"



Source: EEF Investment Monitor 2018/19

Capital investment vs. labour	Company size	Source of revenues	Management practices
The UK manufacturing sector underinvests in capital compared internationally and has a higher share of labour use	On average UK manufacturing firms are half the size of those in Germany - except food and drink firms	Compared internationally UK manufacturing firms are more likely to derive a higher share of revenues from ancillary services	Some UK manufacturers do not adopt 'best in class' management practices
Investment culture is weak - a majority of firms don't invest to avoid recruitment or to be at the forefront of technological change	Strong correlation between size and productivity, but larger firms are also flat lining	Shape of UK manufacturing sub-sectors is slightly different for some sectors when looking at inputs as well	Almost a third of manufacturers (28%) don't measure productivity anywhere across their business Given the prevalence of services as a source of revenues, only 30% measure productivity in this space (note this excludes those who say measuring services was 'not applicable' for their business).

The results were quite revealing and even if the majority of companies reported having invested enough to satisfy demand and growth ambitions, they did not invest enough to avoid additional recruitment. This is clearly great for someone looking for a job, but it creates pressures for HR departments and increases problems for those already reporting lack of skills available on the market.

This also confirms once more that UK manufacturing companies are keener on using labour rather than capital. As our previous analysis (and many other non-EEF work) confirmed, a low level of investment is associated with low productivity and the behaviour of relying more on labour rather than machinery has clear consequences for competitiveness and long-term growth.

Moreover, only a slight majority said that they had invested enough to be at the forefront of technological change. This behaviour is possibly connected to the last factor we are going to analyse in this section: management practices.

Company size

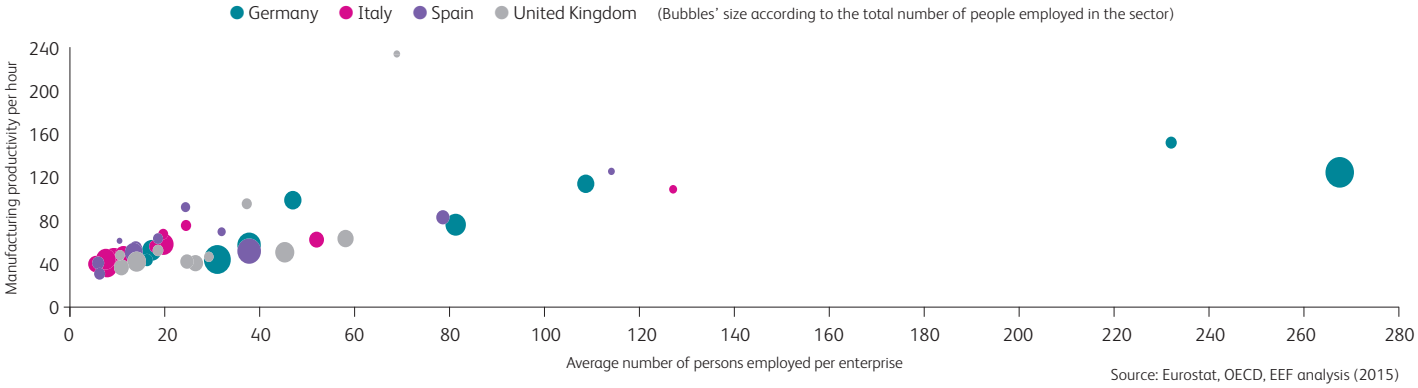
Another factor analysed in *UTP* was company size. What we illustrated in the first report was that, on average, UK manufacturing companies are smaller than German counterparts (chart 26 *UTP*).

As in the entire first report, when possible, firm sizes were not only analysed for total manufacturing, but also by sub-sector. The difference in size is significant for sub-sectors such as motor vehicles, where we also know that the UK has a productivity gap against Germany. In 2015, the average German automotive company employed 329 workers compared to 54 employees in UK firms.

The difference in size, even if not to the same extent, was also recorded in the other sub-sectors part of our research. The only exception was food and drink, a sector where UK companies are larger than EU counterparts. This sector also compares well internationally in terms of productivity, hinting at a connection between size and productivity which we explore further in this report.

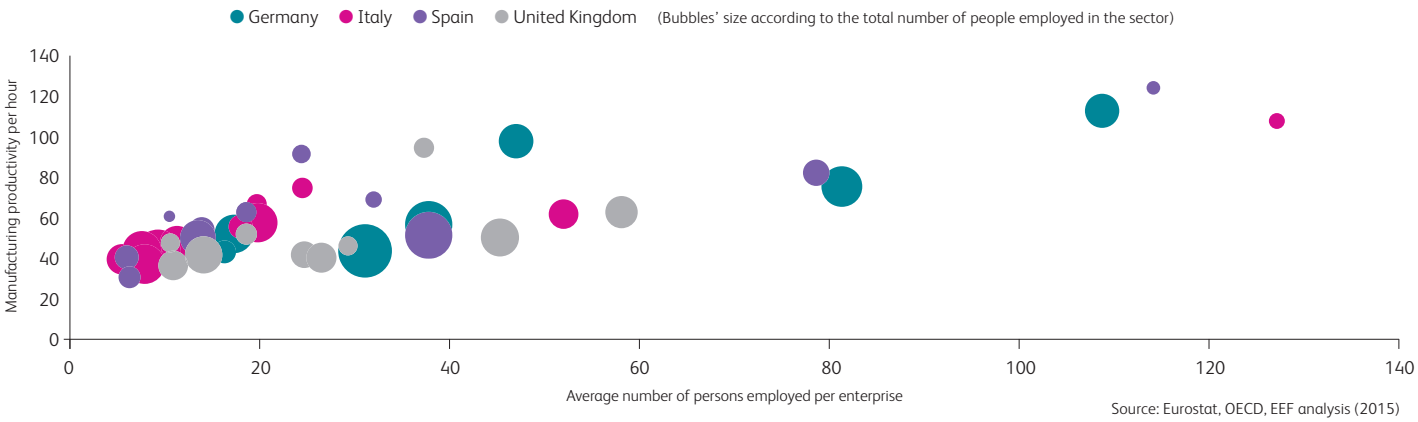
Chart 2 helps to confirm the connection between size and productivity. On the vertical axis productivity per hour is reported and on the horizontal size can be found (in this case size is represented by average number of persons employed per enterprise). Each single bubble represents one manufacturing sub-sector and its volume outlines the number of total employees in it. A positive correlation can be seen with sectors quite well disposed on this line without a great difference amongst countries or sectors, confirming that size is one of the strongest explanatory variables for differences in productivity levels.

