

Report of the West Midlands
Productivity & Skills Commission

PRODUCTIVITY AND SKILLS
COMMISSION



Foreword

When I took on the Chair of the West Midlands Productivity and Skills Commission, I did so because I firmly believe that bringing together business leaders, skills providers and leading academics is a critical first step in addressing our region's productivity and skills challenges.

Our starting point, was to issue a Call for Evidence and to engage with a wide range of stakeholders to identify the challenges and opportunities for the region. Alongside this, the Commission undertook a series of business-led 'deep dives' into key sectors for the region's economy alongside substantive research by leading academics. The eagerly-awaited publication of the government's Industrial Strategy White Paper in November 2017 gave additional impetus to our brief. Indeed, we have framed much of our analysis around the 'Five Foundations of Productivity' identified in the White Paper.

The work undertaken by the Commission has played a critical role in establishing the evidence base for the Regional Skills Plan and for setting out a new way of working, with employers and skills providers jointly developing new solutions to address skills challenges. The work of the Commission continues to be instrumental in informing the emerging West Midlands Local Industrial Strategy. Key business representatives and academics will remain engaged in that work as we shape the region's Industrial Strategy and the actions we need to take to further drive up productivity.

The Productivity and Skills Report synthesises the Commission's understanding of the regional productivity and skills challenges and makes a series of recommendations. I am delighted that many of these have already been taken forward in the West Midlands Regional Skills Plan. As someone who started their career in the automotive industry as an apprentice, I am pleased that we have given particular consideration to the need to drive up apprenticeship numbers and to promote clear pathways for technical education and training.

The Commission has engaged with over 120 businesses in various sectors, representing a range of employers from corporates to SMEs. We have worked closely with leading economists, educationalists and policy makers from across the region. Their insights and contributions have been invaluable – as has the commitment of employers and skills providers to taking forward the actions and delivering real change.

During our deliberations, I have been struck by the willingness of key stakeholders – whether employers, colleges or universities – to co-operate, learn from each other and address common challenges together. This *modus operandi* will be essential as we move forward.

Ultimately the Commission believes that its work, summarised in this report, will make a meaningful difference to the lives of this region's citizens, employees, businesses and the next generation of young people. I look forward to supporting this ambition as it is taken forward through the Regional Skills Plan and, in the autumn, through the Local Industrial Strategy.

I would like to take this opportunity to thank all those who have given so much of their time, energy and passion to make this region the best place in the UK to live and work.

Dr Andy Palmer, Chair

Executive Summary & Recommendations

The West Midlands Productivity and Skills Commission was created to understand the true extent of the productivity challenge in the West Midlands, identifying the component causes and making recommendations to address the issues identified. Its remit was to:

- Understand the component causes and inter-relationships between them;
- Make recommendations as to how these causes can be addressed; and
- Ensure appropriate plans are developed for the implementation of these recommendations and monitoring systems set up to review their effectiveness.

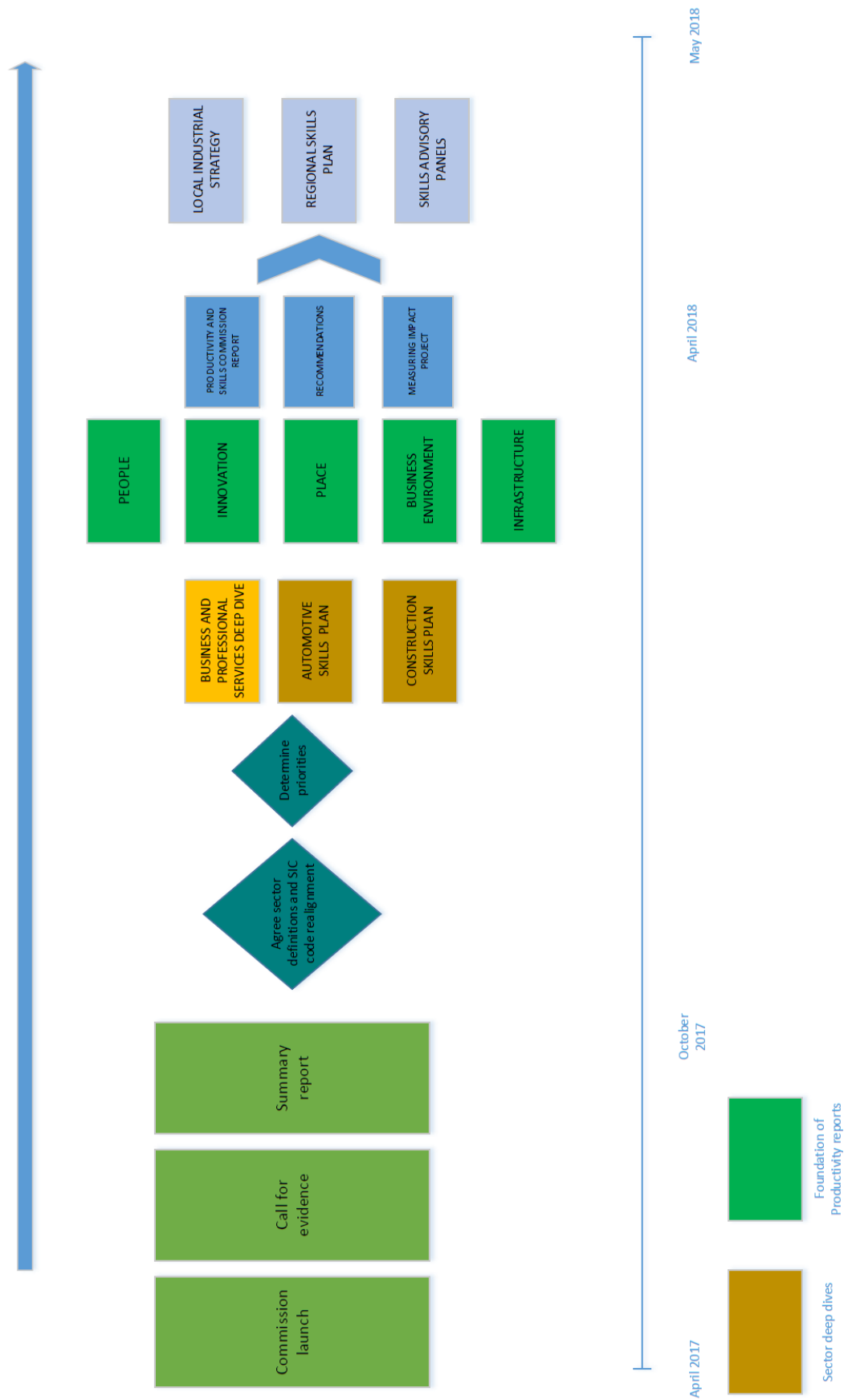
The Commission's task was to understand the component causes of the regional productivity challenge and make evidence-based recommendations as to how to address the particular blockages to the region's ability to support productivity growth.

The Commission's work during the last 12 months has been given additional impetus with the publication of the Government's Industrial Strategy White Paper in November 2017¹. Following a Call for Evidence, the Commission's work quickly progressed to include in-depth analyses of the 'Five Foundations of Productivity' as outlined in the government's White Paper. A series of 'deep dives' within three of the region's priority sectors – Business, Professional and Financial Services (BPFS), Building & Construction Technologies, and Automotive – were undertaken by sector leads from the Commission's Productivity Leadership Group.

The process of enquiry that the Commission undertook is outlined overleaf in Figure 1.

¹ *Industrial Strategy: building a Britain fit for the future*; (Industrial Strategy White Paper), HM Government, November 2017

Figure 1: West Midlands Productivity and Skills Commission work plan 2017/18



The focus on the White Paper's 'Five Foundations of productivity' provides the opportunity to use West Midlands Combined Authority's (WMCA's) 'trailblazer' status to gain first mover advantage following early agreement of a Local Industrial Strategy (LIS) and accompanying devolution settlement with government. The sector-led deep dives are at various stages of 'work-in-progress', but they have provided valuable insights – including encouraging signs of growth in Advanced Manufacturing and Engineering (AME) and Business, Professional and Financial Services (BPFS) and strong performance and opportunities in energy and environmental technology.

Leading economists from the Commission's Technical Reference Group analysed the 'Five Foundations' of Productivity in the West Midlands and found:

- **Place.** The region has performed very well in **inward investment**, and has benefited significantly from this investment in terms of "spillovers" in productivity.
- **Ideas/innovation.** The picture is complex with the region performing around the UK average on several measures of innovation, but significantly below the level of the best performing Local Enterprise Partnership (LEP) areas. Within the WMCA geography, firms in Coventry and Warwickshire tend to outperform those in the other two LEP areas. National funding supports some aspects of innovation well, but regional initiatives will need to be developed to fill gaps in support.
- The **infrastructure** analysis, both in terms of energy and transport for example, highlight a number of regional advantages which invite further investment. Smart energy and advanced mobility present opportunities, though they are also held back by less than perfect digital connectivity and the need for immediate investment in energy storage, for example. Transport connectivity is good. However productivity is held back by our over-reliance on roads. This is not merely a logistics problem, but translates into supply chain issues and the need to hold and transport stocks across sectors.
- **People.** Given the challenges and opportunities in our region, the Commission's work has highlighted the importance of **skills** in all sectors. There are a number of cross-sector higher skills issues, around leadership capability, digital skills, the adoption of technology, and knowledge transfer. Skills initiatives also need to be sensitive to place. Some will need to be sector specific and industry-driven, but others will require higher level and generic intervention. A major theme running through the analyses is economic growth with 'good jobs'. This complements the national work and focus of the Taylor Review, but also recognises the need for balanced growth which supports all communities. Post-Taylor national work is continuing and WMCA should connect with this work.
- **Business environment.** A key finding is that growth and productivity can be found anywhere. As the analysis on both innovation and business development highlight, high growth and innovation can be found in all sectors, and is not limited to those typically thought of as being "high value added". Where a sector-based approach is adopted, it needs nuance to suit local needs. While business growth and productivity show some correlation, this is weaker than may be imagined. Support for the 'long tail' of firms that display no ambition to grow should be generic, non-selective and cost-effective. For firms currently experiencing high-growth episodes or about to, intensive support should be conditional: supported firms need to demonstrate they can generate positive national (or local) spillovers.

The analysis of the Five Foundations, undertaken by the Technical Reference Group's academic leads, sets out a very honest appraisal highlighting both strengths in terms of inward investment and innovation, and the challenges faced by the skills situation.²

The Commission has undertaken 'Deep Dives' into three of the region's transformational sectors: BPFS, Building & Construction Technologies, and Automotive. These sectors were chosen based on data demonstrating a high productivity gap (BPFS) or high skill need (Building & Construction Technologies, Automotive). These deep dives, led by sector leads from the Commission's Productivity Leadership Group, involve detailed analysis of existing data, and systematic consultation with a range of regional sector stakeholders (well over 120 companies). This has resulted in a detailed report on the BPFS sector; a Sector Skills Plan for the Automotive Sector; and detailed analysis that will inform the production of a Construction Skills Plan. These three reports will be published following the publication of this full Report.³

Recommendations

Whilst the report and detailed pieces of sector based work outline a number of detailed recommendations the Productivity Leadership Group has prioritised those outlined below for immediate consideration:

- 1. Develop a more holistic approach to measuring the performance of the economy and the impact of interventions that recognises both the complexity of causality and the limitations of data.***

In terms of traditional GVA-based measures of productivity, although there are some recent modest signs of improvement in the West Midlands Combined Authority (WMCA) area, we are clear that 'business as usual' strategies will not be adequate to get near the Strategic Economic Plan (SEP) productivity goals of "Productivity as measured by GVA per head being 5% above national average by 2030". The Local Industrial Strategy (LIS) must seek both to deliver step-change performance in disruptive new high value industries and technologies (e.g. electric and autonomous automotive) AND significant incremental improvement in the high employment sectors of Business & Professional Services, retail, and healthcare.

However, GVA on its own is an incomplete indicator of WMCA ambitions. We recommend the adoption of a basket of indicators approach and make some suggestions in the substantive report as to what these indicators might comprise.

This approach recognises that place is critical. This is not merely understanding what the strengths and limitations of the local economy area, but how they interact. WMCA should explore the underpinning factors and interrelationships more, building on strengths and addressing weaknesses. This will not only create better understanding and targeting of resources, but help make the business case when bidding for national funding (e.g. National Productivity Investment Fund).

² The Commission's Technical Reference Group's analyses can be found at <https://tinyurl.com/yadwn4yx>

³ Documents will be placed on the Commission's web page as they are published:
<https://tinyurl.com/yadwn4yx>

2. *Establish sector partnerships and a sector based approach to improving productivity and skills, building on the approaches prototyped by the Commission as a template to take forward through the West Midlands Industrial Strategy.*

We have considered ongoing sector deep dives in automotive, Business & Professional Services (BPS), and construction, and detailed dashboards across the breadth of major industrial sectors.

Building on the sector-led deep dives, regional sector partnerships should be established to deliver the recommendations developed through this approach. This should ensure that the business voice is paramount and that actions are relevant to the specific sector.

3. *Explore the opportunity to set up a West Midlands Productivity Taskforce that will adopt a 'kaizen' approach to identifying how different sectors can learn from each other to improve both productivity and skills.*

Sector-based strategies should not lead to a silo-based approach to business improvement. The work of the Commission has identified a range of opportunities for best practise to be identified and applied from one sector to another to address productivity and skills issues, but this needs to happen at scale in order to have an impact on the economy. WMCA is recommended to consider how this approach could be supported at a regional level through a West Midlands Productivity Taskforce.

4. *Establish a regional governance structure with the place-based leadership and buy-in necessary both at local and national level, to oversee the delivery of the Regional Skills Plan, drive collaboration and maximise the region's collective investment in skills.*

Skills appears to be a particular area of weakness for the WMCA. This requires action across the board - basic, technical, professional, leadership and management skills – the skills that are required to get a job, and those that are required to progress in the job. Regional governance structures should lead the delivery of the Regional Skills Plan and the Skills Advisory Panel analysis, determine how to focus national initiatives and resources gained through the devolution deals, how to generate additional resources, and how to target those resources where they can add most value.

5. *Support the development and delivery of both academic and technical pathways through formal education and into employment.*

The aim should be to ensure that pathways through and between academic and technical routes both exist and are understood and that they also provide the opportunity for people to develop their skills when in work. This should include mechanisms to bring together public, private and personal investment in skills and maximise the region's share of the apprenticeship levy.

