Productivity in the Midlands: Trends, Challenges & Solutions

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Abstract

The Midlands Insight Report offers a strategic assessment of the region's productivity landscape, highlighting key challenges and proposing practical solutions. Leveraging local insights and recent data, this report provides policymakers with a roadmap to foster resilience and long-term growth.

The Midlands faces several pressing productivity challenges, including workforce and skills shortages, infrastructure and connectivity gaps, regional economic disparities, and underinvestment in R&D. Persistent skills gaps in high-demand areas, such as manufacturing and digital technology, limit the region's growth potential, while inadequate transport and digital infrastructure constrain economic mobility. Additionally, the Midlands grapples with an economic structure that leans heavily on traditional industries, creating disparities between urban and rural areas and hindering balanced growth. Recent global disruptions have further highlighted the region's vulnerability to economic uncertainty and underscored the need for cohesive policy frameworks.

The report presents solutions that tackle these issues holistically. To address workforce shortages, it recommends expanding vocational training, reskilling programs, and lifelong learning initiatives aligned with high-growth sectors. For infrastructure and connectivity gaps, the report advocates for targeted investments to improve transport and digital networks, particularly in underserved areas, ensuring better access to jobs and services. R&D and innovation capacity can be bolstered through increased funding and incentives for private-sector participation, particularly within collaborative R&D hubs that connect industry with regional universities. Policy and institutional alignment across combined and independent authorities of the region will help deliver consistent support for businesses, with a focus on equipping SMEs to embrace digital and technological advancements. Finally, the report calls for strengthened supply chain resilience through greater integration, regional logistics hubs, and initiatives to reduce dependence on international sources.

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1 60-Second Overview

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The report emphasises strategic solutions in two core areas:

- Skills and Labour Market Development: Expanding reskilling and upskilling programs in partnership with local industries, fostering lifelong learning, and creating pathways for high-demand sectors.

- Investment and Infrastructure: Focusing on transport, digital connectivity, and Investment Zones to attract private capital, particularly in underdeveloped areas, to bridge regional productivity divides.

1.1 Future Outlook

With coordinated action among public and private stakeholders, supported by strategic investment and policy alignment, the Midlands can close productivity gaps and create a resilient, sustainable economy. This report provides actionable insights to drive productivity gains that benefit communities and industries across the region.

2 Executive Summary

2.1 Productivity Landscape

The Midlands holds a vital position in the UK economy, with its diverse industrial base spanning advanced manufacturing, logistics, and digital sectors, contributing significantly to the national GDP. Despite its strengths, the Midlands' productivity levels are below the UK average, facing disparities across the East and West Midlands and between urban and rural areas. Key metrics illustrate both progress and ongoing challenges; for instance, Gross Value Added (GVA) per job has grown by 15%, reflecting some productivity improvements, yet the productivity gap with other UK regions persists. This is partly due to sectoral shifts from traditional industries to high-value sectors like digital technology and high-tech manufacturing, which require advanced skills and robust infrastructure. Such changes have underscored the need for targeted policy interventions that address the Midlands' unique mix of strengths and constraints, with emphasis on capitalising on growth sectors while closing regional gaps.

The region's resilience has been tested by events such as Brexit, COVID-19, and shifts in global trade patterns, which have exposed structural weaknesses, including in regional infrastructure, labour market dynamics, and R&D investment. These elements, coupled with the decline in business formation and export intensity, underline the urgency of a coordinated approach to bolster the Midlands' productivity. This report serves as a detailed assessment of these dynamics, offering policymakers data-driven insights and practical recommendations to bridge productivity gaps. By addressing these disparities, the Midlands can emerge as a balanced, more productive economy that enhances both national economic resilience and local prosperity.

2.2 Drivers, Enablers, and Barriers

The productivity landscape in the Midlands is shaped by a mix of drivers, enablers, and barriers, which are crucial for informing effective regional policies. Key drivers of productivity include a strong industrial base in manufacturing and logistics, a growing digital sector, and increasing R&D activity in certain localities. High-skilled jobs are emerging in industries like technology and advanced manufacturing, offering potential for significant productivity gains. Enablers include investments in infrastructure and education initiatives, which, when strategically directed, provide critical support to these high-growth sectors.

However, formidable barriers challenge productivity growth, as revealed through recent scorecard data. Skills shortages are particularly acute, with companies struggling to fill technical and digital roles, highlighting the gap between labour market supply and the needs of high-value industries. In addition, underinvestment in R&D constrains innovation, with the Midlands receiving only 5% of the UK's R&D investment. This limitation is further compounded by infrastructure deficiencies, especially in transport and digital connectivity, which restrict efficient movement of goods, services, and labour. Lastly, there is a need for cultural change within some sectors, where reluctance of businesses and public organisations to adopt modern practices hinders competitive growth. Addressing these barriers is essential to unlock the full potential of the Midlands' industrial and digital strengths.

2.3 Key Focus Topics

The report expands on two core areas that are essential for improving productivity in the Midlands:

- Skills and Labour Market Challenges: The Midlands faces persistent skills gaps, particularly in advanced manufacturing, digital technology, and high-growth industries. Employer demand outpaces the current availability of workers with the requisite skills, and despite the region's strong educational institutions, many graduates migrate to other regions with higher-paying opportunities. The impact is pronounced, with unfilled vacancies reducing overall productivity and innovation capacity. Policy initiatives, including the National Skills Fund and Local Skills Improvement Fund (LSIF), have aimed to address these gaps, yet they fall short in meeting sector-specific needs. The report advocates for further investment in vocational training, apprenticeships, and reskilling programs aligned with local industry requirements to close the skills gap. Lifelong learning initiatives are also recommended, encouraging workers to continue upskilling as industries evolve.

- Investment and Infrastructure: Investment levels in the Midlands remain low relative to other UK regions, which impacts its competitiveness. While FDI has been concentrated in high-value sectors, traditional industries, which still support many local economies, receive less support. Disparities in public and private investment exacerbate regional inequality, with urban centres like Birmingham and Coventry attracting more capital than rural areas. To bridge these divides, the report calls for greater public investment in transport infrastructure and digital connectivity, particularly in underperforming areas. Proposed solutions include establishing Investment Zones to encourage private capital inflows and creating targeted investment funds to

support SMEs in emerging sectors. Improved infrastructure will not only bolster productivity but also support broader economic resilience.

2.4 Future Outlook

Looking forward, the Midlands is at a critical juncture in aligning its regional plans with current economic realities and projected trends. While initiatives such as the Midlands Engine and the Ten Point Plan for Green Growth offer a framework for sustainable growth, the report highlights a need for greater integration of local initiatives with national strategies to maximise impact. Through enhanced collaboration between policymakers, businesses, and academic institutions, the Midlands can better harness its strengths in innovation, sustainability, and skills development to drive productivity gains.

Insights from roundtable discussions emphasise the commitment of stakeholders to this vision, with calls for increased flexibility in policy implementation, responsiveness to local needs, and continuous engagement with industry experts. The Midlands' future hinges on addressing its structural weaknesses in ways that support high-value, high-skill job creation, improve infrastructure, and ensure that productivity gains are equitably distributed. This forward-looking approach, underscored by targeted investments and a focus on sustainability, will enable the Midlands to navigate future economic shifts, closing productivity gaps with the most productive regions in the UK and enhancing its role in the UK economy.

3 Introduction

With advanced manufacturing, logistics, food and digital industries anchoring the Midlands' economic profile, the region has unique assets that position it as a key driver of the UK's post-Brexit economic evolution. However, these strengths are counterbalanced by challenges—skills shortages, underinvestment in research and development, and infrastructural inadequacies—that hinder productivity growth.

Grounded in insights from local businesses and experts along with data driven evidence, this report offers a perspective on identified key productivity challenges that combine on-the-ground realities with broader economic objectives, providing actionable recommendations that align with both regional and national economic goals.

The report identifies key productivity barriers, such as fragmented supply chains, regional disparities, and skills mismatches, and outlines targeted interventions to address these. Through collaborative efforts between public and private stakeholders, policy shifts, and a focus on high-growth sectors, the Midlands can drive sustainable productivity growth. The report ultimately serves as a blueprint to translate these productivity gains into improved living standards, fostering a more equitable and competitive regional economy.

This report is structured with key objectives that address the complex productivity dynamics within the region. First, it aims to assess the current productivity landscape by examining core challenges, such as skills shortages, infrastructure gaps, and investment limitations, while identifying critical drivers of growth across high-impact sectors. Second, the report proposes actionable solutions that encompass both immediate and long-term strategies, including targeted policy interventions and initiatives designed to strengthen competitiveness, foster innovation, and support workforce development. These objectives provide a foundation for building resilience and sustaining productivity gains that benefit both the regional economy and its communities.

4 Midlands Economic Landscape

As a result, the region has seen shifts in sectoral dominance, with advanced manufacturing, logistics, and digital technologies emerging as growth areas, while traditional industries continue to struggle. These shocks have also intensified the region's skills shortages and highlighted the need for greater investment in innovation and infrastructure to support long-term economic resilience.

As the largest regional economy outside London, the Midlands contributes approximately £240.3 billion, with nearly 4.4 million jobs and over 813,000 firms. The region accounts for 20% of England's exports and has a diverse business landscape, including sectors like agri-tech, logistics, MedTech, and advanced manufacturing. [67]

Table 1: Key Indicators for Midlands

	year	2019	2022	% change
Productivity	GVA per job	49309	56499	▲ 15%
	GVA per hour worked	31.8	34.5	▲ 8%
Business performance & characteristics	Export Intensity	28%	23%	▼ -17%
	New Businesses	13%	12%	▼ -12%
Skills	Low Skilled*	19%	11%	▼ -44%
	High Skilled	34%	39%	▲ 15%
Health & wellbeing	Active	79%	82%	▲ 4%
	Inactive due to Illness*	24%	33%	▲ 41%
	Working Age	61%	57%	▼ -6%
Investment, infrastructure & connectivity	4G connectivity	79%	84%	▲ 6%
	Fibre connectivity	9%	37%	▲ 337%
	GFCF per job	11796	9640.8	▼ -18%
	ICT per job	394	373.3	▼ -5%
	Intangibles per job	2260	2413.2	▲ 7%

Source: TPI Scorecard indicators only for Midlands' region

Table 1 provides a snapshot of key economic indicators for the Midlands, highlighting both its strengths and challenges. The region's Gross Value Added (GVA) per job filled has risen by 15%, reaching £56,499, reflecting progress in productivity. However, persistent issues like a 17% decline in export intensity and a 12% drop in new business formation emphasise the region's struggles with external market engagement and entrepreneurial activity.

4.1 What Has Changed?

The Midlands' economic performance before and after COVID-19 shows a mixed picture of growth and declines. Gross Value Added (GVA) per job filled saw a significant increase of 15%, rising from £49,309 to £56,499, while GVA per hour worked improved by 8%, reflecting productivity gains in the region [13]. However, export intensity declined by 17%, indicating reduced global market engagement especially with the EU countries, and the rate of new business formation fell by 12%, signalling challenges in entrepreneurial activity [15].

"*The Midlands Engine falls around £18 billion a year short of its productivity potential, making it 8% smaller than it should be. Birmingham alone underperforms by £10.5 billion annually, representing 58% of the total shortfall, highlighting the significant gap that still needs to be addressed to achieve its potential.*" [48]

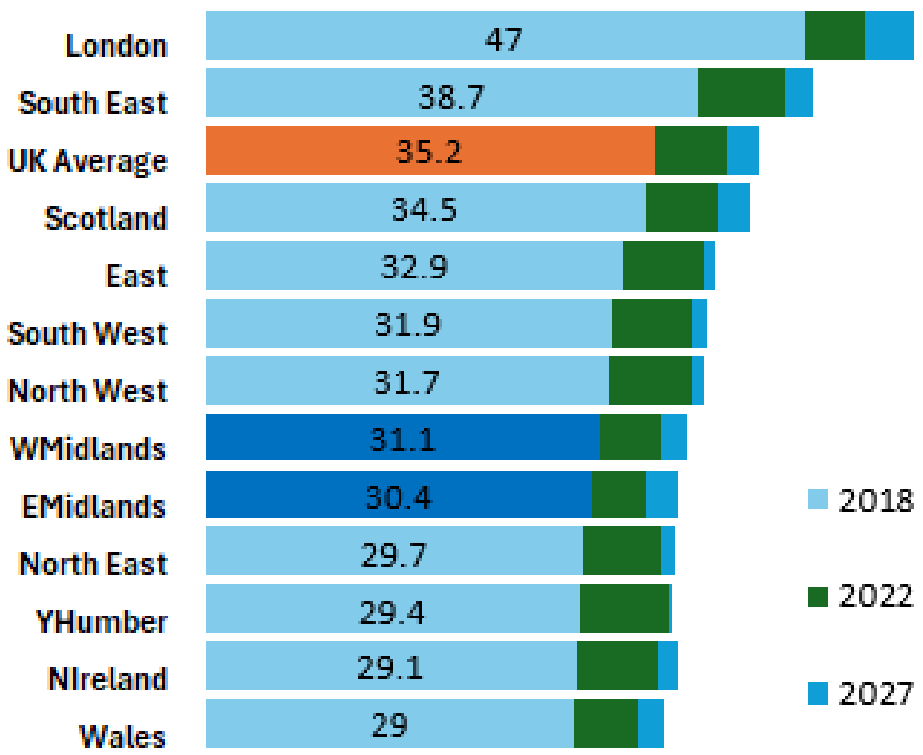
On the labour market side, with the total size of close to 5m active labour force, the share of high-skilled workers increasing by 15%, while the proportion of low-skilled workers declined sharply by 44%, indicating progress in upskilling. Nonetheless, the working-age population shrank by 6%, and economic inactivity due to illness which rose by 41% (or every 5th inactive person), highlighting ongoing health-related challenges. Digital connectivity improved dramatically, with fibre connectivity rising 3 times, yet capital expenditure per job dropping by 18%, reflecting lower investments in fixed assets.