Chart 2: Company size and productivity are highly correlated



Source: Eurostat, OECD, EEF analysis (2015)

Chart 2b: Company size and productivity are highly correlated (sub-section excluding outliers)



Source: Eurostat, OECD, EEF analysis (2015)

However, even if on average large companies are more productive than small enterprises, data from the ONS confirm that the flat line path for productivity also hit large players (see Chart 3).

Output and inputs

In *UTP*, the section "complex business operations" looked at manufacturing and the shape of output across sub-sectors. This analysis was run in order to ascertain whether companies in the UK are as focussed on "core-business" (i.e. production) as those in other European countries.

The overall picture for UK manufacturing is not that distant from the one found in other countries (chart 24 *UTP*), however there are significant differences when sub-sectors are considered. For example, UK pharmaceuticals is more concentrated in core business activity instead of other activities, such as research and development. On the other hand, mechanical equipment is not that concentrated and more focussed on activities around installation, repair or services which may hint that the sector sits in a different position in the supply chain compared to companies in the rest of Europe.

The analysis on the output side gave us important information about the characteristics and peculiarities of UK firms in terms of what they produce and how their output structure is similar/dissimilar to European counterparts. In *Piecing together the Puzzle*, the aim is to review whether inputs used in production may give some additional indications on sub-sectors and market characteristics.

The inputs used in the food & drink sector, a sector where usually demand is for the most part domestic, gives the clearest example of differences between markets. We selected the three items which are key for packaging – paper, rubber & plastics, and fabricated metals. These are in the top 10 of the UK inputs for food & drink whereas they are not that important in other countries. Considering that in all countries (as expected), the top two inputs are food products and agricultural products, paper makes the top non-food input in the UK. The sum of the UK packaging input in the UK in 2014 equalled 11.6% of total input for the food & drink sector.

The data highlight how the UK food market has peculiarities which are not found in all the other counterparts. In this case, the high use of packaging highlights how the UK market is more tipped towards ready-meals and on buying groceries from big stores compared to customers in the other countries.

However, this does not mean that all UK manufacturing sub-sectors are different from those in other countries, indeed many of them are quite similar. The food sector is also a domestic focussed sub-sector dissimilar to several other export-intense sectors.

Chart 3: Large companies are more productive but they are not running as fast as before

UK manufacturing productivity (real output per worker, £ thousands)

Source: ONS

Table 1: The structure of inputs to food production is not the same everywhere

Input ranking in food production

	UK	Germany	Spain	Italy
Paper and paper products	3	5	6	not in the top 10
Rubber and plastic products	5	8	7	not in the top 10
Fabricated metal products	7	not in the top 10 (less than 1%)	not in the top 10	not in the top 10 (less than 1%)

Source: ONS

The aim of the inputs analysis was to underline how good policies need to take into account peculiarities of each sub-sector, the markets they operate in and any other characteristics for which a "one size fits all" policy solution may not be adequate.

Management practices

The last factor, a key for explaining the productivity gap, is related to management practices.

There is a broad recognition that good management practices may help workers be more efficient and possibly happier in the workplace, however it is not always easy to measure these practices. The ONS has produced an interesting survey which appears to confirm that there is a positive correlation between the two (chart 21 *UTP*).

In UTP we also included a not so recent study (2006) which compared the UK with other international players (chart 23 *UTP*). Management practices in the UK scored worse than in Germany and the US which we know are highly productive countries, however the most striking result is that the UK has results covering the entire spectrum: from poor to best in class. Even if the data are not too recent, the ONS survey of 2016 broadly confirmed the findings.

Considering how important and how difficult it is to find available data about management practices, we ran a survey asking manufacturers how they manage productivity measurement, given that measuring productivity and setting targets are signs of good management practice.

There are a few interesting results as outlined in Chart 4. As expected the measurement is done mostly in production and across the whole business. This is understandable considering that measuring productivity in these two sections is easy and straightforward compared to measurement in less-tangible areas. As the spider-graph suggests, roughly 60% of companies measure productivity in these two categories.

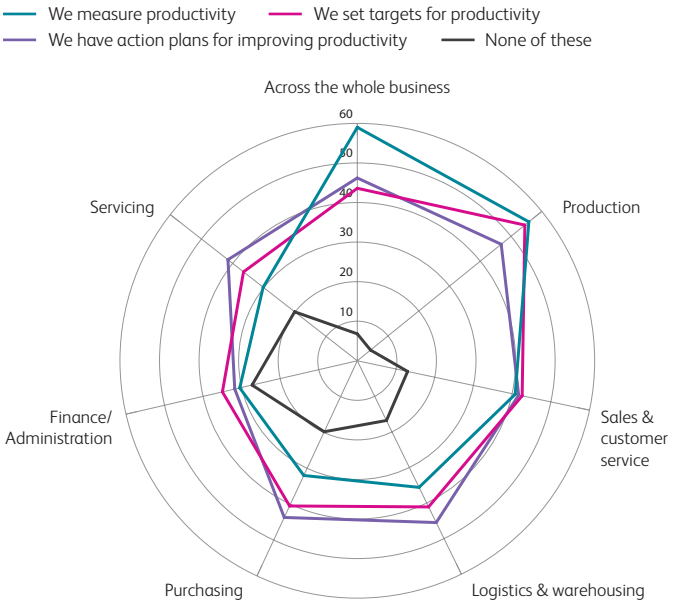
Positive answers have a much lower share in the other areas reaching just 30% for productivity measurement in servicing. However, since data in the "Output and Inputs" confirm that ancillary services are not a negligible part of the business for several manufacturing sub-sectors, good management practices would suggest that it is fundamental to keep track of what happens in all parts of a business.

Another important and worrying result is linked to the fact that 27.5% of companies do not measure productivity anywhere or in any way. There is a little divergence between small and large companies as confirmed by table 2.