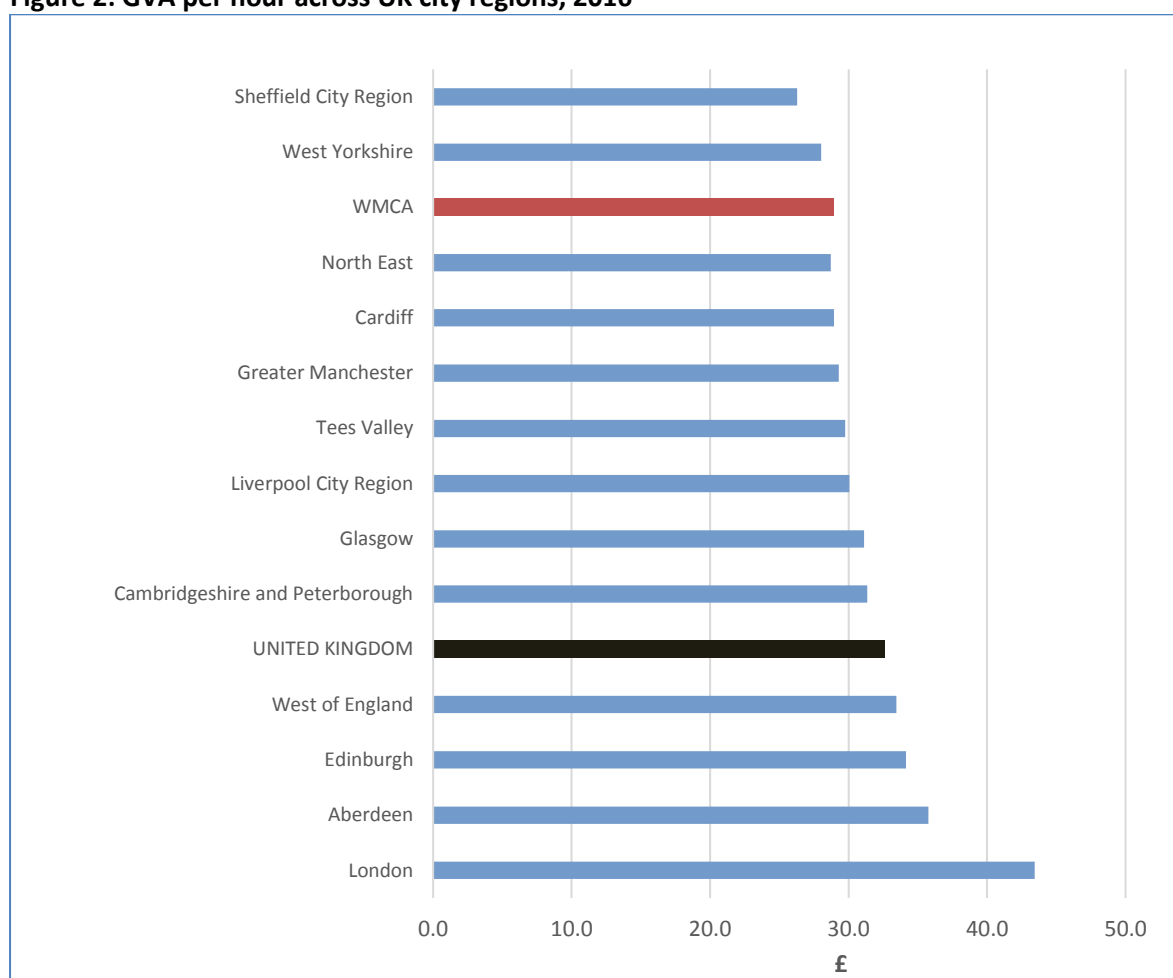
1. Understanding the WM Productivity Challenge

The Industrial Strategy White Paper seeks to address the UK national productivity deficit compared to most of our G7 and other advanced country competitors. By the major traditional GVA-based measures of productivity, it is clear that most WMCA geographies significantly underperform against the UK average *and* that this gap in underperformance has not significantly changed over the time series of ONS figures (i.e. 1997-2016).

This is illustrated in Figure 2 below – and more generally in the GVA-based data, in whichever way it is presented. Between 2011 and 2016 WMCA's GVA per hour grew at slightly above the UK average (WMCA 10.8%, UK 10.0%). However, as the chart shows the WMCA is starting from a relatively low base.

This means that not only is the West Midlands uncompetitive relative to the rest of the UK, it is uncompetitive compared to similar international regions.

Figure 2: GVA per hour across UK city regions, 2016



Source: ONS, Regional and sub-regional productivity in the UK: February 2018

It is self-evident, therefore, that 'business as usual' will be totally inadequate to get anywhere near SEP productivity goals.

The Commission's work in 2017/18 has focused on trying to get behind the headline analysis. Its aim has been to provide a baseline of data, analysis and understanding with a view to beginning to construct the road map to address the region's productivity challenge. The Commission's workstreams, as outlined in Figure 1 above have included Call for Evidence; production of reports on each of the Five Foundations of productivity; 'deep dive' analyses into key industries and data analysis of other transformative sectors; and the synthesis of findings in this annual report.

The Commission's Call for Evidence in April 2017, invited businesses and other key stakeholders to help shape the Commission's thinking and make practical suggestions on how productivity and skills issue could be addressed. Thirty five detailed submissions were received, prompting further analysis through sector-led 'deep dives' into skills and productivity issues. Over 100 businesses were involved (through 1-to-1 interviews and focus groups) in the BPFS and Automotive deep dives.

Businesses and other stakeholders are also being consulted about the Five Foundations of productivity. For example, a series of workshops is now bringing together skills providers and employers in key sectors to help map and align the regional skills offer, and address solutions to identified gaps. Employer consultation will inform the Combined Authority's Regional Skills Plan (May 2018) and support the development of a Local Industrial Strategy.

Granular analysis of GVA-based direction of travel has shown some modest signs for optimism in WMCA performance. But it has also highlighted significant limitations with GVA as a *sole* productivity measure – both in terms of intrinsic reliability and validity sub nationally, but also more fundamentally as a representation of the kind of economic growth the WMCA is seeking to achieve.

Traditional GVA-based measures need to be augmented by 'inclusive' and 'good' growth understandings – quantitative and qualitative – and more nuance than simplistic UK average comparators. Each of the foundation working papers, and the responses to the call for evidence provide insight into a number of key factors that determine the character of inclusive growth, such as, good work, business innovation, business development and skills investments. It is the intention to pull these together with GVA into a more representative basket against which we can measure progress in 2018 and beyond. The WMCA should also look further at the relevance of local, regional and international benchmark comparators in addition to the UK average comparison. A basket of measures for measuring 'good growth' could include:

Figure 3: Possible 'good growth' measures



* Drawn from the QulnnE and CIPD projects cited in the Taylor Review (2017) and the UK Government's (2018) Response to the Taylor Review: <https://www.gov.uk/government/publications/good-work-the-taylor-review-of-modern-working-practices>; <https://www.gov.uk/government/publications/government-response-to-the-taylor-review-of-modern-working-practices>

Measuring 'good growth'

Productivity measures are not perfect. The main indicator is Gross Value Added (GVA). This is the usual measure of productivity and is usually expressed in terms of GVA per employee or GVA per hour. These measures are calculated by the Office for National Statistics (ONS).

GVA is currently the accepted measure of economic performance at the regional level. However, it does not provide measures of skills, good jobs, wealth or wellbeing. Nor does it resonate with many companies themselves who have very different ways of measuring productivity which 'make sense' for their sector. At a macro level, a more balanced approach is suggested to reflect the WMCA's growth priorities.

Analysis presented in this report shows that the WMCA area is a complex and organic system, this requires more performance measures than just GVA.

It is argued in this report that a strategic aim (or 'ideal') should be 'good growth'. The WMCA will therefore need more focussed indicators which look at skills and productivity in the wider context of 'Inclusive Growth'. These indicators have to be based on reliable data.

A review of economic indicators and how they relate to the Five Foundations of productivity and the aspirations of the WMCA suggest the following additional core outcome indicators to those previously suggested in the SEP:⁴

- Business survival rates, to ensure we develop interventions that focus not just on start-up but also the strength and vitality of businesses, as growing businesses provide jobs and opportunities. A thriving local business base provides for the local community (of all recommendations this is essential).
- Median wage levels, this would allow us to track the quality of jobs, and the local population's ability to afford the necessities of life, increased wages allow individuals to invest in homes, skills, leisure and their future. You may want to consider a threshold which brings people above poverty levels.
- GVA per hour worked, this is the most accurate measure of productivity in the workplace we have, which also allows us to compare and contrast across place and time. It also overcomes the issue of non-participation which GVA per head currently has.
- GSCE attainment by region, this would help understand the educational attainment of the supply of young people into the labour market, it can also be a core measure of social inclusion.
- Breakdown of skills levels by qualification and these must be viewed as steps on the ladder to Level 4 which is identified as a priority.
- Apprenticeships levels, currently this measure is a take up and completion measure not a quality measure and we may want to develop further apprenticeship and technical skills indicators, or look to use T-Level numbers in the future.

The Local Industrial Strategy will take a place based approach to assets, sustainable, good growth and resilience. However, some of the elements underpinning these factors - innovation, competition and investment – are difficult to measure. Some indicators are available (e.g. using patents as a measure for innovation) but these tend to be inconsistent over time.

⁴ For a fuller discussion see *Measuring Success – review of indicators and recommendations*, Rebecca Riley (City REDI, University of Birmingham), May 2018, see <https://tinyurl.com/yadwn4yx>

The WMCA should look to develop its own indicators, and build a broader evidence base, for example through a business survey approach. Although this would sacrifice comparison and longitudinal performance measurement, it will allow the West Midlands to have a deeper understanding of the core issues related to productivity, beyond skills. These indicators should also build on the work of the Science and Innovation Audit (SIA) to monitor the impact and growth of key R&D assets, large companies and public sector anchor institutions as assets, tracking them over time and their contribution and embeddedness to the region.

Measuring WMCA good growth

The WMCA was founded on the principles of balance, and many of the indicators identified above in this section are included as detailed monitoring indicators in the WMCA Performance Measuring Framework, published at the same time as the SEP⁵.

The process to improve performance reporting is developing further, for example, in the sector dashboards included in this report, and the in-depth analysis of the Five Foundations. The Performance Management Framework indicators and sector dashboards should be updated annually and regularly reviewed to ensure the indicators are fit for purpose.

However, such macro indicators are outside the WMCA's gift to influence at a local level, as they are influenced by more significant national and international economic forces.

Therefore it is important to focus on the real outputs delivered by the WMCA and its partners and align those with the outcomes already highlighted. This ensures delivery bodies and activities are aligned to achieving long term goals and impacts but can be performance managed using 'real time' measures. Only then can the WMCA be truly accountable for its delivery of outputs as can all its partners, such as LEPs and local authorities.

Theory of change and outcome mapping are approaches which assess the real and tangible change of dedicated public sector investments. They create a focus on desired outputs, and longer term impacts, and how these are going to be achieved. The latter through identifying appropriate project partners, behavioural changes required, and the potential contributions of individual interventions on outcomes.

The process begins with producing a full business case - strategic, economic, commercial, financial and management - that demonstrate how interventions contribute to the overall strategic delivery of outcomes. All partners should contribute to the overall outcome indicators and understand how they contribute to the overall aims and goals.

Monitoring of outputs should be conducted on an ongoing basis to support the day-to-day management of interventions and ensure effective delivery of the strategy. For example, monitoring data can act as a vital tool for identifying situations where programmes are not fulfilling expectations and where action may be needed to undertake a corrective measure. Monitoring data will also inform any evaluation of whether the anticipated results (achievement of outcomes) of the programmes have been achieved, and the role of the intervention in achieving them.

⁵ WMCA (June 2016), Strategic Economic Plan Technical Appendix: WMCA Performance Management Framework, see www.wmca.org.uk/documents

Moreover, we recognise the business case in support of a new policy, new strategy, new programme or new project must evidence and answer the '5 case model' on every occasion:

- that the intervention is supported by a compelling **case for change** that provides holistic fit with other parts of the organisation and public sector– the “strategic case”;
- That the intervention represent best **public value** – the “economic case”;
- That the proposed Deal is attractive to the market place, can be procured and is **commercially viable** – the “commercial case”;
- That the proposed spend is **affordable** – the “financial case”;
- That what is required from all parties is **achievable** – “the management case”

Going forward and as the SEP itself comes under review, the WMCA may want to consider the values on which to base our collaborative future, and how much these steer our decision making and goals. Values can shape action far quicker than monitoring indicators.

The approach we may take could be an extension of the principles of WMCA to: be collaborative; be innovative; be driven; and be inclusive. Prioritising these values suggests a strategy which is based on ideas and inclusivity.

2. Foundations of Productivity in the West Midlands

Introduction

The Productivity and Skills Commission has purposefully aligned its analysis of productivity with the Industrial Strategy's Five Foundations. Leading economists from universities within the region were commissioned to develop a baseline position, analyse the key components and make recommendations for action. Their reports are published alongside the Commission's overarching report.

The Foundation authors make a number of specific recommendations, selected recommendations are presented separately below, outlining where these actions might best fit and the public policy 'space'. The common themes from these analyses, and the three sector 'deep dives' (see Section 3), have helped inform our five overarching recommendations.

The analysis below shows that the position of the WMCA with respect to the UK varies across the Five Foundations but is generally below the national average. However, this below average performance masks the fact that on some of the foundations the WMCA area performs relatively well (such as inward investment). On a number of indicators *within* each foundation the WMCA also scores highly, as do some areas within the region. The situation is complex.

This situation is likely to become even more uncertain with Brexit. For example, the impact on relationships with the European automotive industry, export potential from free trade deals, and firm's access to migrant labour.

Analysis of the foundations also demonstrates that the relationship between productivity factors is not clear cut. It is not necessarily the case that a more entrepreneurial firm or one with a more highly skilled workforce is more productive. In part the reason is that indicators (especially GVA) used to measure relative productivity rates below the national level are problematic. It is also because whilst the Foundations of Productivity can be demonstrated to improve competitiveness at the national level, understanding their role at the firm level is more difficult. In addition, at the firm-level there is often a delicate balance between productive growth and employment growth. Sometimes the two can be achieved together, but that is rare.