4.2 Midlands Continue to Lag Behind

West Midlands and East Midlands are below the UK average by 13% and 15.8% respectively in terms of output per hour [52]. The region still lags behind most of the other region (Fig 1).

There is a substantial regional disparity in productivity, with **London** leading in all years, reflecting its strong economic performance driven by finance, technology, and high-value service sectors. The **South East** and **East of England** follow closely, benefiting from proximity to London and strong industrial and technological sectors.

Figure 1: GVA per hour worked (£)

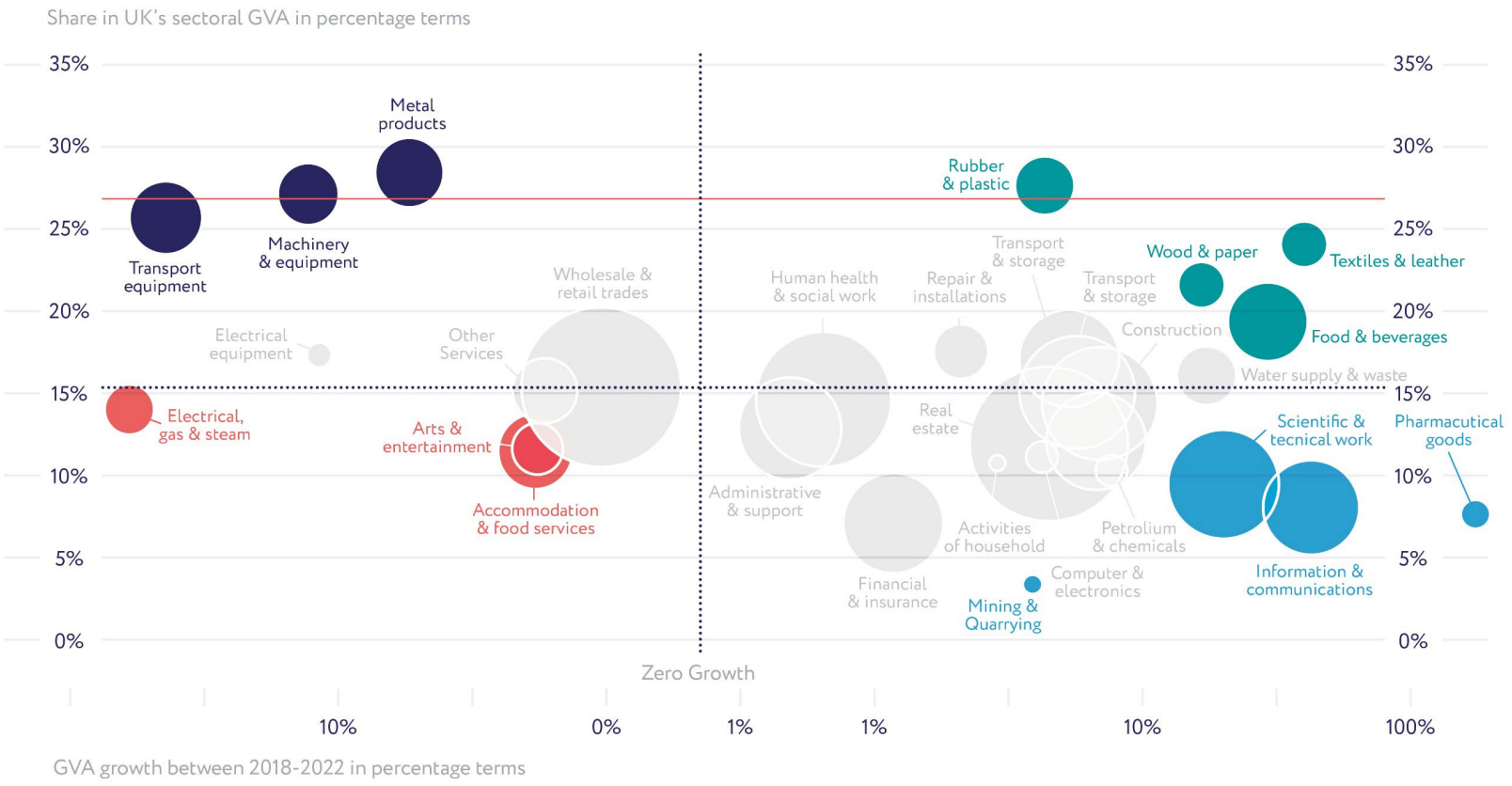


Source: ONS' GVA data for 2018 & 2022, plus our own forecast figures for 2027

The **Midlands** show moderate productivity levels, reflecting the importance of manufacturing in these regions but also pointing to potential constraints in moving towards more high-value industries.

Projections to 2027 show expected productivity growth across most regions at varying rate, with significant improvements in **London**, south regions and Scotland, while Midland's regions still expected to appear in the position and still below the national average.

Figure 2: Growing and shrinking sectors in Midlands in the post-Brexit period



Source: ONS sectoral GVA data

4.3 Productivity performance

Productivity performance of Midlands as a whole depends on various factors such as export intensity, business formation, skills levels, and infrastructure connectivity. A way to compare the regions considering all the changes in the key productivity indicators would be using TPI's Productivity Scorecards. The West and East Midlands are respectively 7th and 8th in position in 2023 scorecards in productivity performances when compared to other 10 UK regions. No surprise that London remains the highest-performing region followed by South East region and Scotland, the Midlands region sits at lower tier, with declining performance over time. This drop suggests challenges in maintaining productivity growth amid post-pandemic economic conditions and structural changes. More recent Quarterly Economic Surveys by East Midlands Chamber, after the Autumn budget, suggests that productivity level will go down further with expected decline in job offerings, job losses and lower economic confidence for 2025 from local businesses.

4.4 Sectoral changes

Between 2018 and 2022, the region saw considerable shifts in sectoral contributions to GVA, with manufacturing and technology contributing more to the economy, while low-skilled services contracted. Employment data further emphasises this trend, as the rising number of hard-to-fill vacancies, especially in technical and digital roles, underscores the region's persistent skills gap.

The sectoral bubble chart (above) displays the distribution of GVA across key sectors in the Midlands between 2018 to 2022, with advanced manufacturing and digital sectors representing growth areas, while traditional sectors like retail and hospitality are shrinking post-Brexit and post-COVID. This shift underscores the importance of upskilling and investment in high-value sectors to sustain long-term growth.

In terms of expanding sectors, industries such as **information and communication**, **scientific and technical work**, and **pharmaceutical goods** are seeing significant growth. A cluster of sectors in the right-hand quadrant (green bubbles), indicating both strong growth and higher-than-average contributions to the UK's total sectoral GVA. The **food and beverage** and **rubber and plastic** industries also exhibit strong growth, driven by rising consumer demand and technological innovations in these fields. This trend reflects a shift towards knowledge-intensive and high-tech industries, aligning with broader trends in the global economy that emphasise digitalisation, research, and development.

On the other hand, shrinking sectors displayed in the left-half of the chart include **accommodation and food services**, **arts and entertainment**, and **electricity, gas, and steam** industries. These sectors show negative GVA growth between 2018 and 2022 and taken harder hit by the economic shocks. The decline in **accommodation and food services** may be partly attributed to the lasting impacts of the COVID-19 pandemic, which disrupted tourism and hospitality. Similarly, the contraction of the **electricity, gas, and steam** sector could be tied to changing energy markets, the energy crisis caused by the Russian and Ukrainian conflict and the transition towards more sustainable energy sources. These sectors are struggling to recover to pre-pandemic levels or adapt to changing economic conditions.

Despite having key sectors like automotive and aerospace, R&D intensity remains low, limiting innovation and productivity growth. The slow adoption of advanced technologies and underinvestment in R&D have contributed to this lag. The Midlands invested only £33 per capita in R&D in 2023, a stark contrast to £200 per capita in Germany's Baden-Württemberg [17].

5 Key Productivity Challenges

"The Midlands continues to face unique productivity challenges such as insufficient skill levels, low employment rates, and a high prevalence of low-quality jobs. These factors contribute to the region's persistent productivity deficit, which has widened over the past two decades."

The Productivity Institute

The Midlands faces a range of productivity challenges, many of which have deepened due to recent shocks. These challenges, identified in both local consultations with business stakeholders and numerous reports, underscore the structural issues hampering regional growth. The following section highlights nine key productivity challenges that have been most frequently identified in reports and by industry experts.

5.1 Skills Shortages & Mismatches

The Midlands' labour market continues to struggle with significant skills shortages, particularly in high-value sectors such as advanced manufacturing and digital technologies. Reports like those from the Productivity Institute highlight that insufficient skill levels are a major barrier, with firms frequently unable to fill technical roles, thus limiting their capacity for innovation and growth.

5.2 Investment and R&D

The region's underinvestment in research and development (R&D) continues to constrain productivity. The Midlands has one of the lowest levels of R&D spending per capita in the UK, and this has stifled innovation in critical sectors such as aerospace and automotive. Enhanced public and private sector collaboration is essential to increase R&D intensity and drive long-term productivity growth [17].

Limited access to finance remains a persistent challenge, particularly for SMEs looking to expand or invest in new technologies.

5.3 Infrastructure & Connectivity

Poor infrastructure, particularly in transport connectivity, has been consistently cited as a key challenge for the Midlands. The region's East-West transport corridors and rural areas often lag behind in both physical infrastructure and connectivity, impacting business productivity and worker mobility. While improvements in fibre connectivity have been notable, further investment is needed to enhance transport links and internal movement of labour [52].

5.4 Regional and Sectoral Inequalities

Productivity levels vary significantly not only by UK wider regions but also across the Midlands, with urban centres like Birmingham, Derby, and Coventry outperforming rural areas such as Herefordshire and North Nottinghamshire. These disparities necessitate tailored regional strategies that address both urban growth and rural underperformance [7].

5.5 Industrial Clusters & Circular Economy

The Midlands' economic growth potential is heavily influenced by its industrial clusters, which include sectors such as automotive, aerospace, digital technology, and food production. However, these clusters face significant challenges due to fragmentation and a lack of coordinated development strategies. While individual

clusters like MIRA's Tech Park and the Black Country Industrial Cluster have shown potential, the absence of a unified approach stifles opportunities for cross-sector collaboration and innovation. Another pressing challenge is the slow adoption of circular economy principles. Many sectors, especially manufacturing and automotive, continue to rely on traditional linear production models, contributing to high emissions and inefficiencies.

5.6 Policy and Institutional Effectiveness

The Midlands' ability to overcome its productivity challenges depends heavily on the effectiveness of its policy frameworks and institutional structures. Recent structural changes, including the dissolution of Local Enterprise Partnerships (LEPs) and the establishment of Mayoral Combined Authorities (MCAs) and new Labour Government, have introduced both opportunities and challenges for regional development. While MCAs offer more coordinated regional planning, particularly in transport and infrastructure, the transition has been uneven across the region. Fragmented governance and funding uncertainty have led to gaps in business support services, particularly for SMEs, and weakened the region's capacity to implement cohesive economic development strategies.

5.7 R&D and Innovation Diffusion

Despite the Midlands' strong industrial base and academic presence, the region faces significant challenges in R&D investment and innovation diffusion. R&D funding, both public and private, remains below the national average, with the region receiving just 5% of the UK's R&D investment in 2022 [36]. This underinvestment hinders the generation of new technologies and patents, limiting the region's ability to stay competitive, particularly in advanced sectors such as digital services and manufacturing. Furthermore, the concentration of SMEs in the Midlands exacerbates this challenge, as these firms often lack the capacity to engage in large-scale R&D activities.

5.8 Competitiveness and Market Dynamics

The competitiveness has been under pressure in recent years, with firms in the region facing structural inefficiencies that hinder their ability to compete domestically and internationally. A reluctance to adopt new technologies and modernise operations, particularly among SMEs, has contributed to stagnating productivity. High energy costs, skill shortages, and limited domestic demand for local products further exacerbate the region's competitiveness issues. Although the region has strengths in sectors like automotive and aerospace, these advantages are undermined by a slow rate of innovation and insufficient investment in infrastructure and R&D.

5.9 Trade and Supply Chains

The Midlands' supply chains, particularly in manufacturing, aerospace, and automotive sectors, are key drivers of regional competitiveness. However, these supply chains face significant challenges, including fragmentation, inefficiencies, and over-reliance on international markets [64]. Fragmentation across local suppliers increases operational costs by 15-20%, while the reliance on imports, especially from the EU, has made the region vulnerable to trade disruptions post-Brexit. Additionally, many SMEs lack the resources to adopt advanced supply chain technologies or engage in R&D, limiting innovation and productivity improvements.

6 Skills Gap & Labour Market

"The UK lacks a culture of lifelong learning, which is prevalent in other countries like Singapore and Germany. Many workers in sectors like manufacturing expect to remain in the same role throughout their careers, which hampers retraining efforts as industries evolve with new technologies."