The last finding is linked to the divergence between measurement and targets/actions to improve productivity as shown in Chart 4.

Chart 4: Production is main focus of productivity measurement

% of companies taking action across business activity



27.5% don't measure productivity anywhere

Source: EEF Productivity Survey 2018

Table 2: Lack of measurement is not only a problem of SMEs

% of companies measuring productivity by company size band

Size by no. employees	Do not measure productivity anywhere %
1-100	29.8
101-250	30.9
251+	18.9

Source: EEF Productivity Survey 2018

The divergence is on both sides:

- in the "measuring across the whole business" with a lot more positive responses in the measurement of productivity rather than targets
- in several other areas where more companies have targets but no measurement.

This shows how some companies recognise that measuring productivity is important but they don't set targets which may dent their ability to improve, but also that other companies set targets but they are not able (or willing) to measure productivity and so are unable to check that the target has been reached.

MANAGEMENT PRACTICES ARE CENTRAL TO THE PRODUCTIVITY PUZZLE

As set out in our previous report, management practices have a strong link to productivity – this is a well-established link, with several empirical studies reinforcing this.

Management practices (or more specifically, structured or formal management practices) are about more than just people management and encompass a wide range of factors that affect the productivity performance of a company. These include areas such as operational management and efficiency, performance monitoring and continuous improvement.

Management practices – summary[1]

- Continuous improvement practices – how well does the firm monitor its operations and use this information for continuous improvement?
- Key performance indicators (KPIs) – how many KPIs the firm has and how often they are reviewed
- Targets – are the firm's targets stretching, tracked and appropriately reviewed?
- Employment practices – is the firm promoting and rewarding employees based on performance, managing employee underperformance and providing adequate training opportunities?

Management practices and productivity

Looking more specifically at capital investment, size and the impact on the efficiency of non-product related revenue streams, we can explore the relationship between weak management practices and weaker performance in these key areas.

On capital investment, without a strong process of continuous improvement the firm may invest less and fall behind on the adoption of productivity boosting technology, equipment and processes. Without clarity on organisational objectives and KPIs, managers will be less clear on what investment projects to recommend to meet organisational objectives.

Company size can also be restricted by weak management practices as a secondary effect from underinvestment in capital. Additionally, weak management practices limits the ability for natural scale where people management is ineffective, where training is not tailored as the business becomes more complex, or where targets are not disseminated and devolved as more management layers are put in place.

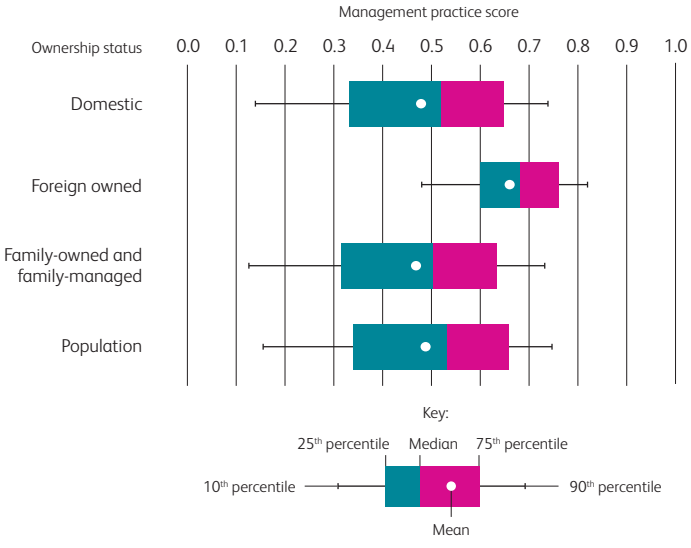
Lastly, without performance monitoring (KPIs and benchmarking) firms are unlikely to be adopting best management practices on productivity and efficiency in non-production parts of their business, denting the ability to capture value as effectively as possible. Given the growth in non-product related revenue streams across UK manufacturing, this is important to get right.

Ownership and management practices

In investigating the types of firm more likely to have higher management scores, one of the stand out factors across the literature (and replicated in EEF's surveys) was the ownership of the firm. Foreign owned firms operating in the UK have higher management scores than UK owned firms as Chart 5[2] shows, and have higher productivity levels than UK owned firms.

Chart 5: Foreign owned firms have higher management scores than domestic owned firms

Percentile distribution of management scores by ownership type

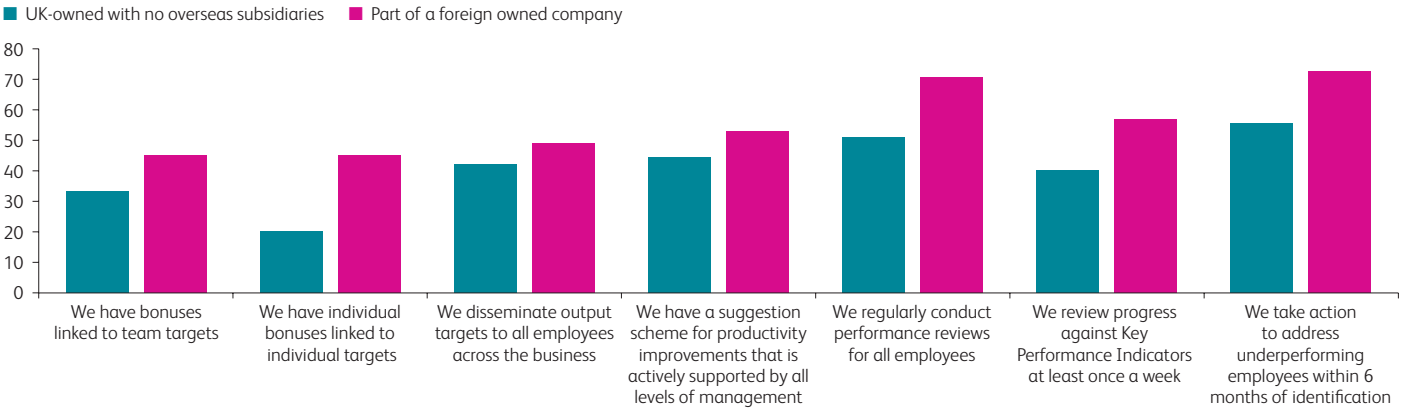


Source: ONS Management and Expectations Survey 2016

[1]Taken from the Office for National Statistics, Management practices and productivity in British production and services industries - initial results from the Management and Expectations Survey: 2016
[2]The chart shows figures for all UK firms, however the same study shows no significant difference between manufacturing and non-manufacturing on management scores

Chart 6: Good management practices are predominant in foreign owned firms

% of positive answers to the question "which of these statements apply to your company? (Select all that apply)"



Source: EEF Modern Manufacture Workplace survey 2018

EEF's own surveys highlight this divergence in management practices between foreign owned and UK owned firms, as chart 6 shows. Across a range of management practices (similar to the ones used in the ONS survey) there is a clear gap between manufacturing firms which are UK owned against those who are foreign owned.