(1) Business environment⁶

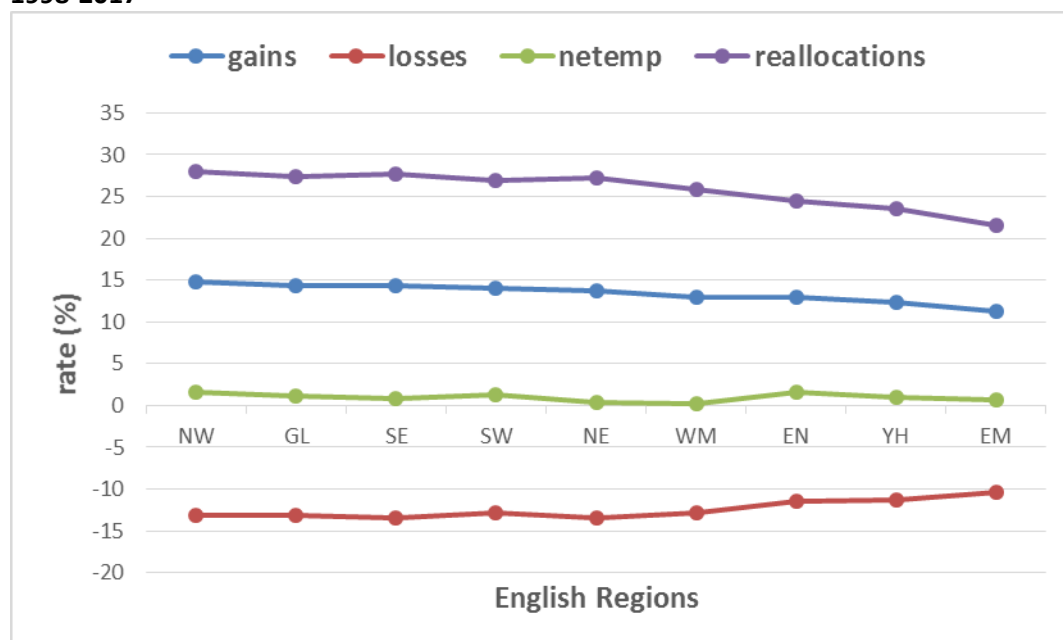
Business dynamism, it is argued, is related to productivity at a national and regional level - through fostering competition, innovation and improved managerial skills. However, the evidence is not clear cut.

Current position

Businesses are created and expire all the time. The net job rate of this churn is called the reallocation rate, and is the key metric of business dynamism which connects to productivity. Between 1998 and 2017, the West Midlands region performed at the national average, with a net reallocation rate of job gains over job losses of 26%.

⁶ Mark Hart, Enterprise Research Centre (ERC) Aston University (March 2018), *Business Environment in the WMCA Region: A report to the WMCA Productivity and Skills Commission*, see <https://tinyurl.com/yadwn4yx>

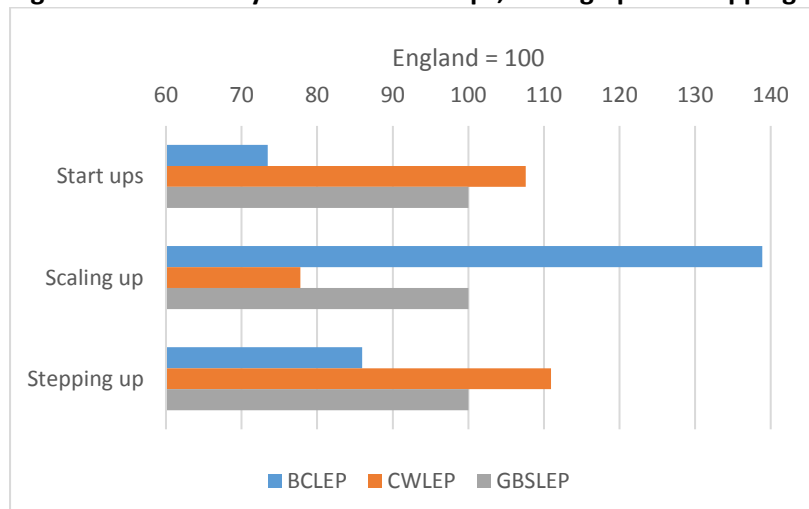
Figure 4: Job Creation and Destruction Rates, Aggregated Components by Region, %, UK, Average 1998-2017



Source: ONS Business Structure Database (1998-2017)

There are several measures of business dynamism⁷. The number of start-ups; how quickly they grow (scaling up); and recent growth of existing businesses (stepping up). Figure 5 shows that (using a base of England = 100) the three WMCA LEPs demonstrate markedly different performance on the three measures. CWLEP has above national average levels of business start-ups, and step ups, whilst BCLEP has very high scale-up rates; indeed it is an outlier even on a national level⁸. GBSLEP is at the national average on all three measures.

Figure 5: Business dynamism – start-ups, scaling up and stepping up



⁷ Start-ups are measured by the number of UK-owned firm births per 10,000 population; scale ups by UK-owned firms born in 2013 and surviving to 2016 that grow to £1m+ turnover in 2016; and step ups by survivor firms (born <2013) with £1-2m turnover in 2013 scaling to £3m+ in 2016.

⁸ For example, for UK-owned firms born in 2013 and surviving to 2016 that grow to £1m+ turnover in 2016 the Black Country exceeds CWLEP, GBSLEP, England and UK.

	Start ups (per 10k population)	Scaling up %	Stepping up %
Black Country	33.8	2.5	5.5
Coventry and Warwickshire	49.5	1.4	7.1
Greater Birmingham and Solihull	46	1.8	6.4
England	48.9	2	6.8
UK	45.8	2	6.7

Source: ONS Business Structure Database (2013-16)

Defining the problem

Business scaling up and stepping up are the key drivers of jobs growth, however, there are precious few of them at a national, regional and LEP level. For example, the proportion of new businesses scaling up in England is 2% and in the BCLEP is 2.5%. Furthermore, other data suggest that there are very few early stage entrepreneurs that have high growth aspirations – around 0.75% across England with BC LEP and GBSLEP just above the national average and CW LEP below it.

High growth firms are hard to identify. This is because they can exist in any sector and location, but also because they demonstrate intermittent growth. The concept of high growth firms is a misnomer, rather firms have high growth *episodes*. One of the few common metrics for new firms with high growth aspirations are that they are more likely to be led by internal (regional) migrants or immigrants.

Opportunities

What is known is that harnessing the dynamism of entrepreneurship across the region requires a focus on firm-level factors, including: access to and effective use of technologies; investment; and developing management and entrepreneurial capacity. These are the key factors that help explain differences in productivity across the heterogeneity of firms, and especially SMEs in the UK and between the UK and other nations. In broad terms there are two approaches to delivering business development support:

- Assisting a large number of firms to make incremental improvements in productivity and growth-inducing areas, such as: low cost ways of getting new technologies/practices into firms – new to the firm innovation - or on increasing their capacity to use them effectively.
- Providing intensive support to those firms at key points when they are likely to demonstrate intensive growth.

An infrastructure of business support services currently exists within the WMCA area which can help to deliver productivity and growth. This includes three Growth Hubs, which can support a large number of businesses on the specific factors which can help them to grow. There is also a range of intensive support available for those businesses seeking to grow (e.g. small business support programmes). In addition, access to existing business support services raises the possibility of identifying firms poised to, embarking on or undergoing high growth episodes who can then be the focus of targeted intensive support. This will help to create sustainable and growing businesses, increased turnover, enhanced management skills, and well paid jobs.

Our response

The following table (repeated in all of the foundation sections) identifies selected proposed actions emerging from the research and analysis. It identifies particular tasks and responsibilities.

Table 1: Business Environment – proposed actions

Business Environment	How?	Responsibility	
Intelligent targeting of businesses worthy of intensive support	Using Growth Hub and business support information and data to identify businesses that can benefit from intensive support	Growth Hubs Private and public sector support providers	Policy ‘space’: Business support services – generic and intensive support
Provide intensive support based on: access to, and effective use of, technologies; financial investment; and management and entrepreneurial capacity	Develop packages of support tailored to the needs of businesses identified as benefitting from intensive support	LEPs Growth Hubs Private and public sector support providers	Promotion and awareness of support
Provide a balance of generic and intensive support	Audit business support services to identify gaps Intelligently target intensive support	LEPs Growth Hubs	Opportunities: Sustainable businesses Increased turnover/profits Management skills Jobs
Develop a focus on supporting businesses at the ‘right time’	Develop intelligence systems Develop tailored packages of support	LEPs Growth Hubs	

(2) Infrastructure⁹

Infrastructure is hugely important to achieving long-term economic benefits through shaping the production, consumption, and the interactions between businesses; increasing connectivity; cost reduction; promoting competition; and, driving innovation.

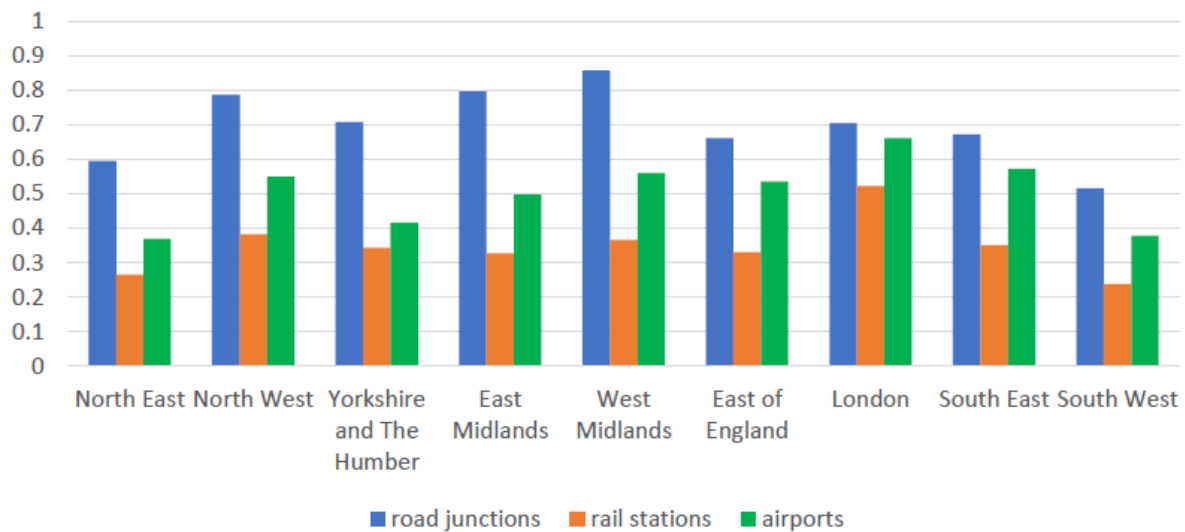
Nationally, the UK’s infrastructure – covering digital, energy and transport – scores poorly. The World Economic Forum ranked the UK the 27th for the quality of overall infrastructure in its 2016 report on global infrastructure, with a downward trending outlook.

Current position

In terms of overall **transport** connectivity the West Midlands ranks relatively well compared to other regions.

⁹ Jun Du and Mustapha Douch, Lloyds Banking Group Centre of Business Prosperity (LBP), at Aston Business School (March 2018), *Infrastructure and Productivity: A report to the WMCA Productivity and Skills Commission*, see <https://tinyurl.com/yadwn4yx>

Figure 6: Weighted travel connectivity indicator for travel to: England by local authority, 2013 morning peak (by car)



Source: Department of Transport, Connectivity travel time indicators: England, 2013 (experimental), June 2015

The West Midlands is under resourced when it comes to transport infrastructure investment. Whether measured by total transport infrastructure investment, or spending per head, the West Midlands lags behind most other regions. Airport capacity, whether measured by passenger numbers or freight, is also relatively small scale behind many other regional airports.

The **digital** infrastructure refers here to developing, collecting and spreading information electronically. As an urban area, the WMCA does well in terms of superfast broadband connectivity. However, its more rural areas – Bromsgrove, East Staffordshire and the Wyre Forest – do less well.

It is unclear how the WMCA area performs on other aspects of the digital infrastructure (such as, AI, cybersecurity, digital platforms, exploiting Big Data and automation) as comparative regional data is not available. Nevertheless it is clear that in order to build on the area's sectoral strengths, the region needs to ensure that it is at the forefront of these technologies.

Energy costs in the UK are relatively high by international standards, but there is evidence of a recent fall. This obviously impacts on production costs for energy intensive sectors. On the other hand, it helps the UK meet its climate change obligations. The West Midlands generates relatively little renewable sources of energy and is the second lowest region only to London.

Defining the problem

Despite the acceptance of a link between infrastructure and economic benefits, there is little evidence to back this up. Answers to key questions of how much investment in what types of infrastructure are difficult to find in the research. In addition, the linkages between different types of infrastructure – transport, digital and energy – are also unclear.

The infrastructure topography is also complex, especially in terms of the relationships between stakeholders, the balance of power between national and local actors, and the costs and returns of long term investment.

Opportunities

The WMCA area is relatively well positioned in terms of its digital and transport infrastructure, although there are concerns over air transport and connectivity in rural areas. By the very nature of infrastructure, joined-up working is a prerequisite because key aspects are not wholly 'owned' within the sub region. Being able to work within larger networks, such as the Midlands Engine's Midlands Connect (for transport), will help promote an integrated approach to infrastructure solutions. In addition, the development of HS2 provides the opportunities to work with CAs and LEPs outside the midlands, in London and the South East, the North West, and Yorkshire and the Humber. Developing improved transport, digital and energy infrastructures will help create more innovative and competitive businesses, contracting opportunities, inward investment, more and better paid jobs, improved accessibility for people, and quality of life.