Jamie Cater, Senior Policy Manager, MakeUK

The Midlands region, much like the rest of the UK, faces a persistent and growing skills gap that is hampering productivity and economic growth. This skills gap, particularly evident in high-value sectors such as manufacturing, technology, and healthcare, is a significant factor behind the region's sluggish productivity growth. In recent years, the gap between the skills required by businesses and those possessed by the labour force has widened, with the number of unfilled vacancies rising sharply. Between 2017 and 2022, the Midlands saw a 78% increase in the number of job vacancies and a 156% increase in skill-shortage vacancies in the East Midlands alone [13]. The effects of this gap are amplified by demographic changes, labour market dynamics, and an aging workforce, all of which further strain the region's ability to improve productivity.

6.1 Skills Shortages & Productivity

A significant portion of the skills gap in the Midlands is concentrated in high-growth, high-productivity sectors such as digital technologies, engineering, healthcare, and advanced manufacturing. The Employer Skills Survey (2022) highlighted that skill shortages are particularly pronounced in technical, communication, and digital skills, with both the West and East Midlands experiencing severe difficulties in filling vacancies for these roles.

For instance, in 2022, the number of hard-to-fill vacancies increased by 180% in the East Midlands and 71% in the West Midlands, with skill-shortage vacancies following a similar trend. This not only hampers businesses' ability to grow but also has a negative impact on productivity, as critical roles remain vacant for longer periods. The mismatch between the supply of skilled labour and demand from businesses in key sectors limits the region's capacity to innovate and compete in global markets. The National Skills Fund, formerly the National Retraining Scheme, aimed to address these shortages by focusing on Level 3 qualifications but often misses the critical needs at Level 2, further highlighting the mismatch between policy initiatives and regional labour demands.

Figure 5(a) reveals notable sectoral disparities in the Midlands, illustrating the link between skill gaps and productivity. High-productivity sectors such as finance and water supply, with lower skill gaps, achieve output levels exceeding £70,000 per worker annually, benefiting from stable labour markets and targeted training. In contrast, low-productivity sectors like retail and hospitality, with higher skill gaps, see output fall below £30,000 per worker, reflecting compounding challenges. These insights emphasise the urgent need for tailored workforce strategies to address skill shortages in high-growth sectors while lifting underperforming industries in the Midlands.

6.2 Demographic Challenges and Labour Force Decline

The Midlands faces significant demographic challenges that compound the skills gap. The region is experiencing an aging population, with the proportion of the workforce aged 50 and over steadily increasing, while younger workers are either leaving the region or not entering the labour market at the rates required to replace retirees. The population aged 16-24 has been declining, with many young people moving to other parts of the UK, particularly London, in search of better job opportunities. This trend exacerbates the skills shortage in critical sectors, as fewer young workers are available to fill roles in the region's high-value industries.

The lack of employer investment in training can be attributed to several factors, including the costs associated with providing training, a lack of awareness of available funding or support programs, and uncertainty about the return on investment. However, without significant efforts to address these barriers, the skills gap in the Midlands is likely to worsen, further undermining the region's economic potential.

6.3 Employment Trends and Economic Activity

The Midlands' labour market is marked by significant regional disparities in employment rates, with some areas experiencing high levels of inactivity. As of 2022, approximately 22% of the working-age population in the Midlands was inactive [22], with many citing long-term illness or family/home responsibilities as barriers to employment. This is slightly above the national average and represents a key challenge for policymakers seeking to boost productivity and economic output in the region.

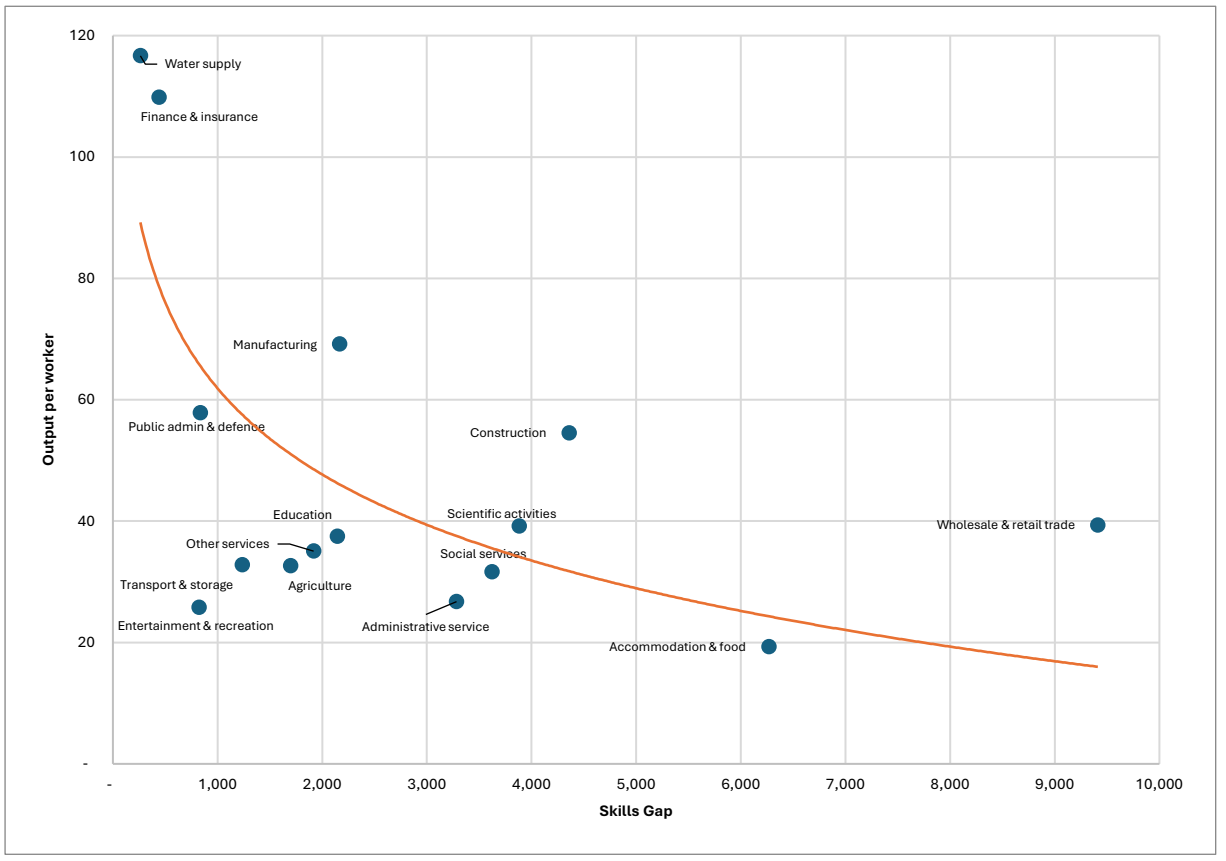
Employment in the Midlands has also been hampered by a lack of alignment between available jobs and the skills of the local workforce. Many of the job vacancies in the region, particularly in high-growth sectors, remain unfilled due to a shortage of suitably qualified candidates. The Employer Skills Survey found that sectors such as manufacturing, healthcare, and IT are particularly affected, with hard-to-fill vacancies in these industries contributing to lower productivity.

6.4 Impact of Hard-to-Fill Vacancies on Productivity

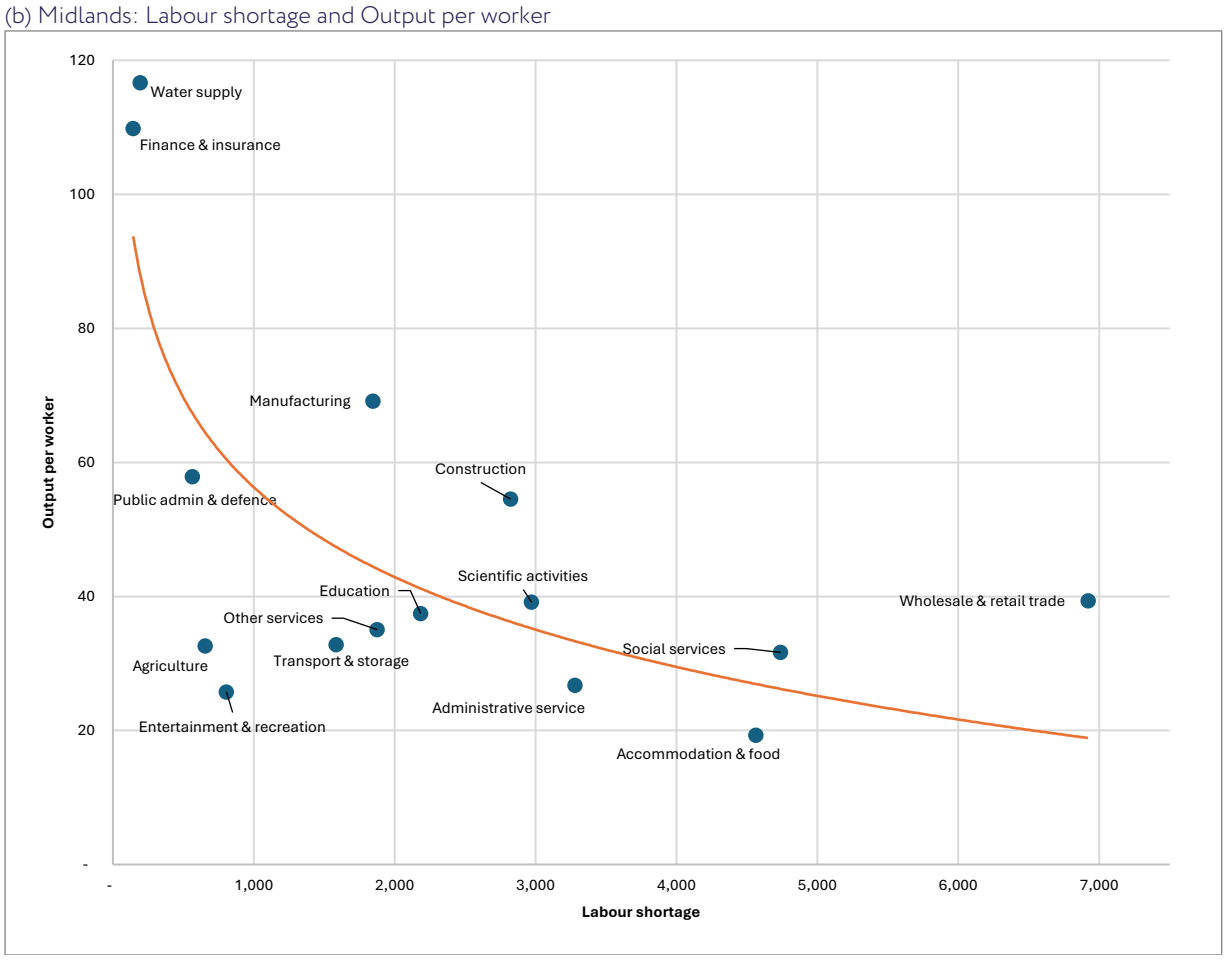
The sharp rise in hard-to-fill vacancies across the Midlands has had a direct impact on regional productivity. Data from 2022 shows a clear negative correlation between the number of hard-to-fill vacancies and GVA per job. Areas with higher concentrations of skill shortages, such as the East Midlands, tend to have lower productivity levels, as businesses are unable to operate at full capacity due to understaffing. In addition, businesses in these areas are often forced to reduce their growth ambitions or outsource critical tasks, further limiting their productivity potential.

Figure 5: How are Skill-gaps and Labour shortages correlated with Productivity in Midlands?

(a) Midlands: Skill-gaps and Output per worker



(b) Midlands: Labour shortage and Output per worker



Sources: ONS ITL1 & UK chained volume GVA measures, ONS Workforce jobs by region & industry data and the Employer Skills Survey data for 2022 at sectoral level

Figure 5(b) highlights the relationship between labour shortages and productivity in the Midlands, offering insights into sector-specific dynamics. Despite using a different measure, with some deviation, but the negative relationship identified in Fig 5b looks similar to the relationship in Fig 5a. High-productivity sectors like finance and water supply, with labour shortages below 5%, maintain higher output levels (above £70,000 per worker), reflecting their ability to attract and retain talent effectively. In contrast, critical sectors such as advanced manufacturing and logistics, with shortages exceeding 20%, see productivity constrained to around £50,000 per worker due to unfilled positions and operational delays. Again, low-productivity sectors like hospitality and retail, experiencing labour shortages above 30%, fall below £30,000 per worker, indicating significant recruitment and retention challenges. The figures imply that higher pay in sectors like finance and water supply helps retain high-skilled workers, resulting in lower labour shortages and skill gaps, while lower-paying sectors like retail and hospitality face greater challenges in both recruitment and retention.

The downward sloping relationship: The data mapped in both figures indicates a decline in productivity as shortage in skills and labour increases at sectoral level.

High productivity corner: Firms in water supply or finance sectors are very productive with minimal relative shortages in skills and labour.

Sectors in critical situation: Businesses in wholesale, retail trading, and hospitality & food sectors are facing significant challenges with high level of shortages of labour and skills.

At the corner: Sectors like entertainment, transport and storage and agriculture is experience both, relatively lower productivity but also lower staff and skill shortages.

Measures in use:

- The skills gap is the number of establishments with at least one skill gap.

- Labour shortage is the number of establishments with at least one hard-to-fill vacancy.

- Output per worker is GVA per job by sector in £.