The impact of this divergence in management practices between the two classes of foreign owned and domestic owned firms is that in 2015, UK owned manufacturing firms were 48% as productive as foreign owned firms based in the UK. This picture, of UK owned manufacturing firms having lower productivity levels, is a consistent picture going back as far as data are available (2008).

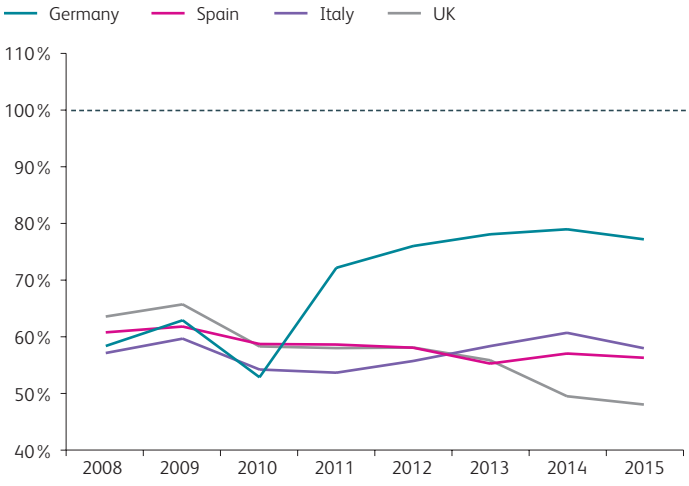
This is replicated not just in the UK but in all the countries our analysis has studied as represented in Chart 7. However the key difference is the direction of travel. In Spain and Italy the productivity gap between domestic owned manufacturing firms and foreign owned manufacturing firms has remained fairly static across 2008-2015.

In Germany however the gap between the two have been converging, signalling that domestic owned firms have been increasing their productivity faster than foreign owned firms in Germany across that period. In the UK, that picture is reversed, with the productivity gap between foreign owned manufacturing firms and domestic owned firms diverging[3].

Looking at the pure data, manufacturing productivity for UK domestic owned firms has stagnated, whereas productivity for UK foreign owned firms has grown steadily.

Chart 7: Foreign owned firms are more productive generally, but the UK gap is widening

Domestic manufacturing productivity per employee as percentage of foreign owned manufacturing productivity per employee

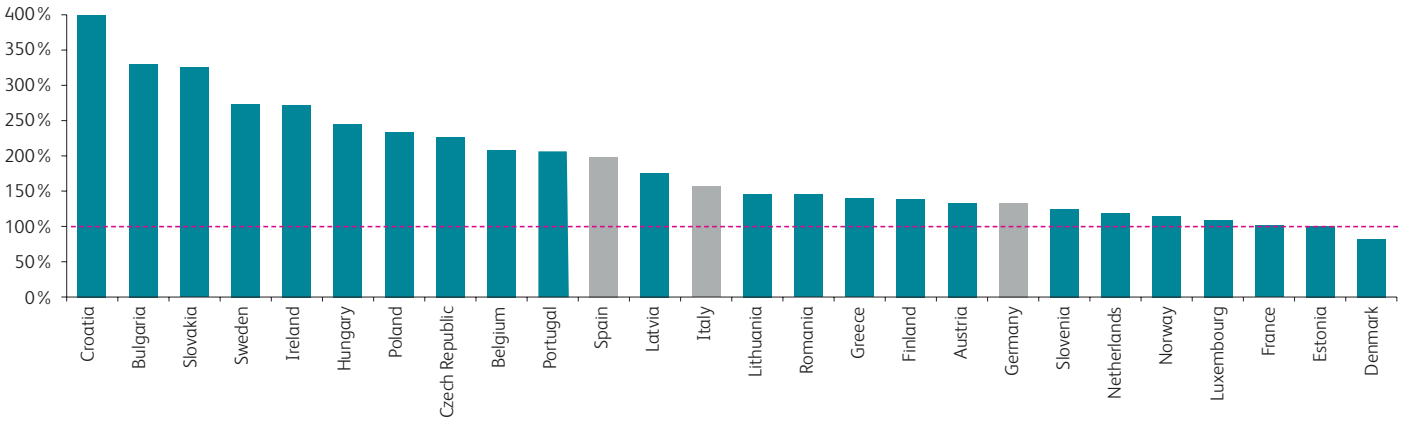


Source: Eurostat

[3]The UK and Germany have the same share of foreign owned firms as a share of total manufacturing at 2.8%. In Italy the figure is 0.8% and Spain 1.1%.

Chart 8: UK international players are more productive than domestic companies

Manufacturing productivity per employee of UK firms in foreign markets



Source: Eurostat (2015)

Table 3: Manufacturing sub-sector summary comparing domestic and foreign owned firms in the UK

	Investment - more		Size - larger		Productivity - higher		Management - higher score	
	UK-owned	Foreign owned	UK-owned	Foreign owned	UK-owned	Foreign owned	UK-owned	Foreign owned
Manufacturing		✓		✓		✓		✓
Transport		✓		✓		✓		
Chemicals	<->			✓		✓		
Pharmaceuticals	<->			✓	✓			
Food and Drink	<->			✓		✓		
Mechanical Equipment		✓		✓		✓		

Source: Eurostat (2015) and ONS (2016)

While looking at ownership data demonstrates the link between management practices and productivity, further analysis indicates that UK owned firms operating in other countries across the EU are just as competitive as domestic owned firms operating in that country (except Denmark) as chart 8 shows.