Our response

Table 2: Infrastructure – proposed actions

Infrastructure	How?	Responsibility	
Enhance knowledge of the impact of infrastructure on firms and local economy	Further analysis at a firm and subregional level	WMCA HE	Policy space: Smart cities
Take a whole-network approach to improve the public transport networks	Work with cross-regional organisations (incl. Northern Powerhouse)	National government WMCA Midland Metro Alliance Midlands Engine	
Networking digital infrastructure stakeholders so they can work together towards consistent goals	Create a cross-sector digital group	National government WMCA Midlands Engine Infrastructure companies	
Encourage businesses to take advantage of the technological advances in broadband and the digital infrastructure	Identify gaps in support/where this support can be added into existing provision	LEPs Growth Hubs Sector bodies	Opportunities: Business innovation Contracting opportunities Inward investment Well paid jobs Skills and training Accessibility Quality of life
Energy - assess the scope for promoting a local sustainable energy supply	Promoting flexible energy supply Encouraging the transition of the current energy sectors to alternative forms of energy supply.	WMCA LEPs Local authorities Sustainable energy groups and sector	

(3) Ideas/Innovation¹⁰

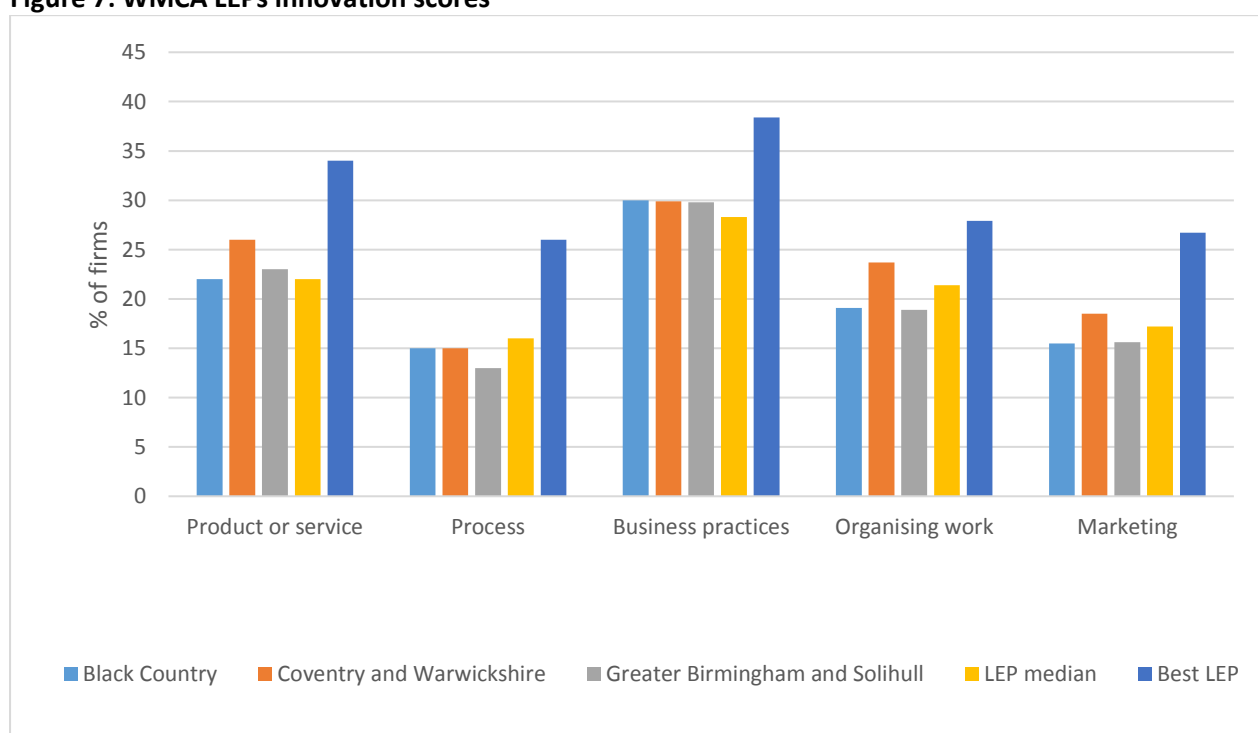
Innovation is ‘the design, invention, development and/or implementation of new or altered products, services, processes, systems, organisational structures or business models for the purpose of creating new value for customers and financial returns for the firm’. It can be new to the market (for example a mobile phone) or new to the firm (such as an iPhone).

Similarly, innovative firms can be divided into global frontier firms (such as Apple) and domestic non frontier firms. Typically the former are more than ten times as (labour) productive as the latter. Both types of firms can cause spillovers into the economy through innovation diffusion effects, as other firms adopt new products, technologies and processes.

Current position

There are different types of innovation. Figure 7 compares the three WMCA LEP areas with the LEP average, and the best performing LEP on five types of innovation. Generally, firms in the three WMCA LEP areas are above average on product/service and business practice innovation. But below average on process innovation. Firms in Coventry and Warwickshire tend to be average or above average across all dimensions of innovation whereas firms in the Black Country, and Greater Birmingham and Solihull are below average.

Figure 7: WMCA LEPs innovation scores



Source: BIS, UK Innovation Survey (UKIS) wave 8 – UKIS 2013 - covering the period 2010-12

All the above are measures of ‘new-to-the-firm’ innovation. In average, 8% of firms in all LEP areas introduce new to the market innovations. This compares to 11% in Coventry and Warwickshire, and 7% in Greater Birmingham and Solihull (data is not available for the Black Country).

¹⁰ Stephen Roper, Enterprise Research Centre (ERC) and Warwick Business School (March 2018), *Business innovation, diffusion and productivity in the West Midlands: A report to the WMCA Productivity and Skills Commission*, see <https://tinyurl.com/yadwn4yx>

'New-to-the-market' innovation is concentrated in higher productivity, larger 'Frontier' firms. These are well supported by Innovate UK and Engineering and Physical Sciences Research Council (EPSRC) grant awards which have a positive impact on both growth and productivity.

Defining the problem

On average, the WMCA performs around the average on the measures of innovation. But they are significantly below the level of the best performing LEP areas. Within the WMCA area, firms in Coventry and Warwickshire tend to outperform those in the other two LEP areas. However, it is not known whether this is due to levels of firm innovation, sectoral differences between the three areas or other extraneous factors.

National funding to support new to the firm innovation is limited. Regional initiatives will need to be developed.

The relative position of the UK on international indices means that being at the UK average, means the region is performing well below its international regional competitors.

Opportunities

Increasingly, a focus on innovation is attracting government funds. Which means that current gaps in innovation support WMCA can have the potential to fill, as well as building on large national initiatives. Support for innovation can benefit all firms, incremental and market leading innovation will all benefit the region. A role for the three Growth hubs is to provide a conduit between WMCA firms and innovation support. And, working with the newly constituted West Midlands Innovation Board to identify areas where the WMCA can best benefit from innovation funding. This would be used as a focus and evidence to develop co-ordinated bids (within and across sectors) to large national innovation funds. A key strength of the WMCA area is the HE support available, which can benefit firms across all of the dimensions of innovation.

Funding is available for certain types of innovation support which the West Midlands can exploit. For example, the Industrial Strategy Challenge Fund will support new-to-the-market innovation over the next decade.

Improvements across the facets of innovation will lead to more productive and competitive businesses, improve the economic profile of the region, create and attract better paid and higher skilled jobs, and improve management and working practices.

Table 3: Ideas/Innovation – proposed actions

Ideas/Innovation	How?	Responsibility	
Develop a coordinated ecosystem approach to innovation	Establish framework agreements on the actors, structures, protocols, responsibilities, resources and expertise needed to successfully operationalise an ecosystem approach for different sectors	WM Innovation Alliance; LEPs; Sector bodies	Policy space: Innovation funding Business support and encouragement to innovate Develop business-HE links especially in priority sectors (e.g. construction and BPFS)
Develop a new approach to improving innovative performance that emphasizes technological and non-technological innovations	Develop new indicators of innovation performance across the two modes of innovation	InnovateUK; LEPs; Growth Hubs; Sector bodies; HE	
Promote an innovation advocacy function	Run a series of sector level workshops of improving firm level innovation	WMCA; WM Innovation Alliance; LEPs; Sector bodies; HE	Opportunities: Improved product and process innovation Make good regional and national innovation gaps Improved management and working practices in WM firms
Use the ecosystem to better diffuse new technologies and/best practice to non-frontier firms	Identify an innovation champion within each sector innovation ecosystem	LEPs; Sector bodies; HE	
Develop better firm-level regional data on innovation	Develop a website with support and funding information, and diagnostic toolkit for firms	WM Innovation Alliance; HE	

(4) Place/Inward investment¹¹

‘Inward investment’ is the expansion or relocation of a business into a country or region and has been an important factor in West Midlands’s economic growth over the past four decades. The region has performed well in attracting domestic and international businesses compared to other English regions. Inward investing businesses enhance productivity in part due to their characteristics – large, exporting businesses who are (or part of) a multinational are more productive. They also tend to introduce diffusion and spillovers into their supply chains and competitors. An inward investing foreign firm will typically be 25-40% more productive than domestically owned firms in the same sector.

However, foreign firms investing in the UK tend to bring jobs or value added, *but rarely both*. An exception is the automotive sector which hits the ‘sweet spot’ of bringing both additional jobs and productivity gains.

¹¹ Nigel Driffield and Jae-Yeon Kim, Warwick Business School (March 2018), Inward investment and productivity across sectors within the WMCA: A briefing note for the WMCA Productivity and Skills Commission, see <https://tinyurl.com/yadwn4yx>

Current position

Table 4 shows the number of FDI 'projects' and the number of jobs created (and different types of jobs) in 2015/16-2016/17. It is ranked by the total number of jobs created across the two years. The West Midlands performs relatively well, attracting the largest number of jobs behind London. The West Midlands has attracted around 20% more jobs than the East Midlands, North West and Wales. Jobs created by inward investors in the West Midlands also tend to be new jobs rather than safeguarding existing jobs. In the region 80% are new jobs which compares to 71% nationally.

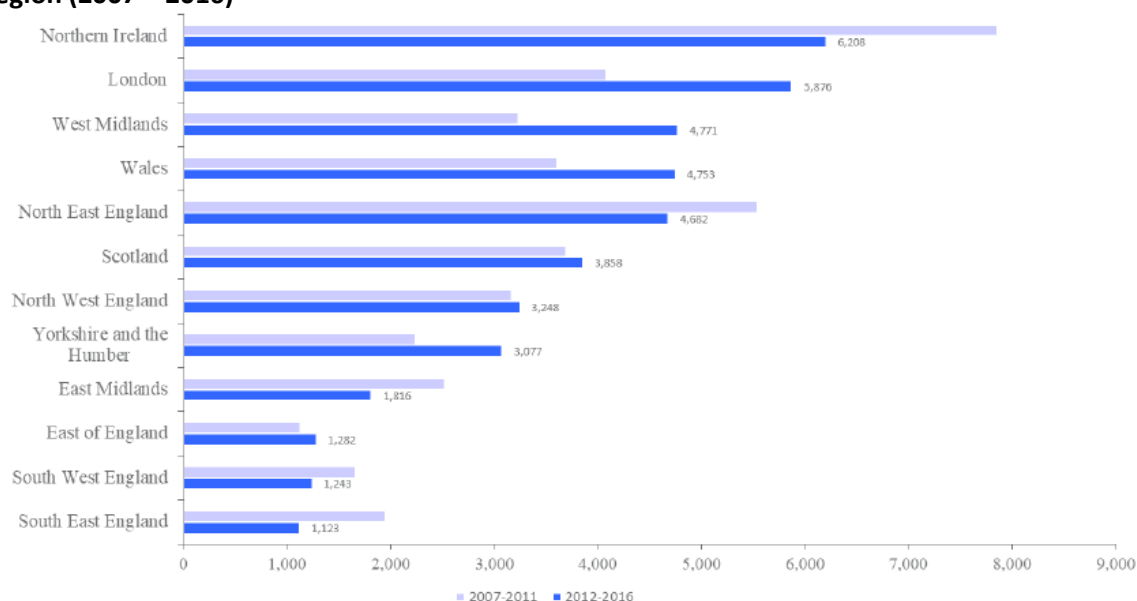
Table 4: Inward investment by employment across the UK

Region	FDI Projects		New Jobs		Safe Jobs		Total Jobs	
	2015-16	2016-17	2015-16	2016-17	2015-16	2016-17	2015-16	2016-17
London	889	891	24,191	20,753	3,111	488	27,302	21,241
West Midlands	168	151	11,119	6,570	2,813	1,723	13,932	8,293
East Midlands	85	74	3,678	1,796	9,879	3,477	13,557	5,273
North West	151	147	7,715	6,501	1,392	3,178	9,107	9,679
Multiple UK sites	43	56	7,054	8,907	1,100	1,702	8,154	10,609
Wales	97	85	5,443	2,581	1,534	8,965	6,977	11,546
South East	253	217	5,507	5,432	3,003	1,940	8,510	7,372
Scotland	108	183	4,178	5,547	1,727	3,050	5,905	8,597
North East	77	69	2,991	4,609	1,742	2,761	4,733	7,370
East of England	116	125	3,280	3,634	2,803	1,288	6,083	4,922
South West	89	101	2,434	3,402	1,622	2,071	4,056	5,473
Yorkshire and The Humber	104	132	2,992	3,872	1,522	1,079	4,514	4,951
Northern Ireland	33	34	2,068	1,622	1,076	950	3,144	2,572

Source: IBM-Plant Location International GLT database, 2017

The West Midlands also punches above its weight. When measured by jobs created per 1 million inhabitants, the West Midlands is the third most successful region behind Northern Ireland and London (see figure 8) with the second largest increase in jobs over the two periods.

Figure 8: Jobs created per million inhabitants by foreign investment in the UK, by destination region (2007 – 2016)



Source: IBM-Plant Location International GLT database, 2017

Two out of five inward investment jobs are in motor vehicles (40%), followed by food, drink and tobacco (7%), electronic machinery (6%), other business services (6%), and post and telecommunication (5%).

Defining the problem

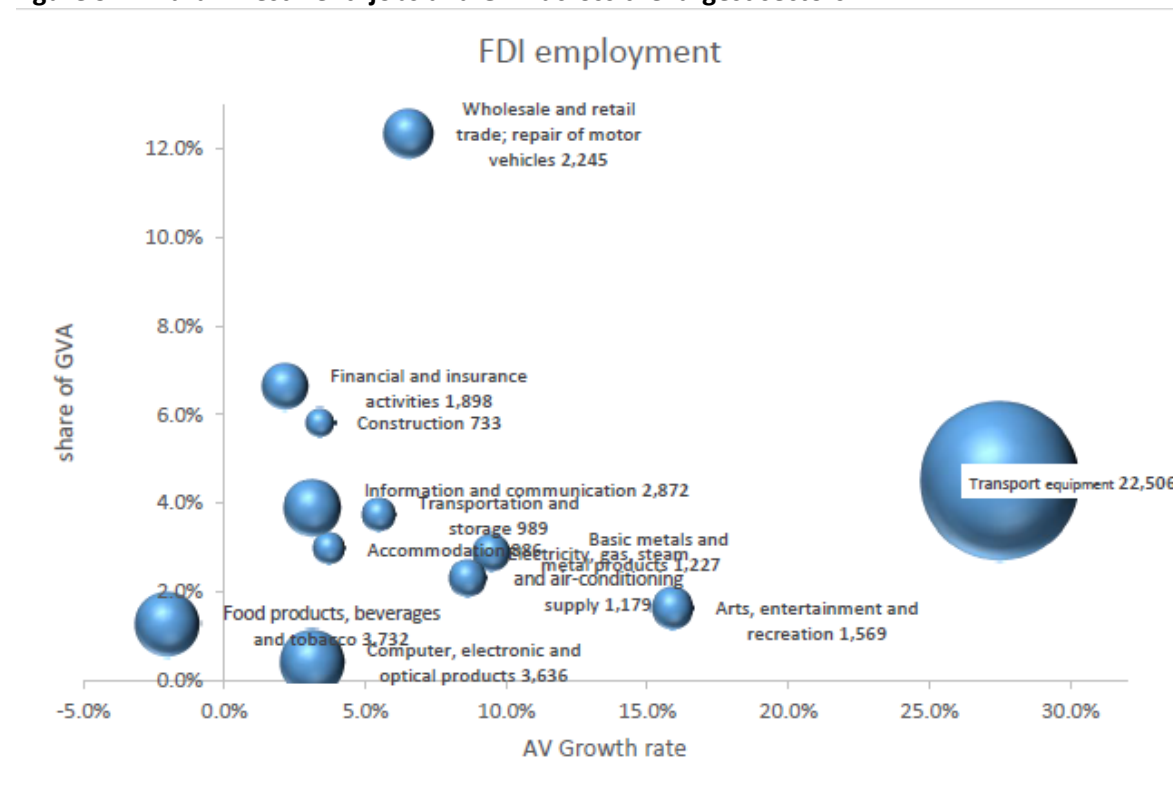
Whilst the West Midlands region has been relatively successful in attracting inward investors and employment, this has not been distributed across the WMCA area. Within the three LEP area, most inward investment jobs go to the GBSLEP area (71%). One quarter are created on CWLEP, but only 5% in BCLEP.