7 Investment levels

"The efficiency of the CEO who's been hired to do a very good job of building a business actually is spending 80% of their time fundraising and 20% of their time building a business, whereas in the US they spend 80% of their time building a business and 20% of their time fundraising. So, it's a really different kind of focus. "

Lisa Smith, Midlands Mindforge

Investment is one of the key drivers of regional economic growth and productivity. In the Midlands, disparities in both public and private investment are exacerbating regional inequalities, with significant consequences for the region's overall competitiveness. The Midlands has seen a long-term decline in investment relative to other UK regions, particularly in critical areas like innovation, infrastructure, and skills development, which has hampered its ability to recover fully from deindustrialisation and more recent economic shocks such as Brexit and the COVID-19 pandemic.

7.1 Public and Private Investment

A key issue is the relative lack of public investment in comparison to private capital flows. Government funding in the Midlands remains disproportionately low when compared to other UK regions, which further widens the productivity gap. On top of that, local authorities in the region often have lower levels of public-private partnership deals and limited access to significant infrastructure investment which is essentially for attracting FDI.

Private investment, in particularly from foreign investors, has been concentrated in high-value sectors like manufacturing, science and IT, while retail and traditional industries receive less support. This is understandable but such sectoral concentration amplifies the disparities between urban areas such as Birmingham and Coventry, which are better positioned to attract capital, and more rural or deindustrialised areas that continue to fall behind.

7.2 Short-termism in Investment Decisions

A prevailing focus on short-term returns rather than long-term strategic gains significantly undermines the Midlands' long-term productivity potential. Both public and private sectors often prioritise immediate financial outcomes over investments in long-term assets like infrastructure and R&D, which are critical for sustained economic growth. This short-termism not only affects the quality and scope of investments but also limits the region's capacity to innovate and adapt to future economic challenges.

7.3 Barriers to Investment

Several structural barriers are preventing investment from reaching underperforming areas. These include a lack of appropriate infrastructure, complex regulatory frameworks, and insufficient regional support for business growth. Planning permissions, for example, have been identified as a significant bottleneck, with long approval processes deterring both domestic and foreign investors.

Furthermore, the Midlands suffers from comparatively high energy costs, especially in the manufacturing sector, which discourages investment in energy-intensive industries [32]. On top of all, the new government is planning to increase NI contributions in April 2025 by 1.2%.

These barriers contribute to the region's underperformance relative to national and international benchmarks highlighted in the International Productivity Monitor's 2024 review [61].

7.4 Foreign Direct Investment

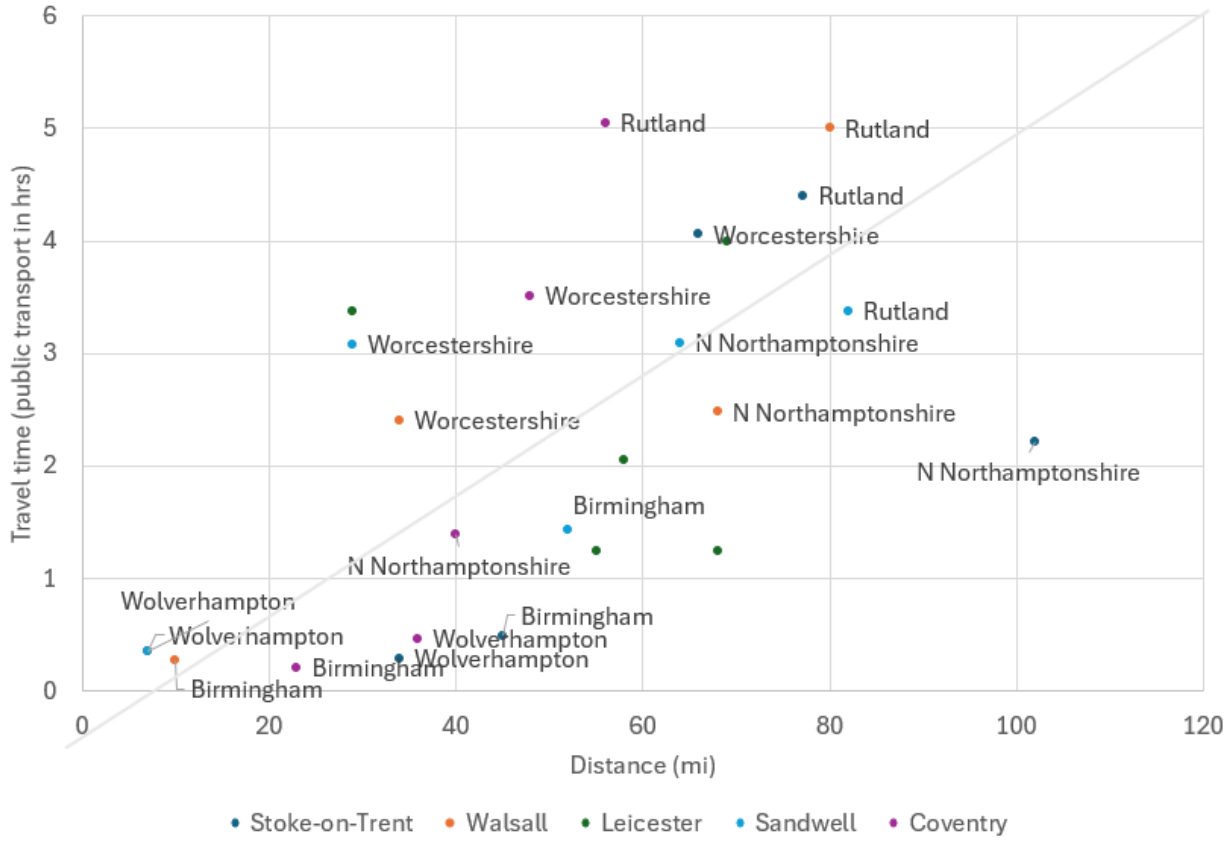
FDI remains a critical component of the Midlands' economic landscape, but its distribution has been uneven. While FDI inflows have been robust in certain sectors – particularly financial services and high-tech industries- investment levels are still below pre-COVID levels nationally. Moreover, the West Midlands consistently outperforms the East Midlands in attracting FDI projects. Part of it, inward investment agencies such as WM Growth Company that played a vital role in attracting FDI. Between 2019 to 2021, the West Midlands secured more FDI projects in high-growth sectors such as IT, creating more jobs and raising productivity in those areas. Inward FDI data (see the details in Table 4A in the appendix), the West Midlands exhibits substantial FDI losses in manufacturing sectors between 2019 and 2021. The disparity between East and West Midlands in terms of FDI highlights broader issues around infrastructure quality, accessibility, business competitiveness, and local economic conditions, all of this play a key role in attracting domestic and foreign capital.

8 Infrastructure and Connectivity

" Transport investment in the Midlands has lagged behind other regions, with critical funding gaps and connectivity issues impeding economic integration. Improving road and rail infrastructure is essential to unlocking the region's full economic potential and supporting the 'Levelling Up' agenda."

Midlands Connect

Figure 8: Travel to work by public transport and Distance travelled



Note: The figure displays 5-labour demanding (Birmingham, Rutland, Wolverhampton, Worcestershire & N Northamptonshire) and 5 dense unemployment locations (Stoke-on-Trent, Walsall, Leicester, Sandwell & Coventry) in Midlands.

The region suffers from uneven transport connectivity, with pronounced disparities in both inter-urban and intra-urban links, which hinder the efficient movement of goods, services, and people. Insufficient investment in key transport infrastructure, combined with the region's complex geographical spread, has exacerbated these challenges, limiting the Midlands' ability to compete with other parts of the UK and internationally.

8.1 Inadequate Transport Connectivity

Transport connectivity within the Midlands has long been a challenge, particularly when compared to more affluent regions such as London and the Southeast. Poor connectivity between key cities such as Birmingham, Coventry, Nottingham, and Leicester hinder economic integration, making it difficult for businesses to access wider labour markets and for workers to commute efficiently. According to a 2023 report by PwC [50], the Midlands' cities underperform in terms of public transport reach compared to European counterparts, with public transport systems serving fewer areas and often being more costly.

Further to this, we compared travel distances by public transport mode (trains) and display it in Figure 8. The relationship between commuting distances among selected places in Midlands and travel times, with a 45-degree line indicating expected travel times based on geographic distances. Dots on this line represent normal commute durations, while deviations highlight inefficiencies.

What we reveal is significant transport disparities in the Midlands, with urban centres like Birmingham offering average commute times of under 45 minutes via public transport, while rural areas such as Sandwell face journeys exceeding 90 minutes, often requiring multiple changes. For example, a commute from Sandwell to Worcestershire involves up to five transport mode changes, severely limiting access to jobs and training. These challenges constrain labour mobility, reducing the talent pool available to businesses and increasing unemployment rates in poorly connected areas.

Additionally, as National Travel Survey 2023 finds over 70% of workers in these regions rely on private vehicles, partly due to inadequate public transport system, contributing significantly to greenhouse gas emissions. If targeted investments made in improving integrated transport networks, particularly East-West connections in Midlands, could reduce travel times and improving economic integration across the Midlands. This could also enable internal supply of labour, reduce income inequalities and helps with inclusive growth objectives.

8.2 Fragmentation and Lack of Integration

One of the key challenges facing transport connectivity in the Midlands is the lack of integration across different modes of transport, partly because of many territorial operators. For example, there are limited seamless connections between bus, rail, and tram networks, making it difficult for commuters to travel efficiently between cities and towns. If someone from Sandwell wants to travel to Worcestershire to work, or from Stoke-on-Trent to Rutland, they must change trains & buses 4-5 times and lost 4-5 hours on journey just one way. This is also because most trains run vertically via mid part of Midlands connecting with London, not horizontally from east to west parts. This lack of integration not only discourages the use of public transport but also increases the reliance on private cars, contributing to congestion and environmental degradation.

Moreover, the Midlands suffers from significant fragmentation between different transport authorities, resulting in inconsistent policies, priorities, and investment decisions. This lack of a cohesive regional strategy for transport infrastructure development has hindered efforts to create a more connected and efficient transport system, priorities, and investment decisions.

8.3 Labour Mobility and Accessibility

Recent survey shows, most working people commute to work by car. Workers in less connected areas face longer commute times and higher transport costs, which can reduce their willingness to travel for work. This limits the size of the labour pool available to businesses and hampers their ability to recruit and retain talent. In particular, rural areas and smaller towns with limited public transport options suffer from high unemployment rates and economic inactivity due to transport constraints (Figure 8).

8.4 Environmental and Social Consequences

Transport infrastructure deficits not only affect the economy but also have broader environmental and social implications. Transport accounted for around 26% of total greenhouse gas emissions, making it the largest emitting sector. Within domestic transport, cars and taxis were the largest contributors, responsible for approximately 52% of emissions from this sector. Road travel as a whole contributed around 91% of domestic transport emissions, highlighting the substantial impact of commuting by car on overall emissions levels. High levels of car dependency contribute to air pollution, traffic congestion, and carbon emissions, which undermine efforts to achieve the UK's net-zero targets. Socially, poor transport connectivity exacerbates regional inequalities by limiting access to jobs, education, and essential services for disadvantaged communities

8.5 What is happening to the digital infrastructure?

Digital infrastructure, particularly broadband and mobile connectivity, is increasingly recognised as a crucial element of modern infrastructure. The level of fibre internation and 4G coverage areas have improved significantly relative to pre-COVID period levels (see Table 2 in Annex section). However, like its transport counterpart, digital infrastructure in the Midlands is uneven, with rural areas particularly underserved. This digital divide is becoming a growing concern for businesses and individuals who rely on high-speed internet for remote work, digital services, and e-commerce. Digital connectivity in certain parts of the region further compounds into challenge posed by physical transport constraints, limiting the potential for innovation and digital transformation.

8.6 High energy costs

Energy is a significant expense for many Midlands firms, particularly within manufacturing. With UK electricity prices for businesses (26p/kWh) over twice the EU average (17p/kWh) and four to five times those in the US (6p/kWh) and China (4p/kWh), Midlands manufacturers face a distinct disadvantage. High energy costs not only squeeze profit margins but also severely limit firms' abilities to innovate and invest in efficiency, impacting competitiveness on both price and productivity.

The electricity price has grown from 19p to 38p/kWh since 2020 [66], intensified by high inflation, has worsened this burden, creating severe pressures on Midland's businesses to control costs while maintaining

operations. The figure 2A (in appendix) shows for Midland's manufacturing, productivity indices for some sectors start to decline post-2020, in line with the sharp rise in energy costs.

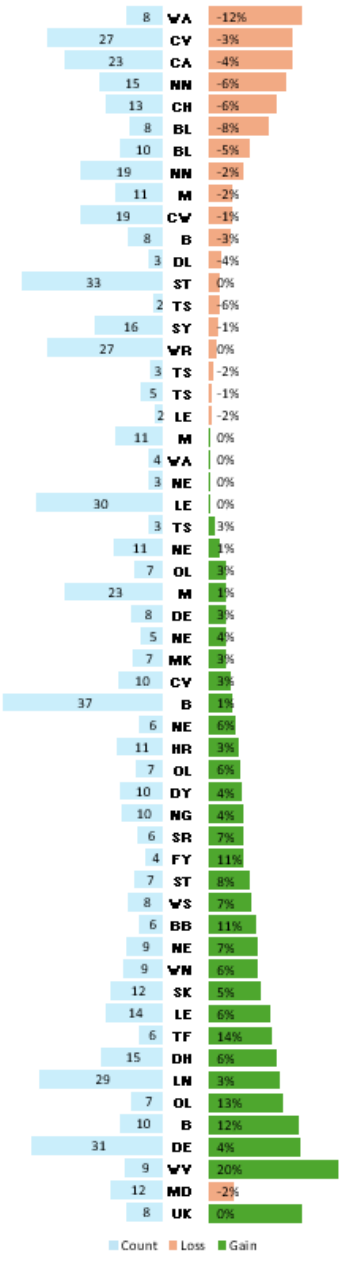
8.7 Transport Spending Disparities

According to data from 2021 [53], the West Midlands received £555 per person in transport funding, while London received over £1,200 per person. This imbalance has long-term consequences for regional productivity, as regions with higher transport investment are better able to support economic activity, attract investment, and facilitate efficient labour mobility.