This highlights that UK owned firms can be highly competitive and that there is potential for getting UK manufacturing productivity growth back on trend.

Foreign ownership and manufacturing sub-sectors

As we set out in *UTP*, understanding the performance of manufacturing sub-sectors on productivity is important if we are to arrive at a solution to get manufacturing and whole economy productivity growth back on trend. A similar analysis of foreign ownership at the sub-sector level helps us to understand potential areas for improvement.

Beyond the link between foreign ownership and productivity (which we've already explored) – looking at investment and size, foreign owned firms are as good as or better than UK-owned firms operating in the UK. Our analysis shows this is a scenario replicated to a strong degree at the sub-sector level as table 3 shows. This reinforces the link between better management practices and the wider factors impacting on productivity such as size and investment.

Looking at the manufacturing picture, chart 9 shows the gap between foreign owned firms and domestic owned firms in each country on investment. In Germany foreign owned firms invest €3,000 more per employee than domestic firms, while in the UK that gap stands at almost €10,000.

On size we know foreign owned firms on average are larger (and, as seen in the previous section, large firms are usually more productive) so our analysis went one step further to understand if the edge that foreign owned firms have is just related to size. This was done by looking at the productivity gap between foreign owned manufacturing firms in each country and large manufacturing firms in that country.

As chart 10 shows, on productivity, a gap is present across countries between large domestic owned firms and foreign owned firms operating in each of our comparator countries (except Germany) and in the UK that gap is largest and stands at 16%. This confirms that size is a factor in explaining the productivity performance of foreign owned firms, but it does not explain the better performance all on its own, with other factors (such as management practices) explaining some of the difference.

Why then do foreign owned firms in the UK have higher management scores than domestic firms?

Foreign ownership and scores for management practices

Our analysis of this challenge has been informed by responses to our call for evidence, stakeholder and member feedback and analysis of EEF and other historic surveys and data, in particular those around the time of the financial crisis when we know the shift in manufacturing productivity growth occurred.

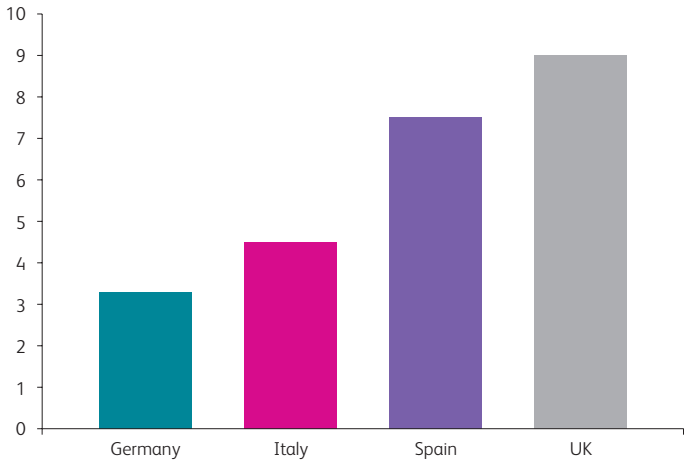
This analysis points to two key theories to explain the difference in management scores between foreign owned and domestic firms in the UK. The first is linked to the availability of finance for investment, particularly post-financial crisis and the second (linked to the first) surrounds the risk appetite of UK managers to grow or invest.

Cause 1: Restrictions in the availability of finance

Previous EEF work shows UK firms suffered more from weaker access to finance following the financial crisis compared to other countries, in terms of higher rejection rates from banks, while foreign owned firms were able to draw on internal funds to support investment.

Chart 9: Foreign owned firms investment per person is much higher than that of domestic firms

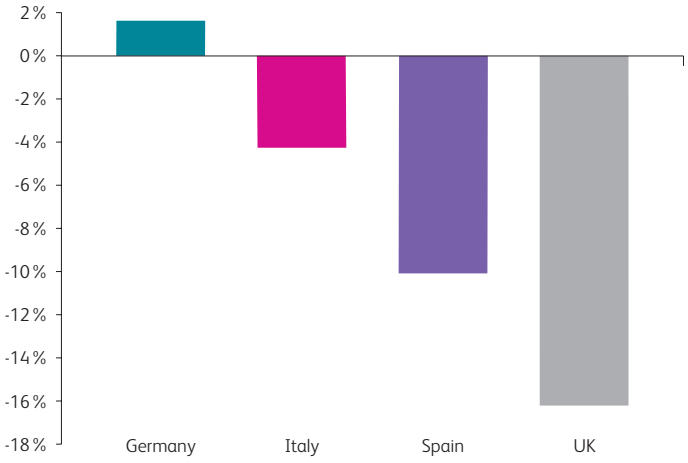
Difference between investment per person employed made by foreign owned and domestic firms (in thousands of Euro)



Source: Eurostat (2015)

Chart 10: Company size explains some of the difference in productivity of foreign owned firms but not on its own

Ratio between productivity per employee of large companies and foreign owned companies



Source: Eurostat (2015)

Our 2012 Investment Monitor survey explored the impact of finance on the capability of firms to invest in capital equipment. As chart 11 shows, foreign owned firms were more able to draw on internal sources of finance (parent company) to support their capital investment efforts, while for UK owned firms that opportunity was limited. A similar proportion of UK owned firms also reported decreasing their use of external finance.

While access to finance may not be the acute issue it once was, the impact of a period of restricted finance for firms to invest may have pre-conditioned some managers to continue to be too risk averse and not invest.

Cause 2: Risk appetite of UK managers

Risk aversion, which may have been prevalent pre-financial crisis, would have been exacerbated by limited access to finance which may have pre-conditioned some UK owned firms to become more risk averse. For example, evidence points to lower demand for external finance and companies holding more cash on their balance sheet.

Additionally, risk aversion may also highlight some weaknesses in the capability of UK managers (and as a result, firms) to respond to challenges and absorb shocks.