In addition, inward investment tends to impact on jobs or productivity. Figure 9 reinforces this point:

- Sectors that generate employment include: transport and storage; construction; arts, entertainment and recreation; and food products, beverages and tobacco.
- Sectors that generate productivity growth include: information and communication; computer, electronic and optical products; and electricity, gas, steam and air-conditioning supply.
- Sectors that generate both include: financial and insurance activities; and transport equipment (e.g. automotive).

Therefore an inward investment strategy could generate jobs and value added, but not necessarily in the same sectors.

Figure 9: Inward investment: jobs and GVA across the largest sectors



Source: Warwick Business School analysis of Marketing Birmingham data

Attracting high value added investment can bring new technology, potential spillovers, knowledge transfer, and training and skills into supply chains and related sectors. However, this depends on the ability of domestic firms to meet the demand of these inward investing companies and absorb the benefits. It also requires support to make sectors and domestic firms 'FDI ready' through creating the right infrastructure and skills base.

Finally, Brexit presents obstacles or opportunities. Potential inward investors may be put off but others will be attracted. That is why it is important to understand the drivers for inward investment.

Opportunities

The West Midlands is well placed to build on its inward investment successes. The newly formed West Midlands Growth Company can build on the expertise and experience of its predecessor working with sub-regional (local authorities and LEPs), cross- regional (Midlands Engine) and national partners and stakeholders.

Building on success to date, considering and developing a well-balanced, successful inward investment strategy can deliver new jobs, productivity gains, increased investment, spillovers and knowledge transfer, skills and training opportunities.

Our response

Table 5: Place/Inward Investment – proposed actions

Place/Inward Investment	How?	Responsibility	
Build on the inward investment strategy	The regions success in attracting inward investment is based around a sector approach.	UKTI WMCA West Midlands Growth Company LEPs	Policy 'space': Develop inward investment strategy and the intelligence that underpins it
Target inward investment efforts on job creation and value added (recognizing there is a trade-off)	Sector based approach that recognises the distinction between technology and more labour intensive activities, understanding these often support each other.	UKTI WMCA West Midlands Growth Company LEPs	Develop sector networks
Make sectors/firms inward investment ready to support inward investors and benefit from inward investment	This needs to understand the nature of the relationships between local firms and inward investors.	LEPs Growth Hubs Sector bodies Businesses	Opportunities: Business customers and suppliers; spillovers; investment Jobs, skills, pay

(5) People/Skills¹²

The WMCA Productivity and Skills Commission call for evidence in spring 2017 highlighted insufficient skills levels as a key contributor to the £16.5 billion output gap¹³ experienced by the WMCA vis-à-vis the national average.

There is a wealth of evidence to the view that skills are one of the key drivers of productivity – at the national level. However, the relationship between skills and productivity at the firm-level is not clear. Therefore what type and level of skills held by whom makes a firm more productive is not known. However, there is evidence to suggest that a mix of skills at firm level is important.

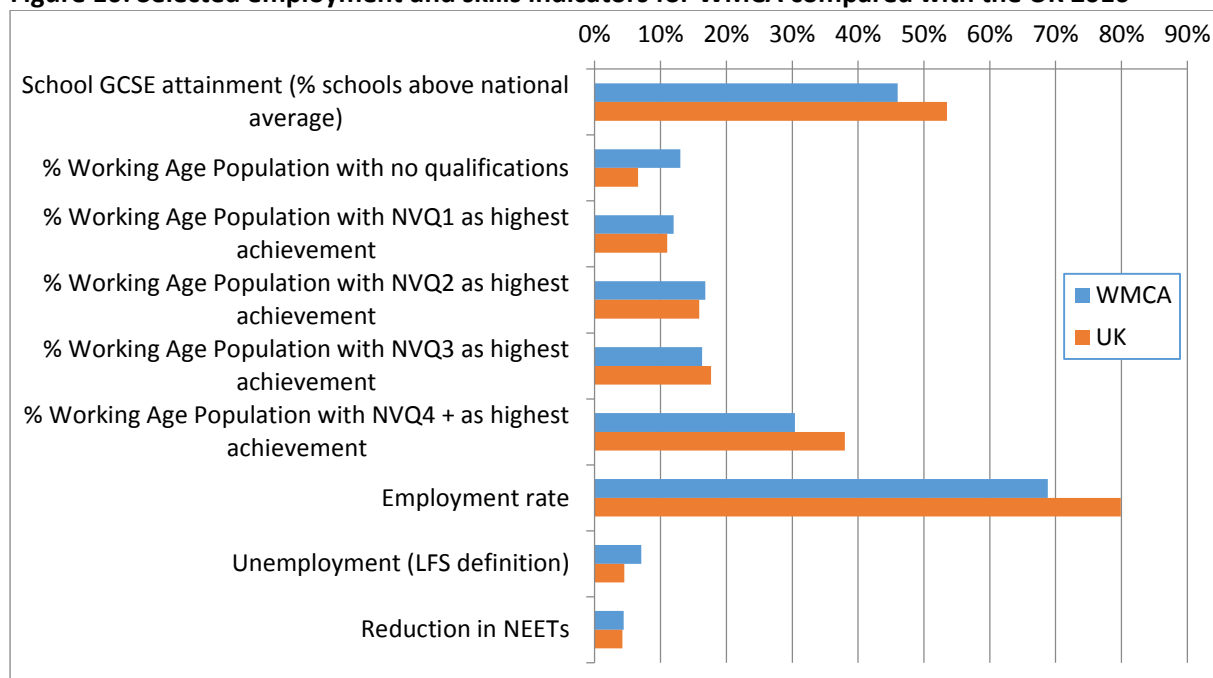
As with inward investment, the aim is to hit a ‘sweet spot’ of sufficient numbers of high quality and productive jobs.

The skills sector – including both education and training, from the Foundation through FE to HE levels – has recently undergone profound change in its strategic and operational organisations, methods of funding, curriculum and qualifications.

Current position

Across all of the previous foundations of productivity, the relative picture for the WMCA area is mixed. On some measures the sub-region and individual LEPs perform well, and on others they perform less well. However, as far as skills are concerned, the WMCA area tends to perform below average across a number of indicators: GCSE attainment; adult attainment; employment and unemployment.

Figure 10: Selected employment and skills indicators for WMCA compared with the UK 2016



Source: Revised GCSE and equivalent results in England: 2015 to 2016; Annual Population Census 2016; ONS Statistics: NEET and participation 2016

¹² Anne Green, City-REDI, University of Birmingham (March 2018), Skills: (A briefing note for the WMCA Productivity and Skills Commission), see <https://tinyurl.com/yadwn4yx>

¹³ WMCA Annual Economic Review 2017, p14

The Skills report shows that, on the reduction in NEETs measure, the WMCA areas perform slightly better than nationally. However, the regional NEET rate (7.3% in 2016) is higher than the national average (6.0%), as is the rate for all of the WMCA's constituent local authorities except for Sandwell (5.6%), Solihull (4.8%) and Wolverhampton (5.3%). The report also shows that the WMCA area also has a higher take-up of apprenticeships (per employed population). The HE sector is identified as a key strength, both in terms of skills and innovation.

The relatively low skills performance of the population is reflected in the skills needs of employers. According to the latest available at the time of writing Employer Skills Survey (2015), the West Midlands region has higher levels of skills shortage vacancies for higher skill (36.2% compared with 26.6% in England) and middle skill level (29.7% and 26.9%) occupations. Skill shortage levels are highest for professional occupations (48.2% and 32.9%) and skilled manual (52.5% and 44.2%) occupations. However, whilst skills shortages and skills gaps (where the West Midlands is close to the national average) are an issue for employers, skills underutilisation is a more significant issue. Whilst 20% of West Midlands employers report a skills shortage or a skills gap, 30% report having staff that are under-utilised (i.e. those that have both qualifications and skills that are more advanced than required for their current job role).

Defining the problem

The above analysis suggests that skills (as measured by qualifications) are a significant problem for the WMCA area compared to the national average and for employers. In addition, the profile across the three LEP areas suggests that whilst all three areas are below the national average on a number of skills indicators, the problem is greatest for the Black Country. The proportion of adults in the BCLEP area without a qualification is more than double that of CWLEP, and almost double that of GBSLEP. The proportion of people with at least an NVQ Level 4 qualification paints a similar picture with BCLEP having much lower levels than the other two areas. But the best performing area (CWLEP) is still below the national average.

Addressing the WMCA's skills problem is not simply about giving people more training and qualifications. They need to have the 'right' skills and employers need to utilise people and skills more effectively. There are a number of barriers to achieving skills acquisition and utilisation including:

- For individuals - individuals' characteristics (e.g. age, ethnicity and disability); a lack of access to financial and other resources; caring responsibilities; a lack of flexibility in skills provision; a lack of English language skills amongst some residents; and low confidence.
- For SMEs: releasing staff for training; flexible provision; access to support and funding; and the need for leadership and management training.

Provision of careers information, advice and guidance (IAG) was seen as fragmented and patchy for individuals. This is also a complaint from employers that they find the landscape of skills provision difficult to navigate.

Opportunities

Whilst the impact of Brexit (especially on migrant labour) and technological barriers are seen as important concerns, there are also a number of opportunities. Skills policy is high up on the agenda of all governmental organisations; much is known about ‘what works’; the devolution of the Adult Education Budget (AEB) will bring resources which can be tailored to identified WMCA skills needs; and the area has a strong and well developed infrastructure of FE and HE provision.

Skills also fits into wider regional debates around creating ‘good work’ and promoting well-being and improved mental health, not to mention skills as underpinning a number of other foundations of productivity (e.g. innovation and inward investment).

Improving the WMCA skills position will bring improved employment participation and job entry rates; more inclusive labour markets; more higher-skilled workers; stimulate innovation, attract inward investors; increase knowledge transfer and improve working conditions and pay.

Our response

Table 6: People/Skills – proposed actions

People/Skills	How?	Responsibility	
Adopt an integrated ‘more and better jobs’ approach to economic growth	Promote ‘good work’; develop appropriate indicators drawing on existing research and ongoing work in WMCA on Inclusive Growth	WMCA; Sector bodies; LEPs; RSP; CIPD	Policy ‘space’: The skills ecosystem whether regional or sector-based
Develop a coordinated skills ecosystem integrating supply and demand	Establish a memorandum of understanding on the actors, structures, protocols, responsibilities, resources and expertise Work with employers to raise demand	DFE; DWP; WMCA; RSP; LEPs; schools, FE and HE	Funding – AEB, apprenticeship levy and ESIF and their successors Careers IAG
Improve basic, technical and leadership/management skills development	Through ecosystem, develop ‘all-stakeholder’ approach to skill development Audit and benchmark regional technical education against T-Level Routes Audit and benchmark regional management education against regional needs	DfE; DWP; RSP; Jobcentre Plus; FE and HE providers; sector bodies	Employer engagement Technical education and training – Level 2 to HE
Develop an employer engagement strategy to raise demand	Use the Regional Skills Plan (and subsequently information and intelligence from the SAPs) to draw together existing and initiatives in the region; with reference to expertise and experience elsewhere (e.g. via OECD)	RSP; SAPs; LEPs; local authorities; sector bodies; training providers; FE; HE	Opportunities: Improved employment rates More inclusive labour markets Avoid Brexit-induced skills shortages Enhanced talent attraction
Improve all-age careers entitlement and skill development opportunities	Implement Careers Strategy; better engage employers; develop regional careers web portal	DfE; WMCA; National Careers Service (providers); Jobcentre Plus; Schools, FE and HE	Higher-skilled workers Improved skills match Jobs that provide sustainable employment Productivity and innovation boosts
Have better regional and local labour market information/ intelligence	Collect and make easily available better regional Labour Market Information (LMI) Undertake regular skills audits for WM and for priority industries	DfE; WMCA; SAP; FE; HE	Improved skills match

3. Productivity in Key West Midlands Sectors

Introduction

The methodology for each of the deep dives has been tested with a view to replicating the approach for other key sectors to inform the development of sector plans as part of the emerging Local Industrial Strategy and further Sector Skills Plans.

Transformational and Enabling Sectors

In its 2017 Strategic Economic Plan (SEP), the WMCA identified ten sectors fundamental to increasing GVA and employment. These are grouped into seven Transformational and three Enabling sectors as detailed in the table below.

Table 7: Transformational and Enabling sectors

Transformational sectors	Enabling sectors
Advanced Manufacturing and Engineering	Cultural economy including sport
Business, Professional and Financial Services	Public sector including education
Construction (Building Technologies)	Retail
Digital and Creative	
Life Sciences and Healthcare	
Energy and Environmental Technologies	
Logistics and Transport	

Source: WMCA SEP 2017 Technical Appendix: Sectors

Within the WMCA SEP a vision was agreed up to 2030, with objectives including the improvement of regional productivity, skills levels and infrastructure quality. The strategy and vision are informed by an adopted economic forecasting model, which helps to set ambitions in order to meet the vision scenario. GVA and jobs are integral headline indicators within the SEP, and the ambition for 2030 for the WMCA overall is to reach £153bn GVA and 2.4m jobs (from £86bn and 2m jobs now). In the same scenario, the ambition is that GVA per head will be on a par with the UK average by 2026, and 5% higher by 2030, reflecting significant productivity growth over time.

The SEP divides these numerical ambitions into the sectors outlined above, providing GVA and jobs ambitions across key industries in the economy. Table 8 shows that, within the 'vision' scenario, the ambition is both jobs and GVA will grow to the end of the next decade, with GVA growth in all of the seven transformational sectors. The ambition of a higher percentage growth of GVA over jobs means that GVA per employee would also increase, a key measure of productivity.

However, Table 8 also identifies weaknesses in the regional economy. Within all sectors, GVA per employee was below the national sector average in 2015 – apart from energy and environmental technologies. This means that, across most of the economy, productivity is lower in the WMCA than it is within the UK average, and this has a substantial impact on economic growth and standards of living. Furthermore, given the UK's low international productivity ranking, there are (and likely to continue to be) significant gaps between the WMCA and its main international competitor regions. However, the WMCA's 'vision' scenario would enhance productivity growth up to and beyond 2030; with the ambition of GVA per head being 5% higher than the national average by 2030.