In addition to funding disparities, much of the existing transport infrastructure in the Midlands is outdated and in need of modernisation. The Midlands Engine [36] highlights the need for significant upgrades to both road and rail infrastructure to accommodate growing demand and reduce congestion. Failure to invest in modern, efficient transport systems will continue to undermine the region's ability to compete with other UK regions and attract businesses that rely on good connectivity for logistics and supply chain management.

Targeted Infrastructure Investment

Figure 17: Business Birth & Death by Local Authorities (Midlands LAs only)



Note: Count is the number of establishments as of 2023; LA shown by postcode labels; Gain, Loss & Counts are in '000s. MD is Midlands

9 R&D and Innovation

" Innovation thrives when regions come together with a shared vision, supported by both public and private investment. By prioritising collaboration, we can bridge gaps and drive growth that extends beyond individual entities, establishing R&D as the growth engine of our economy."

McKinsey & Company, 2020

The Midlands is a home to a variety of R&D clusters, manufacturing sectors, and academic institutions. Yet, despite these strengths, the region continues to grapple with significant challenges in receiving necessary R&D funding, reflected in persistent regional inequalities. This divide is particularly stark when comparing the Midlands to the so-called "Golden Triangle" of London, Cambridge, and Oxford, where concentrated investments in public and private research and development have driven a higher rate of innovation and growth.

In contrast, R&D investments in the Midlands have remained insufficient, exacerbating disparities in firm productivity, employment quality, and economic growth.

The root causes of the Midlands' productivity gap can be attributed to multiple interrelated factors. First, the region's relatively low levels of R&D investment are because Governments Gross Expenditure on R&D (GERD) is low. GERD as a percentage of GDP for UK is around 5% (and this is including UKRI funding) while the same figures for the EU and the US are 11% and 17% respectively. This is limiting the private sector engagement, and the generation of new technologies, patents, and innovative business solutions. Despite this struggle, in the Global Innovation Index for 2022 the UK is no 4. Additionally, the presence of many SMEs in the West Midlands economy has been cited as contributing to a "drag effect" on overall productivity, due to limited scale and capacity for innovation and not finding it worthwhile [63.]

The challenge is further complicated by regional inequalities in public funding allocations. According to recent data, the Midlands receives disproportionately low levels of government and UKRI R&D funding compared to regions such as London, the South East and East of England (see figures below). Even if East and West Midlands combined their share is still lesser than the Southern regions, and separately the shares lower than the national average. This disparity, along with a lack of effective knowledge transfer mechanisms between universities and local businesses, limits the region's potential for innovation-driven growth.

The Midlands is also constrained by issues of workforce skills and firm-level management practices, both of which are central to enhancing productivity. A lack of investment in high-skilled labour, particularly in key sectors such as digital services and advanced manufacturing, hampers the region's ability to fully capitalise on R&D outputs. Furthermore, evidence shows that the area struggles to attract foreign direct investment (FDI) post-Brexit, which could otherwise stimulate productivity growth.

Figure 12: Regional breakdown of Gross Expenditure on R&D in 2022

Figure 1(a): The share received by regions (%)

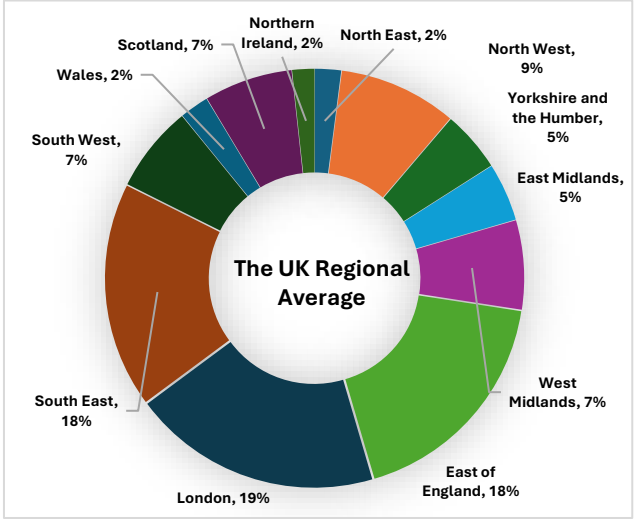
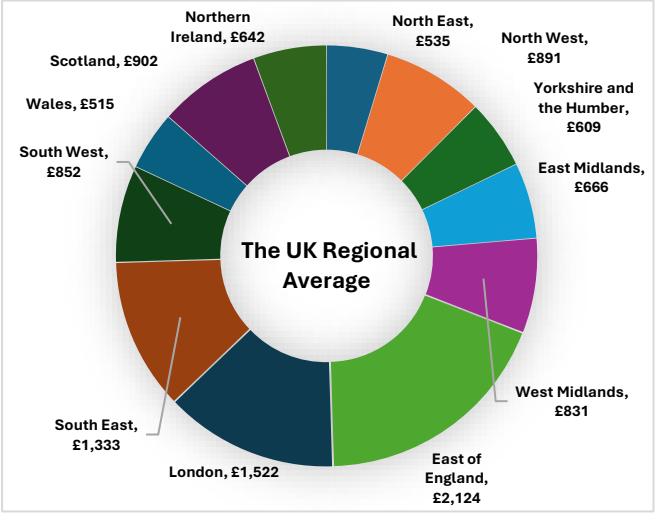
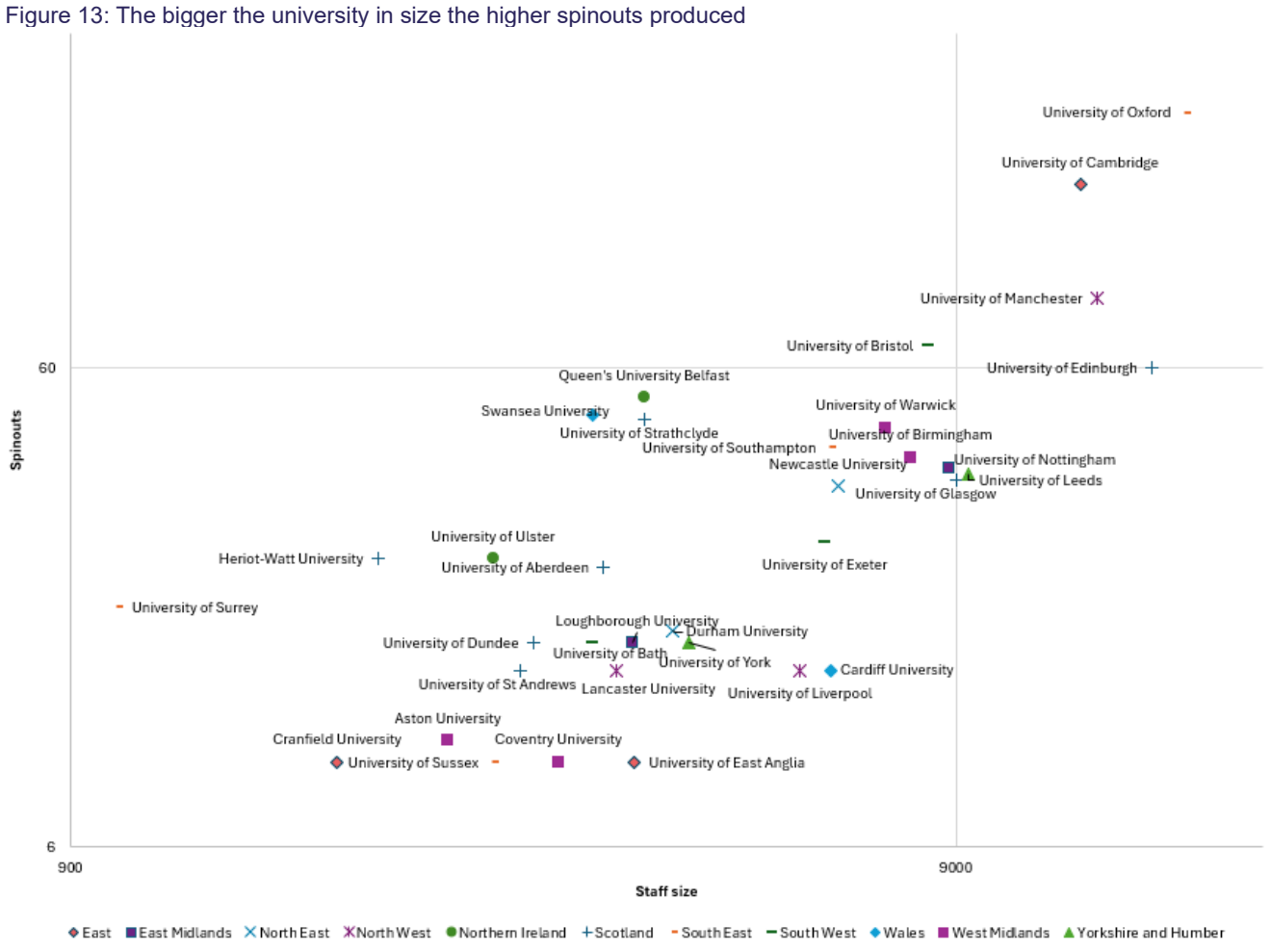


Figure 1(b): GERD per person (£)



Source: ONS R&D statistics
Note: The total GERD amount for 2022 is £70,698 in millions

Figure 13: The bigger the university in size the higher spinouts produced



Source: Beauhurst's 2023 Spinouts List and the size data for 2023 collected from official university websites

9.1 What else is a challenge for R&D Performance apart from funding?

There are some other challenges identified behind the underperformance of R&D in the Midlands:

Fragmented R&D Ecosystem: The Midlands lacks the large, cohesive R&D clusters that are critical for fostering innovation and economic growth. Industrial parks, science parks, and incubators are present, but not well integrated into a broader innovation ecosystem [8].

Spinout Numbers: Comparing to the Golden Triangle universities, the Midlands' universities produce far less spinouts in numbers, in sizes and in income generation potential. This could be one of the reasons behind low R&D investments attracted into the region [13].

Talents and Skills for R&D: The region struggles to retain talented professionals and researchers, particularly in emerging sectors such as green technologies and digital innovation, which are vital to boosting R&D outputs. This is partly because universities from other regions and countries offer better packages.

Innovation Adoption: Many businesses in the region are slow to adopt and integrate new technologies into their operations. This reluctance, driven partly by limited resources and risk aversion, hampers the diffusion of innovative practices across industries

Collaboration Culture: Despite some notable research centres, collaboration between universities, industries, and LAs is not fully optimised in the Midlands. This affects knowledge transfer and the region's ability to turn academic research into commercial products and services [4].

10 Industrial Clusters & Circular Economy

" We have these great clusters in the Midlands—future mobility, digital tech, energy—but we need to better join up where these technologies intersect. It's about enabling a cohesive, collaborative ecosystem that truly harnesses our regional strengths."

Sarah Windrum, MIRA Tech Park

The Midlands has a long tradition of industrial excellence, but its growth potential is being transformed by the emergence of coordinated clusters in high-value sectors such as automotive, aerospace, digital technology, and food production. These clusters play a key role in driving regional innovation, productivity, and sustainable economic growth but there are problems.

10.1 Fragmentation of Cluster development

The Midlands faces significant structural and operational challenges when it comes to fully capitalising on its industrial clusters. One of the primary challenges is the fragmentation of cluster development across sectors and across LA territories [13]. Take MIRA Tech Park which has about 44 businesses currently from automotive technology cluster area. A local insight shared suggest the park is having difficulties in qualifying for regional development initiatives due to geographical division and differing priorities across Local Government.

While the Midlands boasts strong industrial clusters in automotive, aerospace, and food manufacturing, these clusters often operate in silos without sufficient inter-cluster collaboration. The absence of a coherent and unified strategy means that potential synergies between these high-value sectors are underutilised. For instance, a cluster like the Black Country Industrial Cluster could benefit from shared resources and infrastructure and heat exchanges, but poor coordination stifles the region's potential to achieve the critical mass needed to compete with more integrated clusters in the South East.

10.2 Lack of Coherent Cluster Development Strategy

The Midlands has several industrial clusters, but they lack a coordinated strategy to maximise their potential. According to the Midlands Engine Report, the region's manufacturing, automotive, and digital clusters contribute around 25% of the region's total GDP. However, fragmented cluster strategies have prevented these sectors from achieving sustained growth. For example, the Midlands' automotive sector, despite its historical strengths, has grown at a slower rate (3%) compared to similar clusters in the North West (6%).

The absence of an integrated cluster development plan has stifled collaboration and investment in key infrastructure, such as transport and digital networks, that are critical for cluster growth. Improving cluster governance and coordination could potentially increase output in these sectors by 10-15% over the next five years.