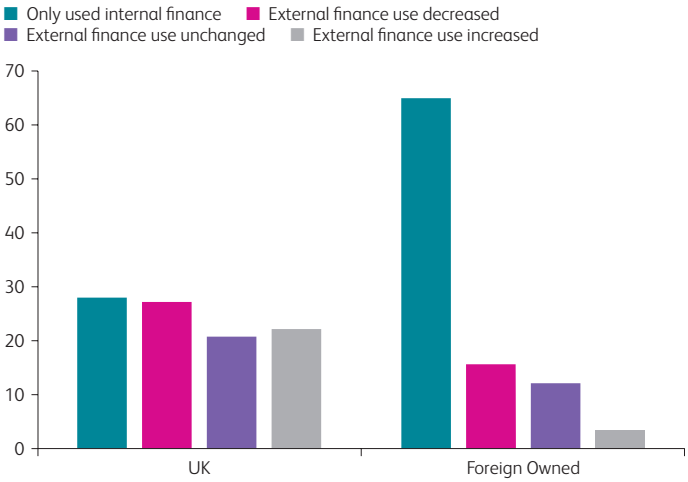
Evidence shows demand for external finance has decreased amongst manufacturers. EEF's 2016 Investment Monitor shows 65% disagreeing with the statement 'My business is more likely to use external finance than it was two years ago' and 53% agreeing with the statement 'My business will postpone or cancel investment if it cannot fund it internally'.

Similarly other EEF surveys highlight that for some manufacturers, stability is more important than stretching the firm to improve productivity, with 51% in a recent survey[4] agreeing with the statement "Business stability is a worthy trade-off for lower levels of productivity" (44% disagreed).

The SME Finance Monitor[5] also points to the limited ambition to grow amongst SMEs beyond the current period where investment ambition could be restricted by political uncertainty. As an example only 35% of manufacturing SMEs agreed with the statement "we have a long term ambition to be a significantly bigger business" in a recent edition of the survey.
Addressing this risk aversion is important to get UK manufacturing productivity growth back on trend and the route lies through improving management practices across UK owned firms operating domestically.

Chart 11: Foreign owned firms were more likely to use internal finance

Responses to "thinking about your company's use of external finance to support capital investment, which of the following best fits your situation"



Source: EEF Investment Survey 2012

More broadly what our analysis in this section highlights, is that foreign ownership is an important dynamic for UK manufacturing. As EEF set out in its policy paper on FDI[6], this type of investment is important but requires checks and balances (particularly in some manufacturing sub-sectors).

Foreign owned firms contribute an important dynamic and bring spill over opportunities. This is particularly important to highlight now as for these firms Brexit will be a worry – policy must focus on how to maintain foreign owned firms and the value they bring while encouraging greater interaction between foreign owned firms and domestic firms.

But beyond this the UK needs to drive a different set of behaviours amongst underperforming domestic firms to ensure they are doing the right things and not falling behind at the international level. It is this area that we are interested in fixing. Our overall approach is set out in the next section.

[4]EEF Productivity survey 2018
[5]SME Finance Monitor, Q4 2017, BDRC
[6]https://www.eef.org.uk/campaigning/news-blogs-and-publications/blogs/2017/oct/eef-response-to-takeover-panel-consultation

POLICIES TO GET PRODUCTIVITY GROWTH BACK ON TREND

Our research has pinpointed five factors which the evidence suggests are contributing to the relatively weaker productivity performance of UK manufacturing versus some of its continental counterparts. Our evidence stretches from statistical analysis to factors companies themselves believe have been undermining recent productivity growth. However, that still leaves us with the big question of what to do about it?

This section will put forward a number of recommendations, aimed primarily at government, that if implemented could begin to lay a course for longer-term improvements in the sector's productivity performance. This is not an all-encompassing solutions package; rather we are focusing initially on those areas where we believe there is the biggest potential to make a difference, and crucially on areas where we see a clear role for active government policy.

To that end, we'll look at the problem areas where government can affect change, where government can bring its influence to bear, and the areas of difference that we must accept as part of the business landscape in the UK.

Even better if

Government action, particularly in the current climate of elevated uncertainty, will be more effective if it goes with the grain of company-wide efforts and tackles recognised challenges facing manufacturers. Our Productivity survey (chart 12) shows what changes manufacturers think would improve productivity in their firm.

Support for investing our way to higher productivity

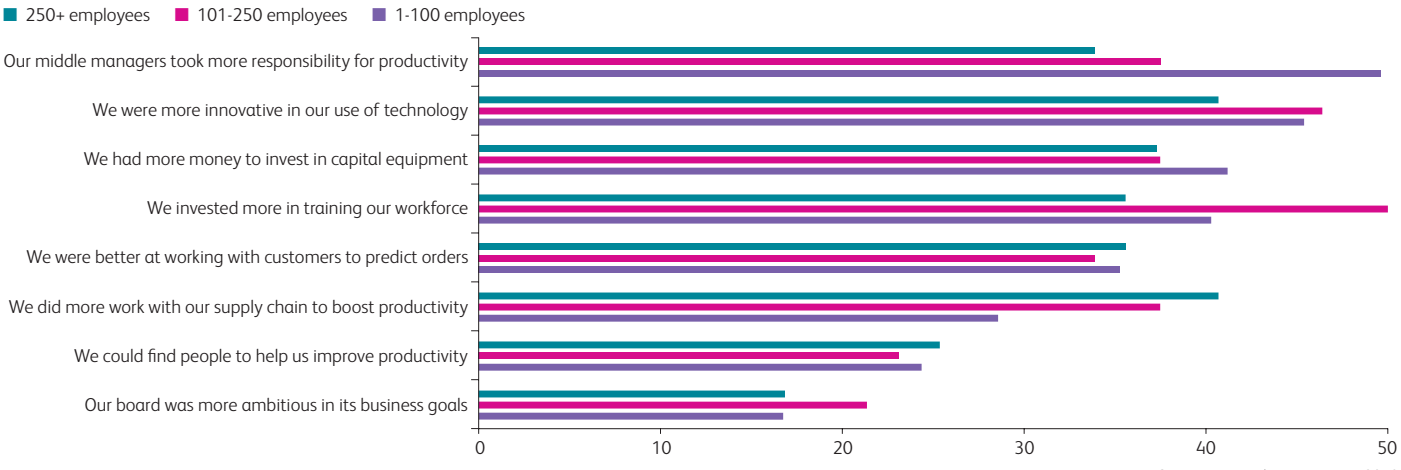
Action should be prioritised

- Tipping the balance in favour of investment now
- Focused support for adopting better management practices

Coming out top, manufacturers believe that their company's productivity would be better if they were more innovative in their use of technology. Furthermore, this is the top factor across all firm sizes. This is consistent with manufacturers' views in the first section of this paper, that many believe they have not been investing enough to ensure they are at the forefront of technological change in their sector.