Table 8: Transformative sectors –GVA and jobs

	GVA			Jobs			GVA per employee		
	2015 (£m)	2030 Ambition (£m)	% change 2015-30	2015	2030 Ambition	% change 2015-30	2015 WMCA	2015 UK	Difference
Advanced Manufacturing & Engineering	12,110	18,562	53%	209,242	194,630	-7%	57,874	58,928	-£1,054
Business, Professional & Financial Services	24,152	48,985	103%	405,989	531,572	31%	59,488	75,560	-£16,072
Construction	7,089	10,891	54%	186,615	234,165	25%	37,986	40,666	-£2,680
Digital & Creative	4,648	10,997	137%	74,917	92,271	23%	62,040	69,843	-£7,802
Life Sciences and Healthcare	6,223	12,114	95%	228,289	323,796	42%	27,258	28,474	-£1,215
Energy & Environmental Technologies	3,356	4,799	43%	24,533	23,391	-5%	136,789	121,183	£15,605
Logistics & Transport	4,718	7,090	50%	122,630	125,476	2%	38,472	45,200	-£6,729

Source: WMCA's Economic Model, Oxford Economics – analysis by Black Country Economic Intelligence Unit (EIU)

Further detailed analysis can be found under in sector-led work undertaken for the Commission. See <https://tinyurl.com/yadwn4yx>

Automotive¹⁴

The West Midlands is the hub of UK Automotive sector¹⁵ employment, with more than double the number of workers than any other UK region. It is the home to an array of large global motor vehicle manufacturers, and an extensive supply and value chain covering a range of manufacturing and service sectors. The region is at the forefront of research and development into the next range of alternative fuel engines and autonomous vehicles. It is the biggest sector within advanced manufacturing and engineering both in terms of jobs and GVA.

Current position

In 2015, the automotive sector in the West Midlands employed 46,500, contributing approximately £3.2bn to WMCA GVA. This is 2% of WMCA jobs but 4% of its GVA. It is anticipated that the sector will increase its output by 20% between 2015 and 2030, with GVA productivity per employee increasing 60% to over £108,000.

This £3.2bn and 46,500 jobs forms the majority of the wider transport and machinery manufacturing sub-sector, which in total contributes £4.7bn and 68,500 jobs in the WMCA. Other activities within this include aerospace and rail manufacturing. There are many cross-over opportunities between automotive and these other advanced manufacturing sectors, particularly given the inception of new disruptive technologies such as electrification and the internet of things.

¹⁴ The automotive 'deep dive' is led by Jo Lopes, Head of Technical Excellence at Jaguar Land Rover with the support from Semta.

¹⁵ The Automotive sector is defined as SIC29: Manufacture of motor vehicles, trailers and semi-trailers

Table 9: GVA and Employment in automotive 2015 and 2030 Ambition

	GVA (£m)		Jobs		GVA per Employee (2015)		
	2015	2030 Ambition	2015	2030 Ambition	WMCA	UK	Difference
Automotive	3,150	3,790	46,500	35,004	£67,758	£74,145	-£6,387

Source: WMCA's Economic Model, Oxford Economics – analysis by Black Country EIU, BRES

Challenges

At £67,758 per employee¹⁶, the sector in the WMCA area is £6,387 lower than the UK average. However, productivity is higher than across the advanced manufacturing and engineering sector as a whole.

- **Business environment:** the size of businesses varies considerably across the subsectors, with automotive firms much larger than machinery and equipment businesses.
- **Infrastructure:** the sector relies on an efficient and reliant transport (for the supply chain), energy (for production) and digital (for the supply chain and innovation).
- **Innovation:** the sector is dependent on innovation across all of its components – products, organisation and working practices. Levels of R&D are high and there are excellent links between manufacturers and HE institutions. However, R&D investment is lower than in other countries, such as Germany, Japan and the US, and also behind India and China.
- **Inward investment:** The WMCA region has achieved remarkable success in attracting a number of high profile employers to the region, as well as component suppliers. The challenge is to continue to build on this success through Brexit.
- **Skills:** skills shortages are prevalent within the automotive sector. The occupations in most demand currently are¹⁷: design engineer, production engineer; programme engineer; quality ops engineer; senior programme engineer; manufacturing team leader; programme engineer; senior production engineer; quality assurance engineer; and maintenance technician. Most of these occupations also rank highly in terms of future recruitment needs.¹⁸ There is high skills demand but also limitations on supply. The Automotive Industrial Partnership mapped numbers being trained against numbers employed in the job role. The analysis concluded that, uniquely amongst English regions, the West Midlands is well below average when it comes to higher education, apprenticeship and further education/other automotive provision¹⁹. Part of the issue is the gender bias within many occupations, and therefore training courses. This is an issue employers, sector bodies and providers have striven to address.

¹⁶ This figure reflects the transport & machinery sub-sector (SIC 28-30) not just automotive (SIC 29)

¹⁷ From the Automotive Industrial Partnership Survey 2015. These are occupations identified as 'critical' because they are impacting on business output, or have been unfilled for more than three months.

¹⁸ Defined as starting to impact on business output or ongoing future recruitment is needed.

¹⁹ The Automotive Industrial Partnership In 2015, mapped the number of learners by provision type compared to the numbers employed by job role.

Opportunities

The UK Automotive Sector Deal²⁰ identified inward investment as an area to further develop with additional resources for the Automotive Investment Organisation (AIO) within UKTI. Employers within the sector are well represented and organised with bodies such as the West Midlands Automotive Council, part of the UK Automotive Council. The WMCA area has benefited from previous successful inward investment campaigns which provide a sound basis for the future working in tandem with the AIO and Midlands Engine.

The sector deal also identified innovation and pledged to continue to match-fund the Advanced Propulsion Centre (APC). Based in Coventry, the Centre adds to the WMCA's existing areas of excellence: the Advanced Manufacturing Hub, the Advanced Manufacturing Supply Chain Initiative (AMSCI), Centre for Advanced Simulation and Modelling, High Value Manufacturing Catapult. Leading on innovation requires closer working with a HE sector which has developed a close relationship with the automotive industry.

Whilst skills are an area of concern, there is a well-developed network of FE and HE provision to take forward the reforms in technical education, and maximising investment from the apprenticeship levy (especially across the supply chain). In addition, there are a number of initiatives (e.g. the Art of Manufacturing and Industrial Cadets) targeted at young people to ensure that there is a pipeline of technical talent entering the sector. This work will be further supported by the Government focus on STEM skills and the development of technology roadmaps (these identify timelines of current and planned changes within specific technologies e.g. energy storage). The national automotive sector deal identifies a range of initiatives the WMCA can engage with and shape to benefit businesses in the sub region. Regionally, the 'West Midlands Automotive Sector: Roadmap for Skills' seeks to harness national programmes and the regional skills infrastructure to develop:

- An **apprenticeship levy** underspend funded brokerage service, which would distribute unspent levy funds amongst West Midlands automotive sector non-levy payers.
- More universities and FE colleges to consider where they could provide **degree apprenticeships** for automotive employers to meet high-level skills needs.
- Coordinated support to ensure the existing FE college network has the capacity to cope with the introduction of **T-Levels**, and strengthening links between providers to ensure efficient usage of capacity.
- Automotive sector employers to work with local FE colleges to ensure sufficient **T-Level work placement** provision.
- The establishment of an automotive-focused Institute of Technology (IoT) with the new Digital Engineering Academy taking a lead, and to work with FE colleges/employers to raise awareness of future skills needs at **Level 4+**.
- Universities to better embed **transferable skills** (e.g. creativity, problem solving) into their degree courses.

²⁰ *Automotive Sector Deal*, HM Government, Jan 2018 (see <https://www.gov.uk/government/publications/automotive-sector-deal>)

Business, Professional and Financial Services²¹

The Business, Professional and Financial Services (BPFS) sector²² is a significant and diverse sector, covering international banks and insurance companies, architects, scientific research and development, employment services, rental and leasing activities through to more traditional accountancy and legal services. Although hit by the financial crisis of 2008, employment and GVA since have risen, and it is forecast to be one of the most important growth sectors in the next fifteen years. The sector is also contains high-quality, high-skill and well-paid jobs, all of which are forecast to increase.

Based on an understanding of current economic performance and also known impacts not yet reflected in the data - most significantly the arrival of HSBC's new headquarters in Spring 2018 – the Financial Services subsector was chosen to be the first focus of the BPFS Deep-dive activity. The Legal and Accountancy sub-sector would also be incorporated given the synergy and interdependencies with Financial Services. Whilst the Real Estate sub-sector is significant, it has substantially different economic drivers and would also benefit from analysis in parallel with the Construction sector work-streams for the Commission.

Further desk-based analysis was conducted for the two sub-sectors chosen to be taken forwards within the deep-dive. This considered more detailed analysis of jobs and GVA performance, but also included geographical spread, international comparisons, effect of HQs and regional comparators. This analysis subsequently informed the employer engagement and activity mapping activities for the BPFS sector Deep-dive which followed.

The research on which the following findings are drawn included:

- Analysis of comparative regional and national GVA and employment data and forecasts
- 34 qualitative interviews out of 40 identified companies
- 3 dedicated focus groups plus shared evidence from 4/5 aligned discussion events in period collaborative using the academic, policy and business representative organisation to ensure high quality respondents and access to a normally commercially protective sector and distribution across the region
- The structure was designed to test the reality of productivity measures on the ground and whether the gap in productivity is real; and if it is why. It was designed to provide insights into linking the macro measures to the micro business action.
- Work focussed on those companies most likely to see growth large enough to impact on GVA within the SEP time period.

²¹ The Deep-dive was led by the sector representative, Ian Barnes, Tax Partner at Deloitte LLP and Chair of BPS Birmingham, with the support of BPS Birmingham, City-REDI at University of Birmingham and Black Country Consortium. The Report can be found here: <https://tinyurl.com/yadwn4yx>

²² The BPFS sector is defined as Financial service activities (SIC 64); Insurance, reinsurance and pension funds (65); Activities auxiliary to financial services (66); Real estate activities (68); Legal and accounting activities (69); Activities of head offices (70); Architectural and engineering activities (71); Advertising and market research (73); Other professional, scientific (74); Rental and leasing activities (77); Employment activities (78); Office administrative, office support (82); and Activities of membership, repair of computers and Other personal service activities (94-96).

The evidence gathered has provided invaluable understanding of standard productivity measures and how they apply – or more to the point how they don't - to the BPFS sector. Contribution to place was also examined confirming that the BPFS sector is a driver of infrastructure and development, requiring access to high quality housing, sports and culture offering to satisfy the needs of the predominantly high-level employees. Also, participants felt that perception of only 'back office' low-value jobs in region is significantly damaging for the sector and attracting staff.

In terms of the prospects for the sub-sectors, participants largely shared the optimism for growth reflected in the desk-based analysis. Sentiment reflected that this growth will happen, however the nature and shape of growth will be highly dependent on how the regional structures respond and help shape the context, infrastructure and labour market. The perception among firms is that, current productivity issues will be exacerbated.

Relating this to the Foundations of Productivity, Skills and Innovation were identified as being the most significant affecting these two sub-sectors in WMCA. The key findings overall were as follows:

Current position

In 2015, BPFS sector employed just over 400,000 people and contributed over £24bn of GVA to the WMCA's economy. It contributes one in five jobs and 28% of WMCA GVA. Table 10 below shows that within the WMCA's 2030 vision scenario the ambition is for employment to grow by 31% between 2015 and 2030, and GVA is to double. As such it is one of the most significant sectors in the region in its own right. In addition, it is recognised that a thriving BPFS sector is valuable for enabling the growth of other sectors through the services it provides to businesses. For all of these reasons, the BPFS sector was selected to be one of the priorities to undergo a 'deep-dive' analysis to inform the Commission's work.

The focus initially was on defining the sector consistently, understanding potential and developing a methodology that was replicable for other sectors. The BPFS sector is a collection of sub-sectors, which have a mixture of geographical spread, labour requirements and skills differences amongst other prevailing characteristics. Consequently, there was a clear need to differentiate between these subsectors based on differences in levers, actions and potential specific performance KPIs.

Table 10 shows the subsector definitions adopted, and their current/forecast contribution to productivity and employment. Other Service Activities accounts for almost one quarter of BPFS jobs in the WMCA, whilst Support Services, Real Estate, and Recruitment & HR each account for around 17% each. Total GVA is highest in Real Estate which contributes over 43% to total BPFS GVA. In comparison, Financial Services contributes around 20%.

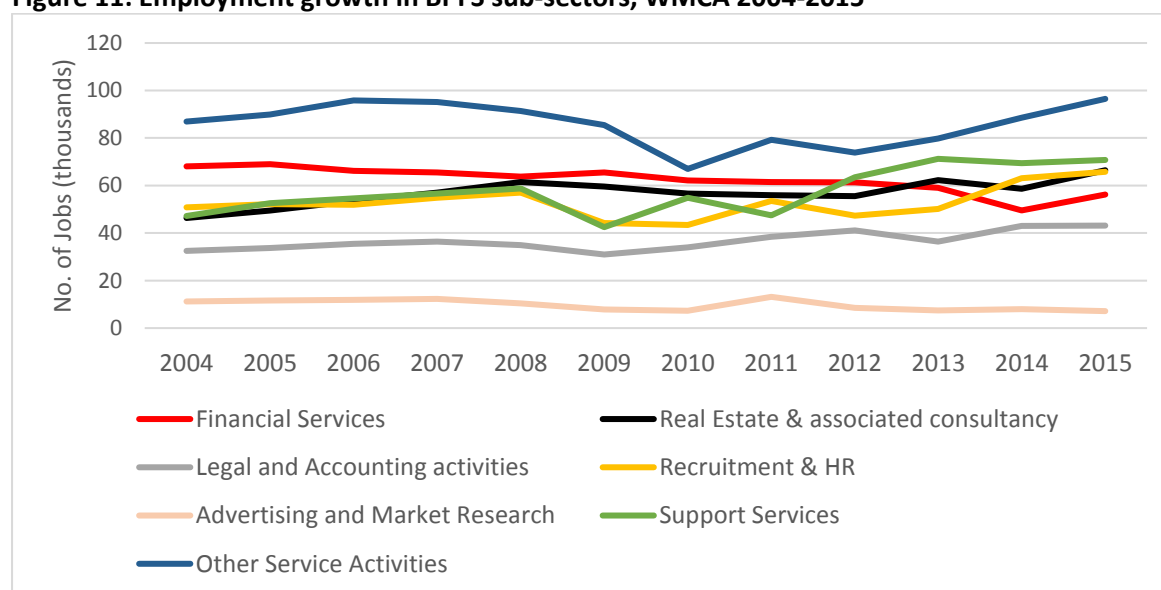
Table 10: GVA and Employment in BPFS 2015 and 2030 Ambition WMCA

BPFS sub sectors	GVA (£m)		Jobs		GVA per Employee (2015)		
	2015	2030 Ambition	2015	2030 Ambition	WMCA	UK	Difference
Advertising and Market Research (SIC 73)	229	796	7,148	13,253	£32,059	£43,921	-£11,863
Financial Services (64-66)	4,459	10,062	56,265	69,043	£79,251	£106,131	-£26,880
Legal and Accounting (69)	1,336	2,803	43,142	51,652	£30,973	£39,397	-£8,424
Other Service Activities (74, 77, 94-96)	3,511	5,597	96,478	114,626	£36,391	£40,525	-£4,134
Real Estate and Associated Consultancy (68, 71)	10,457	19,528	66,442	99,118	£157,392	£190,966	-£33,574
Recruitment and HR (78)	1,583	3,341	65,779	72,199	£24,067	£27,166	-£3,099
Support Services (70, 82)	2,576	6,857	70,736	111,682	£36,412	£45,543	-£9,130
Total	24,152	48,985	405,989	531,572	£59,488	£75,560	-£16,072

Source: WMCA's Economic Model, Oxford Economics – analysis by Black Country EIU

In the vision scenario, total BPFS GVA could double between 2015-2030. The largest numerical increase is expected in the Real Estate, and Financial Services subsectors, with the largest percentage increases estimated for the Advertising, and Support Services subsectors. The highest absolute jobs growth is forecast in Support Services, and Real estate, whilst the largest proportionate growth is expected in Advertising and Support Services.