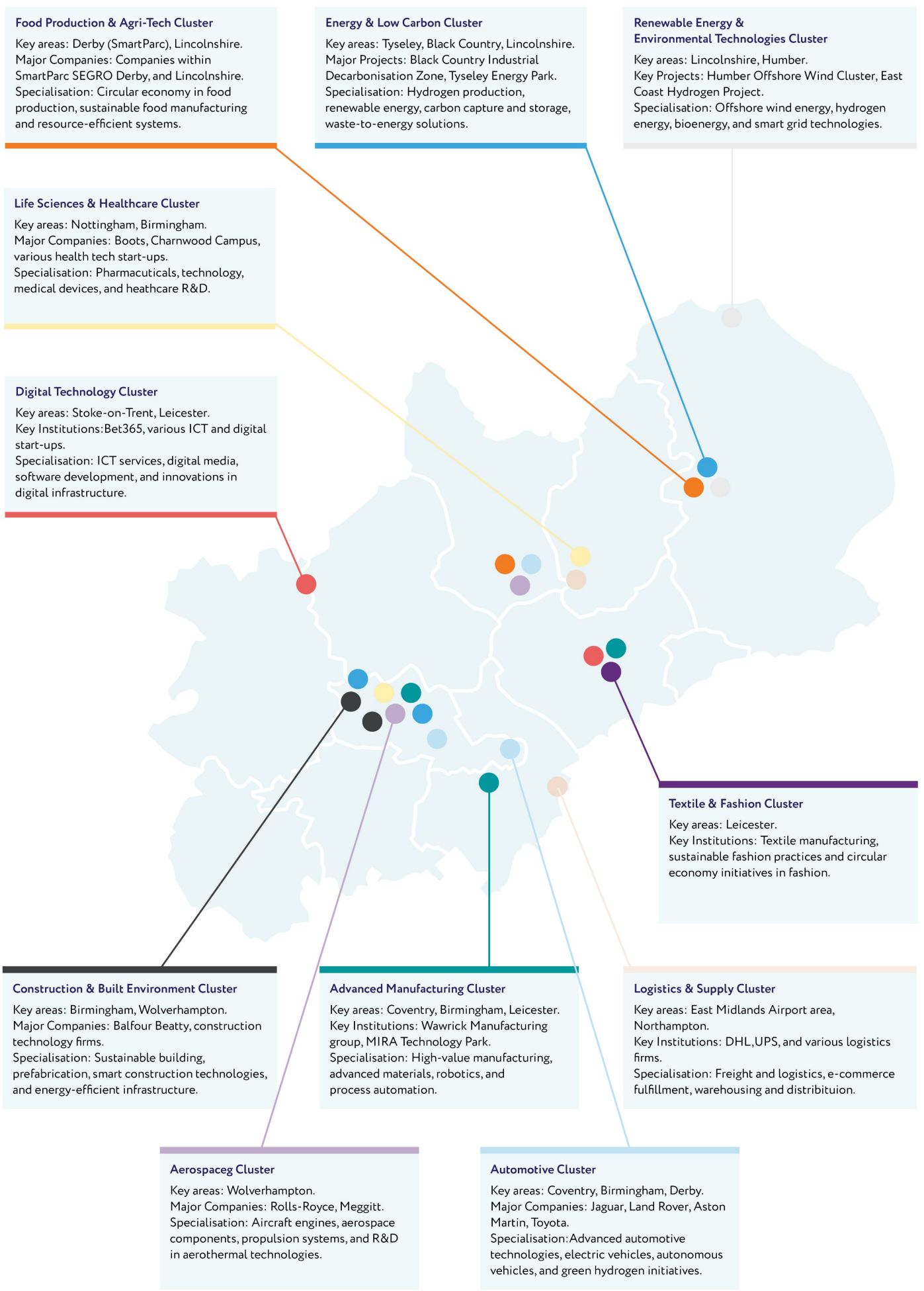
10.3 Investments for Cluster formation

In addition to fragmentation, **investment disparities** are a major challenge for the Midlands' industrial clusters. Despite its industrial significance, the Midlands consistently receives lower levels of **investment** compared to other UK regions [19]. In 2022, only **5% of the UK's national R&D funding** was allocated to Midlands-based clusters, significantly below the national average.

A collected insight also highlights another complication. Funding in the Midlands often arrives in fragmented portions over extended periods rather than in a single, substantial instalment. This lack of immediate, comprehensive funding puts Midlands industrial projects at a disadvantage, especially when compared to the U.S., where companies can secure larger funding rounds upfront.

These funding issues are not only limiting the ability of industrial clusters to innovate but also discourages private sector investment, particularly in R&D-intensive sectors like **mobility technologies**, **biotechnology**, and **digital industries**. Many SMEs struggle to access capital, stifling their capacity to scale. Furthermore, post-Brexit trade barriers have exacerbated this challenge, as clusters reliant on **EU trade partnerships** face increased costs and reduced access to European markets.

Figure 14: Industrial Clusters Map of the Midlands region



10.4 Slow Transition to Circular Economy

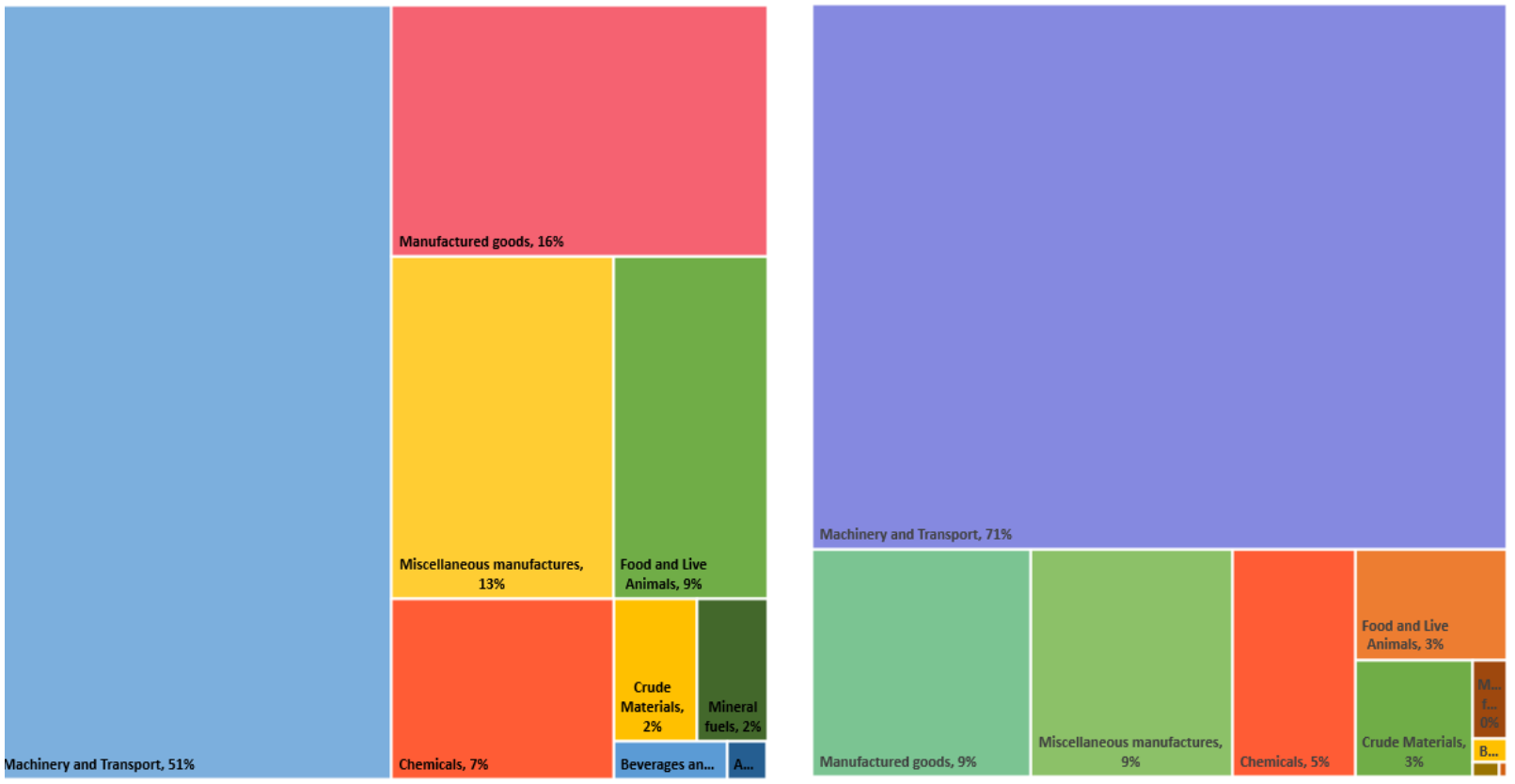
Another critical challenge is the **slow transition to a circular economy model**. While global and national priorities are increasingly shifting toward sustainability and decarbonisation, many Midlands clusters remain heavily reliant on traditional **linear production models**. Sectors such as **manufacturing** and **automotive** are far behind in adopting **circular economy principles**, which emphasise waste reduction, resource efficiency, and closed-loop systems. For example, the **Black Country Industrial Cluster**, home to energy-intensive industries, continues to emit **1.3 million tonnes of CO2 annually**. Without a concerted effort to reduce emissions and transition to circular business models, the Midlands risks falling behind in both sustainability targets and global competitiveness [42].

11 Supply Chain Productivity

"Supply chains are the backbone of competitiveness in today's global markets. To maximise productivity, regional supply chains must demonstrate both resilience to external shocks and operational efficiency, which are critical for ensuring long-term growth and competitiveness."

Jan Godsell, Loughborough Business School

Figure 18: Midlands imported (left box) and exported (right box) goods structure (SITC classification)



Source: UK Regional trade in goods statistics 2023 [15]
Note: Midlands imports is £75,976m and exports is £62,378m in 2023

The Midlands remains a critical supply chain & logistics hub in the UK's industrial landscape, particularly in high-value sectors like aerospace, automotive, and advanced manufacturing. Inefficiencies within supply chains, however, have become a major constraint on productivity, stifling the region's potential for growth. What are the inefficiencies?

11.1 Fragmentation and Inefficiency

The Midlands' supply chains are heavily fragmented, leading to inefficiencies that elevate costs and reduce responsiveness to supply chain shocks. For example, logistics issues and poor coordination among businesses have led to an estimated 15-20% increase in operational costs, as noted in the Midlands Engine's review [48]. Many SMEs struggle to optimise their use of local suppliers and often rely on more costly international markets. These inefficiencies, particularly in the manufacturing sector, reduce the region's output by approximately £2 billion annually [13].

One of the key challenges is the lack of planning and coordination within regional supply chains. This leads to inefficiencies throughout the entire chain, exacerbating problems like the **bullwhip effect**—where small fluctuations in demand ripple through the supply chain, leading to significant inefficiencies. Large OEMs (Original Equipment Manufacturers) often don't engage in effective supply chain planning, focusing more on procurement, which further reduces the productivity of smaller firms down the chain [30].

11.2 Over-reliance on External Markets

The region's heavy reliance on the EU is highlighted by trade statistics showing that 60% of the Midlands' exports are directed towards European markets. Around 45% of all exports from the West Midlands and 38% from the East Midlands are destined for the EU [30]. The imposition of tariffs and regulatory barriers post-Brexit has escalated costs by approximately 15%, underscoring the need for diversifying markets and strengthening internal supply capabilities [12].

One reason companies continue to rely on international suppliers is the misconception that it is cheaper. However, a total landed cost perspective, which accounts for all costs (including tariffs, logistics, and lead times) result in higher wait time and more costs. In many cases, local suppliers may offer better value when the full cost is considered.

Data from the Productivity Institute shows that non-tariff barriers and trade delays post-Brexit resulted in an estimated 10-15% reduction in output for sectors highly dependent on EU markets. To diversify away from EU dependencies, the Midlands needs to foster domestic trade and enhance ties with non-EU countries. Initiatives like the Supply Chain Transition Programme aim to reduce this external dependency by expanding local business networks and promoting intra-regional trade.

11.3 Limited Local Sourcing

Continued dependence on international suppliers leaves the region vulnerable to global disruptions. Supply chain delays, exacerbated by the COVID-19 pandemic and Brexit, have further hampered the Midlands' ability to remain competitive in fast-moving sectors like automotive and aerospace [13]. During the energy crisis, 20 regional energy companies were busted due to gas shortages caused by Russian Invasion into Ukraine. Apart from gas, the figure on the right shows that apart from waste sorting and recycling, the region is heavily dependent on the rest of the world.

Despite efforts to encourage local sourcing, many firms still rely on imports for critical components, reducing the resilience of regional supply chains [12]. For instance, figure 18 shows the structure of imported inputs and goods into the Midlands, showcasing the region's reliance on international markets. The next figure shows the Midlands' export structure. The data shows that high-value sectors, such as automotive and aerospace, dominate exports, while imports include essential components for these industries, creating a heavy dependency on external supply chains. This reliance has made the region vulnerable to trade disruptions, with post-Brexit tariffs increasing costs by approximately 15%. The imbalance between imports (£75.9 billion) and exports (£62.3 billion) also underscores a trade deficit that impacts regional competitiveness. Strengthening local supply chains and diversifying export markets are critical steps to mitigate these risks and enhance economic resilience in the Midlands. This also means that in the absence of a cohesive strategy to bolster intra-regional trade has also limited opportunities for collaboration between local businesses and local territorial authorities.

12 Actions, Strategies & Recommendations

"Where it is stopping us building the homes, the data centres, warehouses, grid connectors, roads, train lines, you name it, then mark my words – we will get rid of it."

Sir Kier Starmer, 2024

To address the Midlands' productivity challenges and foster sustainable economic growth, a coordinated strategy focused on skills, infrastructure, innovation, and resilience is essential. Given the region's unique industrial strengths and evolving needs, targeted policy recommendations, immediate actions, and long-term strategies will help close the productivity gap, enhance regional competitiveness, and support workforce adaptation.