Chart 12: Invest more, manage better

% of companies identifying action that would lead to higher productivity by company size



Source: EEF Productivity survey 2018

While businesses will invest when and where it makes sense, the uncertainty surrounding the UK's future relationship with the rest of the EU makes the financial calculations around these decisions more difficult. The brake that Brexit has applied to many firms' investment plans[7] clearly has the potential to add to the UK's productivity problem over the longer term if advances in new technologies are delayed, leaving UK companies in a catch up position with international competitors.

We have also revealed multiple data points highlighting that companies identify with the statistics which show the sector could be investing more in capital equipment. There is a strong case for government support across given that businesses recognise the investment shortfall and the situation has the potential for further deterioration the longer a 'no deal' Brexit realistically remains on the table.

Additionally, we see a couple of levers that government can pull to kick start greater investment across the sector – steps that can be implemented quickly, in a targeted manner and in a way that wouldn't be detrimental to the government's fiscal targets in the short-term.

While there are a number of options available at this time we believe that two targeted interventions focused on small companies (who are likely to be investing below the £200k Annual Investment Allowance (AIA) threshold), and a measure for mid-cap companies and inward investors looking to accelerate their investments in areas that would see them keep pace with 4IR developments, would offer the best value for money.

Support under the AIA threshold

According to the recent Office of Tax Simplification report[8] the majority of businesses are investing at levels below the £200,000 Annual Investment Allowance (AIA) threshold. Many of these businesses are also likely to be in the tail of companies investing less per employee than competitors and seeing consequently lower levels of productivity. In the current climate of heightened uncertainty we do not anticipate that another adjustment to the AIA would send a powerful enough signal to spur additional investment in tangible assets. Not least because this would undermine the predictability in tax policy making that manufacturers have long sought.

A more effective mechanism, therefore, would be to reinstate the Regional Growth Fund with the ambition of leveraging private sector investment to the benefit of stronger local economic growth.

In the first instance we would recommend an initial tranche of £200m of funding to be allocated on the same basis as previous waves 4 and 5 with future waves considered on the basis of economic performance and in relation to the progress on Brexit negotiations at the spending review. One critical difference in reintroducing the scheme would be to lower the requirement for new job creation – this is neither necessary in context of the labour market, nor desirable given the need to drive ahead productivity gains.

Accelerated depreciation

For those mid-size and larger companies investing beyond the AIA limit, there is still a need to anchor their investment plans in the UK. These larger firms are vitally important for UK productivity, but as we have shown, even this cohort of firms is not running as fast as before. Furthermore, tax reform in countries such as the US, which offers a bonus depreciation of 100% in addition to reduced corporation tax rates, or the hyper depreciation of technology assets in Italy, make the UK a less attractive proposition for the marginal pound of investment.

This should be remedied by the introduction of accelerated depreciation of assets over the AIA threshold, with the main rate increased to 35% for the first two years of the investment. This policy should remain in place until the UK has ended the implementation period of exit from the European Union.

Not quite job done

These measures should be seen as a prop to investment now, with a view to longer-term reforms which reflect both alignment of the tax system with technological change and a sharper focus on international competitiveness beyond the headline rate of corporation tax. This should also extend to a review of support for new industrial buildings. The lack of adequate space on offer to manufacturers is increasingly raised as a barrier to adding capacity through capital investment and prompting companies to recruit to improve capacity instead. Availability of suitable industrial space that supports growth shouldn't become a drag on future productivity performance.

Moreover, there should be no let-up in the government's focus on the innovation landscape and how it supports the development and diffusion of productivity-enhancing technology. The new Made Smarter Commission will be crucial in defining next steps and maintaining momentum behind government policy developments in the industrial digitalisation space.

The case for incentivising management development is strengthening

The contribution of management skills and capability is clearly made and not just in our report. The debate on productivity has led many commentators (see for example McKinsey) to look again at what the role of government is in shoring up the management and leadership skills of those at the top of UK businesses of all sizes. Our research and discussions with manufacturers support this, with smaller companies (see chart 12) noting a particular need for middle management to be more engaged with the productivity agenda at the firm level.

[7] EEF Investment Monitor 2018/19
[8] Office for Tax Simplification: Accounting depreciation or capital allowances? Simplifying tax relief for tangible fixed assets

Indeed, just recently an announcement from the Chancellor of the Exchequer pointed to the current government accepting the case for action. Following its Business Productivity Review[9], there has been an initial announcement of over £30 million funding from government in support of management training and development.

Investing in the creation and expansion of networks to share best practice and funding for training programmes for small businesses is a good first step. One of the barriers companies have identified in accessing management training is a lack of good quality supply.

As it is difficult to instruct the supply side, there needs to be a demand led approach to develop a functioning market for management training. This approach needs to encourage both a firm level response and encourage individuals to take more responsibility for their own functional management training. Our recommendation is for a two pronged attack:

1. Utilising the framework and principles behind the Apprenticeship Levy to incentivise management training. For every 4 apprentices trained by firms using the Apprenticeship Levy, firms should be able to use their levy funds to train one manager, up to a maximum of five managers. To encourage this government should top up the levy pot by £30m – which should be ring fenced for the provision of management training.
2. Creating a Continuing Professional Development account scheme for individuals. This will drive demand on the individual front for management training by incentivising training in more functional management areas such as financial management, operational efficiency or new appraisal methods for technology investment. Government should start off with a £27.5m fund, to be matched by individuals through their CPD account.

Using the Apprenticeship Levy framework will encourage firms to continue to increase their investment in apprenticeship training, with the added benefit of unlocking management training, particularly useful for first line supervisors stepping up to their first management role and often managing their peers. This will also show apprentices that there is an attractive path beyond technical capability to include future management training.