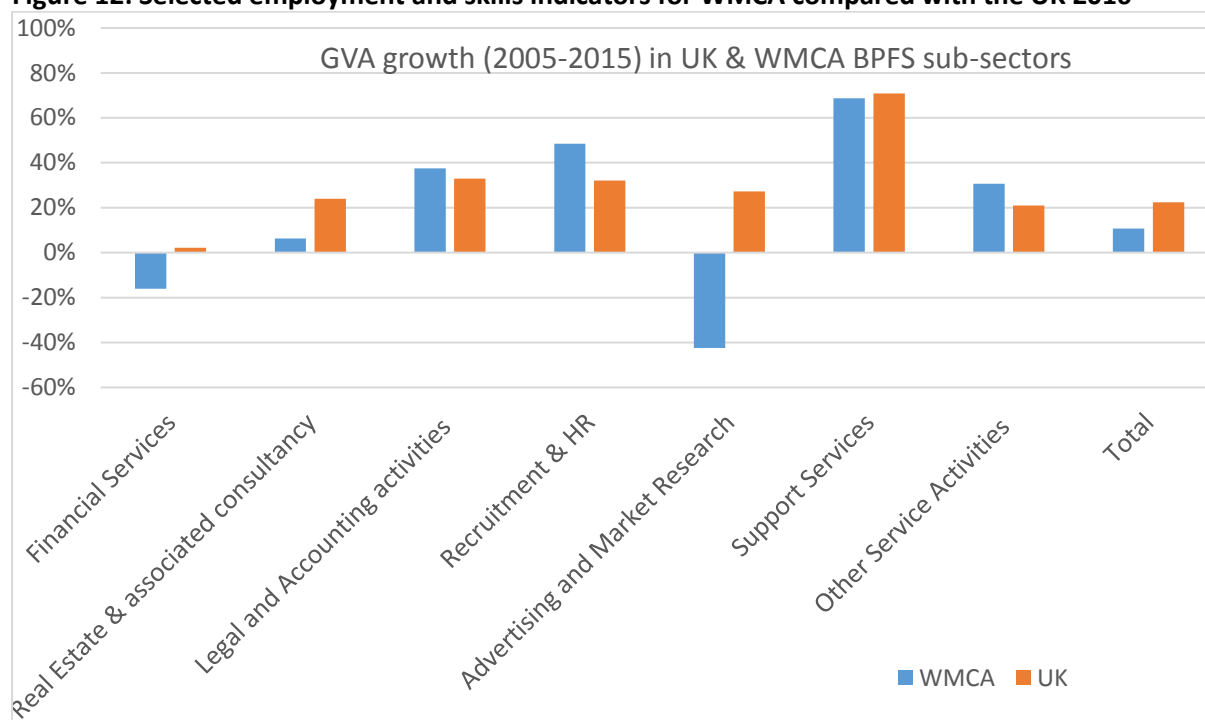
Figure 11 shows that between 2004 and 2015 most subsectors showed jobs growth up to the financial crisis in 2008. The exception was Financial Services. The financial crisis reduced employment 2008-2010 but since then all subsectors have seen jobs growth except for Financial Services and Advertising.

Figure 11: Employment growth in BPFS sub-sectors, WMCA 2004-2015

Source: WMCA's Economic Model, Oxford Economics – analysis by Black Country EIU

The difference between UK and WMCA GVA per employee in BPFS is £16,072. All sub-sectors lag behind the UK overall when it comes to GVA per employee, with Real Estate and Associated Consultancy having the largest deficiency, followed by Financial Services. Since 2010 WMCA has grown faster in the majority of sub-sectors, but not in Financial Services & Real Estate, which are the most productive/highest value sub-sectors. Jobs growth shows a similar picture with 13% growth since 2015 in WMCA and 20% in the UK. Since 2010, growth across the whole sector has been faster in WMCA than that of the UK.

Figure 12: Selected employment and skills indicators for WMCA compared with the UK 2016



Source: WMCA's Economic Model, Oxford Economics – analysis by Black Country EIU

Challenges

- Skills.** Current and future growth is already impacting on the labour market; there are not enough qualified people to do the jobs now, and main issue is attracting people to the West Midlands and managing the impact of significant wage driven poaching. Across the board, the gap nationally and locally is for staff who have 5 to 10 years' experience. This is creating a significant skills shortage in middle management and impacting on productivity. The majority of the jobs are highly skilled, with minimum of degree, and at a high level professional and technical level. Back office lower level roles are being lost – due to servitisation replaced by tech solutions - and business models are adapting to create yet further emphasis on higher value jobs remaining, involving business development, client relationship, bespoke advisory solutions.
- Innovation (Ideas).** Our research suggests BPFS is a very risk averse sector, with majority of innovation being client led. Furthermore, skills sets of typical employees and the business models of the firms that they work in are not conducive to entrepreneurial thinking and exploration of innovative ideas. Fundamental challenges of cost, capacity and risk reduce the appetite for innovation. This is particularly the case in relation to technology solutions and Artificial Intelligence, even though this was a recognised issue needed to be embraced to meet productivity challenges. The sector finds it difficult to successfully exploit new ideas as they are trained to reduce risk, and implementing the 'new' with unknown returns and impacts goes against their training and ingrained mindset.

- **Business Environment.** High cost of entry means this sector is predominately populated by long established firms who can trace their heritage back hundreds of years and have grown through mergers and acquisitions, although many have roots in the region. These roots may have shifted though and as their national role has grown, organisations' HQs move to London. Also, start-ups in this sector are less of an indicator compared to others because there is a significant trend of lifestyle businesses being established by retiring/ senior employees of the larger firms. The sector is also suffering from significant changes to the structure of employment, traditional 'partner careers' are no longer of interest to younger employees; who favour work life balance and flexibility.
- **Infrastructure.** This is not a traditionally capital investment-hungry sector, however investment is in high end buildings and professional environments, reflecting the image of the organisation and services offer, and increasingly the values of employees. Building quality and availability was not seen as a significant constraint, in fact some companies referred to having a 'choice' in building offer, not seen elsewhere, but it is foreseeable that demand will outstrip supply towards the end of the forecast profile if projected growth is realised. The cost of the city could constrain growth in the interim too.

Opportunities

BPFS sector in the West Midlands has a clear opportunity to compete on a global stage in its own right as a full-service offering, as well as also being critical to supporting the growth of other sectors in the region. Its reliance on talent and employment to succeed makes it a vital sector for place based growth in skills and productivity.

The significant opportunity for the region is to position the sector for Financial Services and Legal and Accountancy behind this vision:

More specifically, the opportunities that exist for increasing productivity for these sub-sectors include:

- **Skills.** There is evidence of increased school leaver entry points in recent years, but this is largely driven by very competitive labour market and early identification of future talent. There is an opportunity to create greater linkages with local talent pools to feed growth and influence good growth agendas. Employers are largely agnostic about subjects taken by applicants and some measure of grade deflation is evident in some businesses' entry requirements in order to attract a wider range of applicants. There is an increasing emphasis on 'business/ interpersonal/ soft skills' on entry, with expectation that job knowledge can be taught on the job, decreasing pressure from – and arguably actively resisting - sector-specific pathway mentality for potential solutions. Linked to this is that there is generally a lack of engagement with the local organisations involved in skills and productivity, and largely self-organising, presenting opportunity for strong place leadership to influence opportunities for regional citizens. Diverse and youthful nature of local talent pool is an underutilised regional asset for this sector.
- **Innovation (Ideas).** As mentioned above, there is limited desire to build innovation – particularly tech teams – within BPFS sector businesses; many would rather have a specialist tech sector to 'commission' from key services. At the moment they go to London for this support.

These opportunities were identified through 60-70 hours of interviews conducted in the deep-dive. These priorities were reflected in the activity mapping as well, with skills by far the most populated section. There is an existing awareness of sector businesses that they need to reach new talent pools as well as providing opportunities aligned to employees' values.

The sector accesses a mixture of formal and informal support. There is very little take-up of public sector funded support, but a range of self-organising solutions. Therefore very few true gaps in business support were found, but there is a 'hobbyist' nature to many of the interventions in existence.

Recommendations

The original optimism for the potential of the BPFS sector in the WMCA region seen in the data has been affirmed through the deep-dive consultation process. But it cannot be taken for granted. To do so would be to risk not only that growth not being realised, but that the firms could leave as quickly as they are arriving. The focus has to be on embedding these businesses into the fabric of the region, notably through greater connectivity with local talent pools to meet skills needs, such that they are able to fuel and sustain predicted growth, but in a way where the real prize to be won is greater opportunity for citizens and influencing an agenda of good growth over the decades to come. This can be through greater connectivity with local talent pools to meet skills needs. This will enable these new businesses to fuel and sustain predicted growth, but in a way where there is greater opportunity for local people, and influencing an agenda of good growth.

With the objective of inclusive good growth front and centre, the Commission makes the following recommendations in respect of the BPFS sector for Financial Services and Legal and Accountancy:

1. Pursue skills and innovation as the priority productivity drivers with potential to 'shift the dial' for BPFS Sector in West Midlands
2. Adopt the recommendations for skills with investment from the Deep-dive plus a coordinating body providing necessary infrastructure for place-based leadership required to deliver desired impact.
3. Build a brand proposition as described here, based on full service, high value offering to clients and employees.
4. Greater understanding of technology challenges and digital skills sought by businesses is required. This is in order to shift the narrative to one of innovation and procurement of solutions by the sector as a client of other firms. Instead of one of a supply side challenge for employment in the sector to solve the demands of transitioning to next-gen services. (E.g. Support BPFS firms in region to respond to Innovate UK call for "next-gen" services.)
5. Greater public championing of the sector to reflect its importance, priority status and drive enabling the potential for good jobs growth in the wider region.
6. Develop findings in conjunction with BEIS to inform national sector deal for BPFS to maximise the benefit for West Midlands.

Building & Construction Technologies²³

Building & Construction Technologies²⁴ is a significant part of the economy and is a major employer. It is also an enabler of economic growth and job creation and has a significant impact on enhancing the built environment, in creating the facilities required of a modern economy and addressing the current shortage of housing. It is also an enabler for other sectors' building commercial and industrial facilities and infrastructure.

Current position

In 2015, the WMCA Building & Construction Technologies sector generated just over £7bnm of GVA and employed almost 187,000 people. The WMCA's 2030 ambition is for the sector to generate almost £11bn of GVA and employ nearly a quarter of a million people. Currently, the large majority of people (70%) work in traditional building construction and engineering, with the remainder working in other building services (e.g. cleaning). Less than 1% work in mining and quarrying.

From the GVA perspective, building construction and engineering currently contributes the most (£6bn). However, this subsector is the least productive, as measured by GVA per employee. Mining and quarrying is significantly more productive (£130,000 GVA per employee in 2015); building construction and engineering generates £45,400 GVA per employee, and other building services £19,500.

Table 11: GVA and Employment in Construction 2015 and 2030 Ambition

Construction sub sectors	GVA (£m)		Jobs		GVA per Employee (2015)		
	2015	2030 Ambition	2015	2030 Ambition	WMCA	UK	Difference
Building Construction & Engineering (SIC 41-43)	5,954	8,803	131,062	165,481	£45,428	£47,239	-£1,811
Mining & Quarrying (05-09)	63	110	484	600	£129,930	£97,003	£32,927
Other Building Services (81)	1,072	1,979	55,069	68,085	£19,467	£22,246	-£2,778
Total	7,089	10,891	186,615	234,165	£37,986	£40,666	-£2,680

Source: WMCA Construction data sheet - WMCA's Economic Model, Oxford Economics – analysis by Black Country EIU

Between 2015 and 2030, the vision scenario would see GVA grow in each subsector, and by £3.8bn overall. In percentage terms, GVA would grow 54% overall in these circumstances, with other building services leading the way (85% growth over 2015-2030). Within this ambition, other building services would see the largest increase in GVA per employee – and thus productivity - of 49% (an increase of £9,600 GVA per employee) compared to a sector average of 22%.

²³ The Construction & Building Technologies deep dive is led by Mike Reade, Director at Balfour Beatty with support from CiTB.

²⁴ The Construction & Building Technologies sector is defined as Building Construction and Engineering (SIC 41-43); Mining and Quarrying (05-09); and Other Building Services (SIC 81).

Challenges

The CITB estimates that in 2018 there are 228 'significant' construction projects across the WMCA area, worth £3.9bn. A further £10bn of construction projects have recently been announced by the WMCA Mayor during the launch of the Midlands Engine Investment Portfolio. Many of these are housing projects but there are also significant transport, water, energy and general infrastructure projects.