12.1 Policy recommendations

Our policy recommendations for improving productivity in the Midlands target four main areas:

Firstly, skills development must prioritise industry-focused upskilling, especially in technical and digital fields, through partnerships with local colleges and online platforms. Regional skills hubs and flexible short-term training supported by Apprenticeship Levy adjustments will help close critical skills gaps quickly.

Secondly, infrastructure investment—particularly in transport and digital connectivity—will enhance regional competitiveness. Improved connections between cities and underserved areas, alongside expanded rural broadband, will support labour mobility and digital adoption, enabling a more inclusive economy.

Thirdly, innovation ecosystem strengthening is essential. Increased R&D investment and the creation of industry clusters in green tech, advanced manufacturing, and digital sectors will reduce dependency on global suppliers and bolster local supply chains.

Lastly, short- and long-term actions should balance immediate needs with sustainable growth. Rapid-response training, accelerated transport projects, and local supply chain partnerships provide a foundation for durable economic resilience across the Midlands.

12.2 Short term actions

To drive immediate productivity growth in the Midlands, the following short-term actions are necessary:

- Rapid-Response Skills Training: Launch targeted training programs to fill critical skills gaps in digital and technical fields. These can be delivered via partnerships with regional colleges and flexible online courses designed for specific industry demands, allowing businesses to quickly upskill their workforce.

- Adjusting the Apprenticeship Levy: Modify the Apprenticeship Levy to support short-term, skill-specific training programs. This adjustment will enable businesses to rapidly adapt to workforce needs, especially in high-demand sectors like manufacturing and digital services, maintaining their competitiveness.

- Critical Infrastructure Upgrades: Expedite improvements to transport routes that connect major cities and economic hubs, reducing logistical bottlenecks and enhancing supply chain efficiency. Immediate upgrades to these corridors will improve labour mobility and bolster regional connectivity.

- Rural Digital Expansion: Expand grant funding to accelerate broadband and digital infrastructure in rural and underserved areas. This will foster a more inclusive economy by providing businesses with essential digital tools for growth and enabling broader regional economic participation.

- Supporting Local Supply Chain Partnerships: Facilitate connections between SMEs and larger firms to promote local sourcing and supply chain resilience. Providing incentives for these partnerships will strengthen regional networks and improve operational efficiency, building a foundation for sustainable productivity growth.

12.3 Long term strategies

Long-term strategies for improving productivity in the Midlands must focus on building a sustainable, resilient economy through investments in skills, infrastructure, innovation, and regional collaboration.

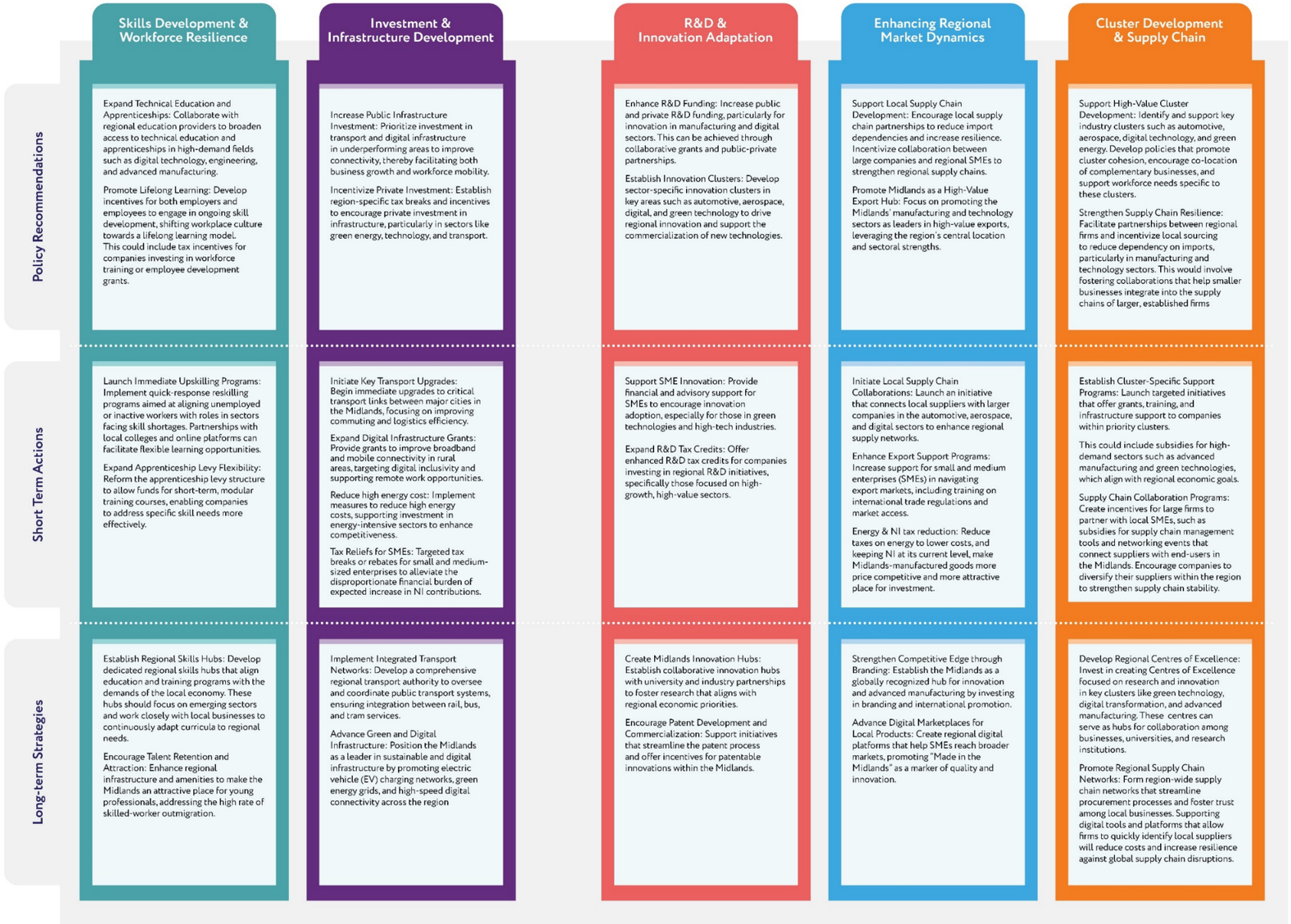
- Establishing regional skills hubs that work in close coordination with local industries and educational institutions will create a workforce equipped for evolving economic demands. These hubs should prioritise skills in high-growth sectors, such as advanced manufacturing, green technologies, and digital industries, while promoting a culture of lifelong learning. Providing financial incentives for companies that invest in continuous employee development and support reskilling will help future-proof the Midlands' labour force.

- Continuous comprehensive investment on infrastructure—both physical and digital—will be critical for long-term growth. The Midlands needs a fully integrated, region-wide transport network that connects urban centres with rural areas, facilitating easier access to jobs and supporting business logistics. Sustainable infrastructure projects will align with the UK's net zero goals and make the Midlands a model for green transport solutions. Expanding high-speed broadband and 5G coverage in rural and underserved areas will enable businesses to adopt advanced digital tools.

- Strengthening regional innovation ecosystems and industrial clusters will be essential to sustaining long-term competitiveness. Supporting these clusters with research funding, fostering university-industry partnerships, and incentivising local supply chain integration will promote continuous innovation and productivity improvements.

Below we provide key policy recommendations, short term actions and long terms strategies necessary to tackle the productivity challenges, improving the regulatory framework and efficiently allocate resources.

Figure 20: Key Policy recommendations, short term actions and long-term strategies



13 Conclusion

The Midlands economy, a vital contributor to the UK's overall economic health, faces a complex set of productivity challenges that have intensified in recent years due to structural changes, policy shifts, and external shocks.

The region grapples with pronounced skills shortages, particularly in technical and digital fields essential for growth sectors like advanced manufacturing and digital technology.

The skills gap is compounded by low employer investment in workforce development and limited access to flexible training options, resulting in unfilled vacancies and reduced productivity in key industries. Economic inactivity, worsened by health-related issues and demographic shifts, further limits labour market participation, emphasising the need for targeted workforce initiatives.

Underinvestment in both physical and digital infrastructure has long hindered regional competitiveness, affecting connectivity within and beyond the Midlands. While strides have been made in improving broadband and transport, especially in major urban centres, rural areas remain underserved, exacerbating regional inequalities. The lack of adequate R&D funding also constrains innovation, with low levels of investment from both public and private sectors stalling progress in high-value sectors such as green technology and advanced manufacturing. This underinvestment limits the region's capacity to adapt to new technologies, reducing its appeal as a high-value export hub and slowing economic transformation.

Moreover, fragmented industrial clusters and supply chains restrict collaboration, innovation, and resilience across sectors. The region's clusters, though strong in manufacturing and emerging technologies, often lack coordinated development strategies and rely heavily on global supply chains, making them vulnerable to disruptions. The Midlands also contends with structural inefficiencies that inhibit local demand for regionally produced goods, limiting competitiveness and market growth for small and medium-sized enterprises. Addressing these interwoven challenges requires a focused, integrated approach, bringing together skills, infrastructure, R&D, and industry support to unlock the Midlands' full economic potential.

The Midlands Insight Report underscores the importance of addressing structural and regional disparities to unlock the full productivity potential of the Midlands. By strengthening infrastructure, enhancing innovation ecosystems, and prioritising skills development, the region can overcome key challenges and bridge productivity gaps.

The report's recommendations focus on practical policy interventions and investment strategies, emphasising public-private partnerships to support SMEs, invest in R&D, and expand training initiatives in high-demand sectors.

Looking forward, targeted investment in transport, digital infrastructure, and green technologies will enable the Midlands to position itself as a leader in sustainable economic growth. Addressing barriers to competitiveness, such as regulatory constraints and skills shortages, will support a dynamic and resilient economy, prepared to adapt to future economic changes.

The path forward requires coordinated action, commitment, and an inclusive approach to ensure that the Midlands' growth benefits all communities, ultimately enhancing productivity and well-being across the region.

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15 Appendix

Table 2A: Changes in key productivity performance indicators by ITL subregions for Midlands

Percentage change in productivity indicators between 2019 and 2022 for West Midlands

ITL Classification	itl	TLG	TLG32	TLG33	TLG13	TLG12	TLG31	TLG21	TLG39	TLG37	TLG24	TLG36	TLG22	TLG38	TLG23	TLG11
	itlname	West Midlands	Solihull	Coventry	Warwick-shire	Worcester-shire	Birmingham	Telford and Wrekin	Wolver-hampton	Sandwell	Stafford-shire	Dudley	Shropshire	Walsall	Stoke-on-Trent	Hereford-shire
Productivity	GVA per hour worked	3%	-1%	4%	1%	6%	3%	3%	8%	3%	2%	9%	8%	10%	5%	8%
Business performance & characteristics	Export Intensity	-18%	-32%	-15%	-23%	-13%	-17%	-7%	-40%	8%	-25%	3%	3%	10%	23%	-23%
	New Businesses	-3%	-11%	7%	10%	-34%	-6%	-36%	59%	3%	24%	6%	7%	22%	13%	13%
Skills	Low Skilled*	-15%	-10%	-14%	-2%	-17%	-11%	4%	-29%	-24%	4%	-44%	-4%	-18%	-24%	-22%
	High Skilled	14%	-4%	12%	5%	17%	22%	25%	42%	23%	9%	43%	6%	-3%	12%	10%
Health & wellbeing	Active	0%	1%	-2%	0%	1%	0%	-5%	5%	3%	-2%	8%	-7%	0%	5%	-5%
	Inactive due to Illness*	5%	11%	1%	28%	-9%	15%	36%	-13%	62%	-13%	-26%	27%	-20%	1%	-5%
	Working Age	0%	-2%	11%	-4%	-2%	1%	-2%	-1%	-3%	0%	0%	-2%	1%	-2%	4%
Investment, infrastructure & connectivity	4G connectivity	1%	2%	2%	1%	2%	-4%	-1%	-1%	-2%	6%	3%	5%	0%	3%	1%
	Fibre connectivity	154%	221%	166%	193%	331%	88%	327%	1420%	646%	110%	900%	133%	13%	5775%	86%
	GFCF per job	-22%	-1%	-6%	-47%	-8%	-38%	-12%	10%	29%	-15%	17%	-6%	2%	-2%	-2%
	ICT per job	-5%	-5%	-7%	-4%	-6%	-6%	-5%	-7%	-1%	-6%	-2%	-3%	-5%	-5%	-4%
	Intangibles per job	3%	-5%	0%	-4%	20%	8%	27%	1%	8%	9%	5%	6%	4%	6%	22%

Percentage change in productivity indicators between 2019 and 2022 for East Midlands

ITL Classification	itl	TLF	TLF16	TLF13	TLF12	TLF21	TLF24	TLF11	TLF22	TLF30	TLF14	TLF15	TLF25
	itlname	East Midlands	South Nottingham-shire	South and West Derbyshire	East Derbyshire	Leicester	West Northamp-tonshire	Derby	Leicester- shire and Rutland	Lincolnshire	Nottingham	North Nottingham-shire	North Northamp-tonshire
Productivity	GVA per hour worked	5%	8%	9%	11%	4%	3%	3%	4%	3%	5%	6%	7%
Business performance & characteristics	Export Intensity	-14%	-22%	83%	-24%	-72%	0%	282%	61%	-46%	52%	-8%	-6%
	New Businesses	-3%	21%	1%	-9%	42%	-17%	-1%	-34%	-16%	25%	18%	-18%
Skills	Low Skilled	4%	17%	12%	15%	32%	-8%	5%	-44%	4%	28%	4%	-22%
	High Skilled	5%	-14%	29%	-1%	-6%	-9%	12%	23%	-9%	37%	19%	16%
Health & wellbeing	Active	-3%	-3%	1%	-5%	-18%	3%	-8%	11%	10%	-5%	-8%	-4%
	Inactive due to Illness	0%	54%	-37%	52%	-41%	-15%	80%	24%	11%	43%	-23%	-43%
	Working Age	-1%	2%	0%	2%	7%	-6%	0%	-12%	-15%	20%	0%	-2%
Investment, infrastructure & connectivity	4G connectivity	3%	2%	-1%	20%	20%	-14%	25%	-25%	-27%	47%	2%	-1%
	Fibre connectivity	210%	184%	221%	136%	194%	865%	399%	138%	39%	786%	151%	154%
	GFCF per job	-15%	3%	6%	-11%	0%	-51%	11%	12%	1%	-33%	7%	-10%
	ICT per job	-6%	-6%	-1%	-12%	0%	-61%	124%	3%	-7%	-8%	-6%	-6%
	Intangibles per job	10%	-6%	21%	60%	2%	-73%	652%	-21%	-15%	5%	18%	2%

Note: To calculate the changes TPI's productivity scorecards for year 2019 and 2022 used.