Alongside this, the CPD account could provide a step change in how professionals keep their management practice competencies up to date, by encouraging individuals to take action through a matched fund from government.

Both approaches from government will help to stimulate demand for the different types of management training required to engender a more productive manufacturing firm covering the spectrum from people management through to organisational efficiency and continuous improvement.

Investing, managing, scaling-up

We know that size of company matters when it comes to productivity. Increasing manufacturers' investment in technology and improving management capacity across businesses, but particularly in smaller ones, can only aid companies with their scale-up ambitions. Analysis from the Scale-Up Institute confirms our analysis holds right across the economy, with the UK sitting near the top of the rankings for new business start-ups, but sliding rapidly down them in our comparative scale-up performance.

Our recommendations in these areas should support the goal of growing more small manufacturing companies into mid-size and large ones. But, as the Institute notes, the support requirements for this scale-up agenda extend into related areas of financing, support to expand into overseas markets and the quality of infrastructure[10]. Policy priorities manufacturers would also endorse.

Sharing best practice

Action should be encouraged

- Influence the development of new financing models
- Foreign owned firms should be encouraged to work collaboratively with their supply chain

In many areas UK businesses are collaborators. OECD innovation statistics[11], for example, show that manufacturers in the UK are more likely to partner on innovation projects than many of their international counterparts. Some of EEF's survey research[12] also highlights a good degree of cooperation on business planning, including supply chain engagement which improves the visibility of future orders.

What appears to be missing is more strategic cooperation which facilitates the sharing of best practice. Given the degree of foreign ownership across some segments of the manufacturing base this could be a significant missed opportunity, with companies in the supply chain not having access to some of the expertise which could help them close the productivity gap.

In theory there should be multiple routes to bring companies together – through trade associations, local networks supported

[10]Annual Scale up review 2017: The Scape Up Institute
[11]OECD innovation indicators 2017
[12]EEF Manufacturing Ambitions: 2016

by growth hubs and programmes such as Sharing in Growth. Indeed, many of these are, and will, deliver efficiency and productivity gains across supply chains. But with recent signals from government pointing to a willingness to be a stronger convening force in these networks, we recommend it focus its influence in two areas:

- **Bringing together the right people in the right businesses**
  Successful innovation collaborations bring together the right people to solve problems, with external infrastructure such as Catapult Centres and Research Institutes offering another mechanism to smooth the creation of these relationships. Efforts to expand mentoring or peer networks should make efforts to ensure the right people within businesses are being engaged in the process.
- **Grand Challenges and Sector Deals offer new routes to greater sharing of best practice**
  The industrial strategy is already putting in place structures that will bring together businesses in the same sector, supply chain or product market. Once up and running these should be exploited to facilitate more engagement on the diffusion of best practice on productivity and technology adoption.

The next phase of finance reform

While government action in areas such as tax reform and other direct support can move the needle on manufacturers' investment decisions, the finance landscape matters too. Much repair has been done since the financial crisis and UK companies facing problems with the supply of finance from the retail banking sector are largely behind us.

Efforts to improve competition have been set in train by the Competition and Markets Authority and these must continue, aided by new technology developments such as Open Banking, to give companies choice in the market.

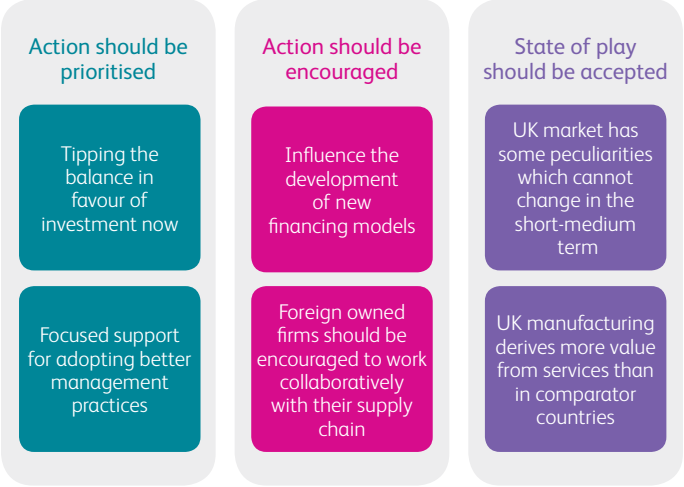
Cleary government and the Bank of England must ensure that none of this work is derailed during the process of exiting the EU. But beyond that new technology developments will require constant innovation from finance providers to ensure companies aren't slow to take up opportunities due to a lack of suitable finance arrangements. We want to see the market respond with the right suite of products to support investment in 'software as a service' and a shift from purchasing capital equipment to leasing models. Action from government on this front will only be required if finance providers are not keeping pace with industry and a lack of suitable finance becomes an impediment to investment.

Do nothing – it's over to you businesses

Important in the debate about how the UK addresses its productivity underperformance is what shouldn't be done. Our analysis highlights differences in business structure across some UK manufacturing sectors compared with some European competitors.

Strategic moves to accelerate servitisation in the UK, for example, cannot be reversed. Manufacturers will have adopted this business model on the basis of customer requirements and business resilience. While our research reveals that there is a need for greater focus from businesses on productivity improvements for non-production processes, there are no particular policy levers that government should be pulling.

Change, Influence, Accept



The UK's productivity puzzle has been some time in the making and while our research has identified what we believe are some of the big contributing factors from a manufacturing perspective, this will not be the definitive answer. But by understanding where businesses and policy makers can do more or do better (and where no action is needed at all), both can start to identify steps that will ultimately lead to the UK raising company competitiveness and economic growth, the pay packets of employees will be the better for it.

Make UK champions and celebrates British manufacturing and manufacturers.

We are a powerful voice at local, national and international level for small and medium sized businesses and corporates in the manufacturing and engineering sectors.

We're determined to create the most supportive environment for UK manufacturing growth and success. And we present the issues that are most important to our members, working hard to ensure UK manufacturing remains in the government and media spotlight.

Together, we build a platform for the evolution of UK manufacturing.

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All data correct as at 15 October 2018

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