Based on previous analysis for GBSLEP Growth Hub, the key challenges for the Building & Construction Technologies are:

- **Business environment:** the Building & Construction Technologies sector shares many of the supply chain issues with other sectors including: the need for greater communication and collaboration across the supply chain, agreeing and meeting quality standards, product and process innovation, inward investment, capital investment, and the management and sharing of risk and uncertainty. However, in Construction the problem is magnified by a highly fragmented supply chain (from design through to maintenance) and the dominance of small businesses and sole trader businesses which often present problems of management capacity and are reluctant to access external business support. There are also challenges with the procurement process—communicating the procurement pipeline and access to supply chain procurement opportunities, as well as access to frameworks. Providing suppliers with awareness of the opportunities, support to ensure that firms get on framework contracts, and cascading this support down to lower tiers of suppliers not only increases the chances of local businesses winning more contracts but can also improve their management skills, and process and product practices.
- **Innovation:** innovation plays an important role in the Building & Construction Technologies sector. A key challenge is the understanding, adoption and implementation of building information modelling (BIM), sometimes referred to as the CAD/CAM of construction. The use of BIM is continuing apace and the UK is seen as a global leader in the technique with potential for increasing exports. Whilst BIM is being used on most construction projects, smaller firms are lagging behind in its adoption and application. Whilst BIM requires an understanding of the technology, it also involves greater collaboration between the horizontal and vertical supply chain, especially between those involved in planning and design (architects and surveyors), and those involved in implementation (building). This need has crossovers with the leadership, management and supervisory skills agenda. Whilst BIM is a process innovation, there are also a number of product innovations providing opportunities and potential for the sector. This product innovation ranges from traditional materials (improved timber engineering technologies to remove imperfections, improve durability and extend the lifespan of the product) through to demands for lower embedded carbon/new environmental technologies and off-site construction or modular build. In addition, automation is an increasing feature of construction sites with robotics, 3D printing and drones playing increasing roles in project delivery.
- **Skills:** the main component of the sector 'deep dive' which identified a range of skills issues in the sector:
 - Construction is dependent on migrant workers, there are significant concerns over recruitment of skilled workers post-Brexit.
 - A complex training supply structure with over 200 construction industry training providers delivering in the WMCA area alone.
 - The prevalence of small employers who tend not to invest in training.

- Current identified skills risks in: plasterers, floorers; painters and decorators; specialist building operatives; bricklayers; architects; and construction project managers.
- Future skills risks for the following occupations: scaffolders; labourers; construction trade supervisors; other construction professional and technical staff; and other construction process managers.
- Replacement demand which particularly affects skilled manual workers due to the past shortfalls in skills training.
- A poor image of the sector for young entrants, and gender and demographic bias in training and recruitment.

Opportunities

There are a large number of construction projects underway and planned across the WMCA ranging from HS2 to new homes. This can provide a focus for bringing together a range of stakeholders to focus on the challenges facing the sector to generate co-ordinated responses, and learn from successful developments in other sectors. The WMCA's public sector partners have a variety of relationships with the sector. This provides an array of opportunities to apply support and leverage to the sector through procurement and planning. In particular, companies would benefit from a greater visibility of the public procurement pipeline.

In addition, the Chancellor's 2018 Spring Statement identified an additional 215,000 homes would be built in the region over the next twelve years which will be partly funded by a £100m Government grant.

An Industrial Strategy Sector Deal is being developed for construction, it will focus on innovation, technology and skills. The national Transforming Construction Industrial Strategy Challenge Fund is helping to finance centres of excellence and innovation in other areas. The WMCA could seek to identify R&D and innovation strengths within the FE and HE across WMCA to bid for funding. Skills often dominates discussion of challenges facing the sector. Skills and recruitment issues cover a range of occupations – from labourer to professional and management. There is tremendous scope to develop a coherent approach to pathways into and through the sector from traineeships to degree level apprenticeships to maximise increased resources from the apprenticeship levy. Identifying underspend and supporting employers to invest in training will be key elements of this. These are opportunities which the embryonic Construction Skills Task Force could embrace.

4. Conclusion

As the LIS formulation proceeds, the WMCA does need to consider the balance between key strategic choices such as:

- How far to prioritise radical, disruptive improvement in strategically important industries and technologies (e.g. AME, digital, energy etc.) and/or incremental progress in the long tail of businesses in larger employment sectors (e.g. retail, healthcare, PBFS, public sector etc.)?
- How far to focus on horizontal (e.g. skills, investment, infrastructure etc.) and/or vertical (sector-specific) intervention strategies?
- How to deploy devolved powers and resources effectively and/or influencing whole-system change – including retained national functions?

The Commission has sought to provide evidence and analysis that informs those choices. The Foundations and deep dive work undertaken to date strongly suggests that it is the cross-over points BETWEEN Foundations and sectors that may provide the most fruitful areas for intervention, recognising that these are often the most challenging to lead and manage. This needs to be explored further in 2018 and beyond. It is an area where WMCA can be at the forefront of best practice, and will give the West Midlands a definite competitive advantage over other UK areas and administrations.

This analysis acknowledges that the position of the WMCA and its constituent parts is complex, as is the relationship between the Five Foundations and productivity. This requires further analysis to generate increased understanding of GVA per job and per hour performance foundations; and develop propositions that assist in determining LIS policy choices.

Whilst the aim should be for productive growth, this should not be the only objective. A balance needs to be struck between productive growth and employment growth, creating quality and inclusive jobs. The Commission should define and test baskets of 'good growth' and 'good work' indicators to propose definitions for LIS productivity ambitions (see above).

We have considered the 'who' and 'how' of our recommendations. Major players are outlined in the text, and include WMCA, WMGC, LEPs and their Growth Hubs, HE and FE providers (including new entrants such as the proposed Institutes of technology.), local authorities and business (including intermediaries and social enterprise in some areas of activity). The 'how' should be further designed and appraised in ongoing exercises like the Local Industrial Strategy (LIS), Regional Skills Plan, sector deal negotiations and other development work.

Much of our analysis has encompassed overlapping and multi-layered complex geographies. The alignment of interventions at Midlands Engine, WMCA, LEP and local authority, levels should seek to increase connectivity across and leverage synergies of operating at multiple geographies. We are happy to discuss our findings in greater detail with WMCA and partners as required, and look forward to feedback on this report.

Acknowledgments

I would like to take this opportunity to personally thank members of the Productivity Leadership Group who have contributed to our discussions by bringing to the table a wealth of knowledge and experience in their respective fields:

Cllr George Duggins, Coventry City Council
Nick Page, Chief Executive, Solihull MBC
Nigel Driffield, Warwick Business School
Marion Plant, Coventry & Warwickshire LEP
Andrew Cleaves, GBS LEP
Jo Lopes, Jaguar Land Rover
Mike Reade, Balfour Beatty
Sarah Windrum, Emerald Group
Tony Davis, West Midlands Academic Life Sciences Network
Ian Barnes, Deloitte LLP
David Danger, Midlands Aerospace Alliance
Tom Westley, Westley Group
Andy Taylor, Unite
Jackie Dunne, Black Country LEP

I would also like to express my thanks to members of the Technical Reference Group for challenging our assumptions, validating our work and supporting the production of this Report. Thanks are also due to the Group's academic leads for writing a series of reports on the 'Five Foundations of Productivity':

Prof. Nigel Driffield, Warwick Business School
Prof. Jun Du, Aston University
Prof. Anne Green, University of Birmingham
Prof. Mark Hart, Aston University
Prof. Stephen Roper, Warwick Business School

I would like to thank Delma Dwight and colleagues at the Black Country Consortium Economic Intelligence Unit for researching and preparing the data which underpins this work. I am also grateful for the support of Rebecca Riley and her colleagues at City Redi at the University of Birmingham for helping us to develop our thinking around measuring impact.

Finally thanks are due to Peter Dickinson his colleagues at the Institute of Employment Research, University of Warwick, for working with the Commission and the Combined Authority to produce this Report.

Dr Andy Palmer

Appendix A: Membership of the WMCA Productivity and Skills Commission

Dr Andy Palmer CMG is Chair of the West Midlands Productivity and Skills Commission and is the President and Chief Executive Officer of Aston Martin Lagonda.

Prior to joining Aston Martin, Andy was Chief Planning Officer at Nissan where he held a number of senior posts in corporate planning, product planning, sales and IT.

Andy started his career as an apprentice and graduated from Warwick University with a Master's Degree (MSc) in Product Engineering in 1990, and acquired a Doctorate (PhD) in Management from Cranfield University in 2004. He is a Chartered Engineer and a Fellow of the Institution of Mechanical Engineers and is professor at a number of West Midlands universities as well as an advisor to government on apprenticeships and the motor sector.

As a proud Midlander, Andy is passionate about enabling change that will improve this region's economy and the lives of those who live and work in it.

Cllr George Duggins is Co-Vice Chair of the Commission. Cllr Duggins is WMCA is Leader of Coventry City Council and portfolio lead for Productivity and Skills in the WMCA. First elected to represent the Longford Ward in Coventry in May 1993, Cllr Duggins has served the City Council for 24 years and was previously the Deputy Leader and has held a variety of Cabinet positions.

From 2010-13 Cllr Duggins combined the Deputy Leader role with Cabinet Member for Finance and Human Resources. He was Cabinet Member for Children's Services (2013/14), Chair of Scrutiny Board Business and Enterprise (2014-15) and Chair of Scrutiny Co-ordinating Committee (2015-16). He became Leader of Coventry City Council in May 2016.

Prof. Nigel Driffield is Co-Vice Chair of the Commission's Leadership Group and Chair of the Technical Reference Group, Nigel is a Professor of International Business at Warwick Business School, having held a similar post at Aston Business School for 10 years. Nigel is also Pro-Vice Chancellor for Regional Engagement at the University of Warwick.

Nigel works with a number of stakeholders, both locally and nationally on issues relating to inward investment and economic development. He was on the Executive for the (Heseltine) Greater Birmingham Project with the Greater Birmingham and Solihull Local Enterprise Partnership, and assisted in the development of the West Midlands Strategic Economic Plan.

Nigel also has acted as an advisor to the OECD, World Bank, European Commission, and government departments and agencies including BEIS and UKTI.

Productivity Leadership Group members

Jackie Dunne is Deputy Vice Chancellor of the University of Wolverhampton. Jackie is responsible for leading the University of Wolverhampton's widening participation and outreach work, including engagement with schools and colleges and the University's work with Academy Schools and University Technical College. Marion is a Board Member of the Black Country Local Enterprise Partnership and represents the LEP on the Commission.

Marion Plant is Principal and Chief Executive of North Warwickshire and South Leicestershire College. She is also Chief Executive of the Midland Academies Trust which sponsors four secondary schools. Marion is a member of the Coventry & Warwickshire Local Enterprise Partnership and represents the LEP on the Commission.

Andrew Cleaves, Chief Executive of Birmingham Metropolitan College since 2014 has over 20 years' experience in industry, including as having run National Express' Birmingham-based UK Coach business. Andrew previously spent 12 years managing the public private partnership with Transport for London. Andrew is a Board Member of the Greater Birmingham and Solihull Local Enterprise Partnership and represents the LEP on the Commission.

Jo Lopes has worked for Jaguar Land Rover for over 20 years having joined the then Rover Group (including Land Rover) as a graduate. Since the end of 2006, Jo has been Head of Technical Excellence for JLR. He has responsibility for the development and nurturing of engineering skills and competencies within the company and exploiting links with Universities and professional institutions. Jo is joint sector lead for Advanced Manufacturing and Engineering on the Commission.

Mike Reade is a Director at Balfour Beatty with over 25 years' experience of regional transport schemes, from site engineer, through to Project Manager and Managing Director. Having held Director roles for the past 10 years, Mike has particular skills in business planning and strategy, and is adept at networking and enrolling people into collaborative teams. Mike is Construction and Building Technologies lead.

Sarah Windrum is Digital sector lead on the Commission and CEO and co-founder of the Emerald Group. Sarah is vice-chair of the skills board at Tech UK, the national industry body for the technology sector. As a member of the West Midlands Digital Board, Sarah is well placed to support the Commission's recommendations as they are taken forward.

Tony Davis, Life Sciences and Healthcare sector lead is the Commercial Director for the West Midlands Academic Health Science Network. This partnership brings together NHS commissioners and providers, academia and industry to support the NHS in increasing its contribution to both health improvement and the economy. Before this role, Tony launched Medilink West Midlands Ltd in 2003, promoting the life sciences industry to government and helping SMEs in the marketplace to grow their business.

Ian Barnes, who is an alumni of the University of Warwick, returned to the region in 2014 to head up Deloitte's 100-strong business tax team. During his 18-year career in the professional services sector, he has taken on a number of talent management roles, and is now responsible for more than 250 staff across Deloitte UK.

David Danger has pursued a career in the automotive and aerospace sectors, working for companies including Federal-Mogul, GKN, Saint-Gobain and most recently UTC Aerospace Systems, where he was Managing Director of their Marston Aerospace business. David is also Chairman of the Midlands Aerospace Alliance and chairs the Wolverhampton Skills and Employment Board. David is the Commission's joint sector lead for the Advanced Manufacturing and Engineering Sector.

Tom Westley is the Commission's Energy and Environmental Technology lead. He is chairman of Westley Plastics Ltd, a company specialising in the production of nylon castings for special applications. He is also currently the National President of The Institute of Cast Metals Engineers, the professional institute for foundry workers.

Andy Taylor is a Regional Coordinating Officer for Unite the Union, nominated to the Productivity and Skills Commission on behalf of the Midlands TUC. He has served on the Midland TUC Regional Executive Committee and the West Midland Labour Party Regional Board and has worked on behalf of members with employers in every sector of the regional economy.

Nick Page is the chief executive of Solihull Council. He began his career as a teacher in London, and also worked in the private sector working on educational projects, transformation of local communities and integrating services for children and families. In May 2009, he was appointed Deputy Director for Children's Services in Salford, promoted to Acting Director in 2010.

Technical Reference Group Members

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Prof. Mark Hart, Aston University – HE Lead Business Environment

Prof. Stephen Roper, Warwick Business School – HE Lead Ideas

Prof. Jun Du, Aston University – HE Lead Infrastructure

Prof. Nigel Driffield, Warwick Business School – HE Lead Place

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The following supporting reports and papers can be accessed by visiting or
<https://tinyurl.com/yadwn4yx>
<https://www.wmca.org.uk/what-we-do/productivity-skills-commission/>

The Foundations of Productivity Reports

- *Infrastructure*, Prof. Jun Du, Aston University
- *Business environment in the WMCA region*, Prof. Mark Hart, Aston University
- *Business innovation, diffusion and productivity in the West Midlands*, Prof. Stephen Roper, Warwick Business School
- *Skills*, Prof. Anne Green, University of Birmingham
- *Inward investment and productivity across sectors within the WMCA*, Prof. Nigel Driffield, Warwick Business School

Other Papers

- *Measuring Success – review of indicators and recommendations*, Rebecca Riley, City REDI (University of Birmingham)

Sector-led Reports

- *An Investigation into the Foundations of Productivity for Business, Professional and Financial Services in the WMCA area*, BPS Birmingham, City Redi (University of Birmingham) and Black Country Consortium
- *Automotive Skills Action Plan* (with Semta) *
- *Construction Skills Action Plan* (with CITB) *

*to be published during autumn 2018