They can be obtained from https://doi.org/10.48420/23791680

Table 4A: FDI flows into the UK from foreign companies (inward in £m) and industrial activity

(A)

Region: East Midlands	2019	2020	2021	Net Average
Agriculture, forestry and fishing	-1	low	1	0
Mining and quarrying	-19	96	-26	17
Food products, beverages and tobacco products	-23	156	c	67
Textiles and wood activities	29	48	4	27
Petroleum, chemicals, pharmaceuticals, rubber, plastic products	541	56	-22	192
Metal and machinery products	5	c	-8	-2
Computer, electronic and optical products	-12	c	c	-12
Transport equipment	5	35	-189	-50
Other manufacturing	135	173	-64	81
Electricity, gas, water and waste	113	457	c	285
Construction	255	101	c	178
Retail and wholesale trade, repair of motor vehicles	c	-340	54	-143
Transportation and storage	c	-119	-16	-68
Information and communication	-336	292	55	4
Financial services	-111	709	204	267
Professional, scientific and technical services	c	c	18	18
Administrative and support service activities	c	c	-61	-61
Other services	15	29	-37	2
All industries	1,033	-579	-755	-100
Net total by years	1,629	1,114	-842	

(B)

Region: West Midlands	2019	2020	2021	Net Average
Agriculture, forestry and fishing	c	1	3	2
Mining and quarrying	2	6	c	4
Food products, beverages and tobacco products	397	-358	-191	-51
Textiles and wood activities	low	1	-56	-28
Petroleum, chemicals, pharmaceuticals, rubber, plastic products	223	13	-161	25
Metal and machinery products	206	-889	148	-178
Computer, electronic and optical products	12	c	c	12
Transport equipment	77	-785	-637	-448
Other manufacturing	314	-2,426	-2,410	-1,507

Electricity, gas, water and waste	-38	153	-406	-97
Construction	121	34	-6	50
Retail and wholesale trade, repair of motor vehicles	176	c	c	176
Transportation and storage	-79	c	c	-79
Information and communication	-324	-445	-19	-263
Financial services	-136	259	-17	35
Professional, scientific and technical services	1,588	-167	430	617
Administrative and support service activities	16	163	17	65
Other services	c	-130	-39	-85
All industries	2,739	-3,476	-2,491	-1,076
Net total by years	5,294	-8,046	-5,835	

Table 6A: Current Price (smoothed) GVA (B) per hour worked (£); Local Authority District, 2010 - 2022

LAD_Name	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
South Derbyshire	36	37	38	41	45	47	49	50	52	56	58	57	55	48
Bolsover	30	29	29	29	31	32	35	37	40	42	43	44	43	36
Rushcliffe	30	30	31	32	32	32	32	34	37	41	44	44	43	35
Warwick	29	31	32	33	35	36	38	41	42	43	42	41	40	37
Solihull	35	36	37	38	39	41	43	44	44	43	41	40	40	40
North Kesteven	29	30	31	33	33	32	33	34	36	38	40	41	42	35
Stratford-on-Avon	29	30	31	32	32	33	34	37	39	39	39	39	40	35
Bromsgrove	37	38	39	40	39	37	33	32	33	36	39	41	42	37
Coventry	31	31	31	31	32	34	35	37	37	37	38	38	39	34
North Warwickshire	27	29	31	33	32	31	30	32	34	36	38	39	40	33
Blaby	35	35	36	37	38	39	38	37	37	36	36	36	36	37
Rugby	29	30	30	30	31	32	33	34	35	35	36	36	36	33
East Staffordshire	32	33	34	34	34	34	34	34	34	34	35	37	38	34
Tamworth	24	24	23	22	22	24	27	29	30	32	35	38	40	28
Worcester	27	28	29	31	32	33	33	33	33	34	36	36	37	32
Broxtowe	28	30	32	33	33	33	32	32	33	34	36	36	36	33
Derby	33	33	33	33	33	32	32	32	33	34	36	36	37	33
Melton	25	25	25	25	26	27	29	31	34	35	35	35	35	30
Amber Valley	25	25	26	26	27	27	28	29	31	33	35	37	38	30
Hinckley and Bosworth	27	27	27	28	28	28	29	30	32	33	35	36	36	30
Telford and Wrekin	26	26	27	27	27	28	29	30	31	32	34	36	38	30
West Lindsey	25	25	25	26	27	27	28	29	31	32	34	36	37	29
West Northamptonshire	25	26	26	27	28	29	29	30	32	33	34	35	36	30
North West Leicestershire	29	29	30	31	32	32	32	33	33	33	34	34	35	32
Charnwood	29	29	29	29	28	29	30	32	33	33	34	34	34	31
Malvern Hills	26	27	27	28	28	28	29	31	32	33	34	34	33	30
Leicester	24	25	26	26	27	27	27	28	30	32	34	35	36	29
Wychavon	22	23	24	25	25	26	27	28	30	32	34	35	36	28

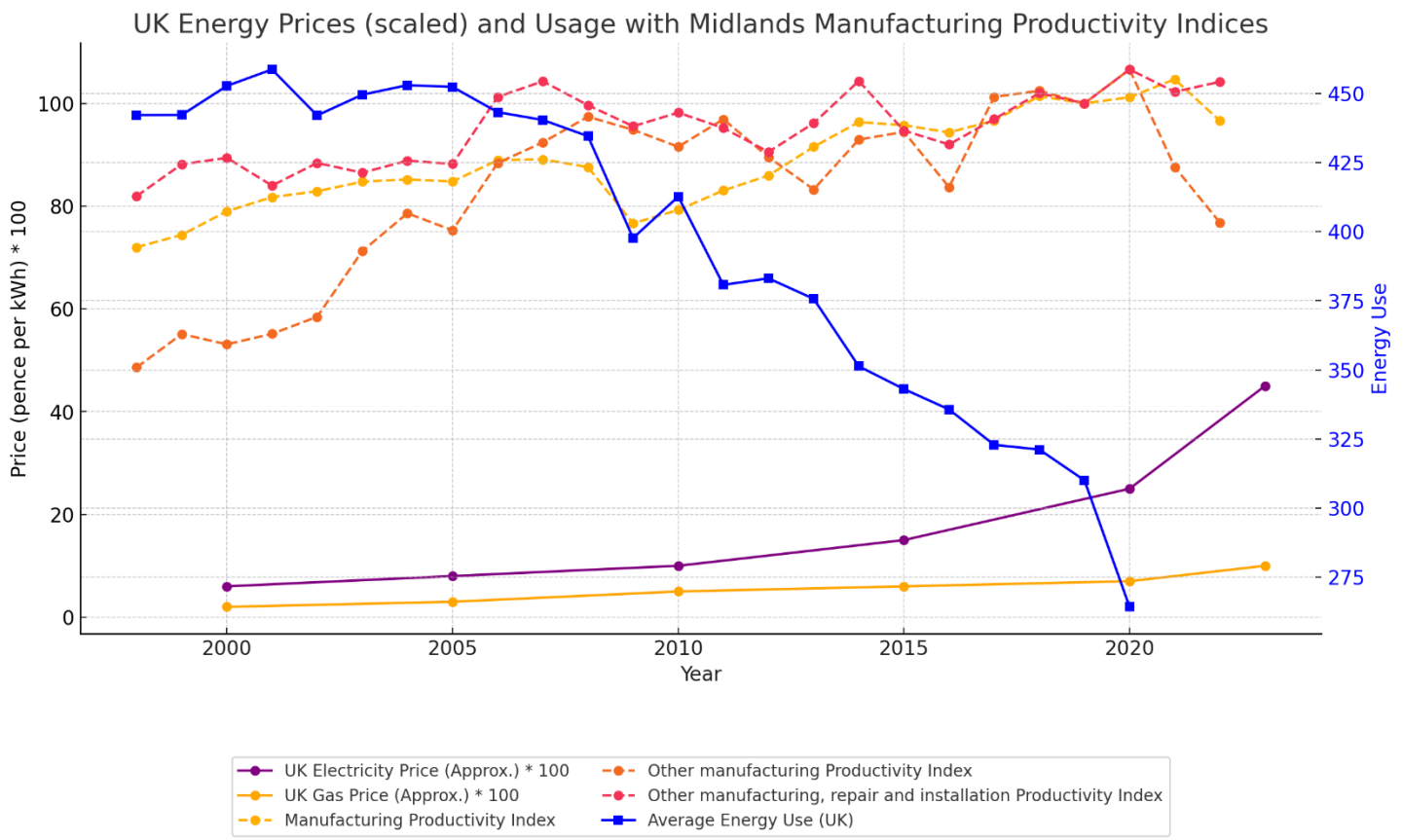
Rutland	26	27	28	28	29	29	29	29	31	32	34	35	35	30
South Holland	23	23	24	25	25	26	27	28	30	31	33	35	36	28
North East Derbyshire	22	23	23	25	26	27	28	28	29	31	33	35	35	28
Birmingham	27	27	27	27	27	28	29	30	31	32	33	34	34	30
Redditch	23	24	25	27	29	31	32	33	33	33	33	33	32	30

LAD_Name	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
South Staffordshire	24	24	24	23	24	24	26	27	29	31	33	34	34	28
Chesterfield	23	23	23	25	26	27	27	27	28	30	33	35	36	28
East Lindsey	22	23	25	26	26	26	26	27	28	30	32	34	35	28
Ashfield	30	30	31	30	30	30	30	30	30	31	33	33	32	31
Stafford	24	25	25	26	27	28	28	29	30	31	32	33	33	29
Nottingham	25	25	26	26	26	26	27	29	31	32	32	32	32	28
Harborough	26	25	26	26	27	28	28	29	29	31	32	33	33	29
Lincoln	23	24	25	25	26	26	27	28	29	31	32	33	33	28
Wolverhampton	21	21	22	23	24	25	26	27	28	30	31	33	34	27
Sandwell	23	24	24	24	24	25	26	28	29	30	31	32	32	27
Newcastle-under-Lyme	25	25	25	24	24	25	26	26	28	29	31	33	34	27
Lichfield	24	24	24	25	26	27	28	29	29	30	31	32	32	28
Cannock Chase	25	25	25	25	26	26	26	28	29	30	31	32	32	28
Gedling	24	25	26	26	25	25	25	26	28	30	32	32	31	27
Shropshire	24	24	24	25	25	25	26	26	27	29	31	33	34	27
Stoke-on-Trent	24	24	24	24	24	24	25	26	27	29	30	32	32	27
South Kesteven	24	24	25	26	27	27	27	27	28	29	30	31	32	27
Newark and Sherwood	24	25	25	25	25	26	27	28	28	29	29	30	30	27

Dudley	22	23	25	26	26	26	26	26	26	28	30	30	31	26
Walsall	22	23	25	26	27	26	26	25	26	27	29	30	31	26
North Northamptonshire	24	23	24	24	25	25	25	25	26	27	28	30	30	26
Nuneaton and Bedworth	19	20	22	23	23	23	24	25	26	27	28	29	30	24
Erewash	20	21	22	22	23	24	24	24	25	26	28	30	31	25
Staffordshire Moorlands	21	23	24	25	25	26	26	27	28	27	27	28	29	26
High Peak	21	21	22	23	24	25	26	26	25	26	28	30	30	25
Boston	19	19	20	21	22	23	23	24	25	27	28	29	29	24
Derbyshire Dales	20	20	21	23	24	25	25	24	24	25	27	29	30	24
Herefordshire, County of	20	21	21	21	22	22	23	23	24	26	27	29	30	24
Bassetlaw	23	24	24	24	24	24	24	24	25	25	27	28	28	25
Mansfield	19	20	21	22	22	22	22	23	24	25	27	27	27	23
Oadby and Wigston	22	23	24	25	25	25	24	24	24	25	25	26	26	24
Wyre Forest	20	20	21	22	23	22	22	22	23	23	24	25	25	22

Source: ONS

Figure 2A: High energy prices, fall in the energy use and decline in Midland's manufacturing productivity levels



Source: ONS productivity data by sectors and regions plus energy use and energy price data