Closing the Productivity Gap

Regional Insights and Strategic Priorities for
the West of England, September 2025

The Brunel Centre

Damian Whittard, Van Phan and Armagan Gezici

Connect with us

Email
thebrunelcentre@bath.ac.uk

Website
go.bath.ac.uk/the-brunel-centre

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The Brunel Centre

The Brunel Centre is a newly established university-business partnership led by the University of Bath, UWE Bristol and Futures West.

Officially launched in July 2025, the Centre is dedicated to supporting sustainable and inclusive economic growth across the West of England by providing publicly accessible, real-time economic intelligence.

Based in Bath and Bristol, it works closely with regional authorities, businesses and policymakers to co-develop strategies that drive productivity, investment, clean growth and high-quality local employment.

This Policy Insight is the first from the Brunel Centre, offering analysis of key economic challenges facing the West of England. This inaugural publication focuses on the issue of productivity. It draws on a newly constructed panel dataset developed by the Brunel Centre.

Background

Improving productivity is a central challenge for the West of England and its local authority areas (South Gloucestershire, City of Bristol, Bath and North East Somerset (BANES) and North Somerset) with wide-ranging implications for local economic strategy, public investment and the region's ability to deliver sustained growth in jobs, incomes and prosperity.

As the region seeks to harness the opportunities of devolution, a deeper understanding of local productivity dynamics is critical for designing effective place-based policies.

Establishing where and why productivity excels or lags can inform strategies to boost growth, reduce inequalities and support more inclusive economic development across the region. However, policymakers and stakeholders often lack consistent, granular evidence to inform decision-making.

This work aims to bridge that gap, providing novel analysis to support the development of targeted strategies that reflect the region's diverse economic realities.

In this first Policy Insight, we analyse productivity across the West of England's local authorities, compare their productivity performance with high productivity areas of the London boroughs, and provide new evidence for more targeted regional growth strategies, encouraging investments in capital infrastructure, education and innovation.

Summary

This report highlights South Gloucestershire's economy — which is anchored in advanced manufacturing, aerospace and defence — consistently delivering strong productivity performance over the long term; Bristol's relatively slower productivity growth despite its economic scale; and the comparatively weaker positions of BANES and North Somerset.

The City of Bristol has considerable potential to contribute to regional economic growth through productivity improvements, given its scale, proximity and connection with the high-performing South Gloucestershire area. Bristol's economy is larger than that of any outer London borough and many inner London boroughs, yet it lags in terms of productivity. South Gloucestershire outperforms all outer London boroughs and would rank fifth among inner London boroughs for productivity, highlighting its strong national position.

The West of England has strengths in research and development (R&D) and leveraging this research capacity could drive productivity growth. The Brunel Centre's analysis suggests that there is an 'unexplained regional productivity premium' that could be unlocked through targeted investments in capital infrastructure, education and R&D, which would help realise additional productivity growth and boost the region's contribution to UK prosperity.

Given the region's economic strengths, scale and potential, a more focused growth plan — with targeted interventions to enhance connectivity and encourage investment in capital infrastructure, people and skills, and innovation systems — should deliver higher returns on investment and greater productivity gains for the UK.

What we did

We constructed a regional panel dataset at the local authority level, by harmonising labour market, business, economic activity, education and infrastructure data from multiple publicly available sources. These sources vary in both temporal and spatial coverage, resulting in an unbalanced panel.

To ensure geographic consistency, we implement a set of procedures to align all data to the local authority level — e.g. where data are only available at finer geographies (such as district level), we aggregate upwards; conversely, where data are only available at broader geographic levels (e.g. region), we apply allocation rules to disaggregate values down to local authorities. These rules are based on informed assumptions and auxiliary data, such as historical shares, population distribution and economic activity levels.

While these transformations introduce some measurement error, they enable a more comprehensive longitudinal analysis of local labour market dynamics and regional disparities over time. The resulting dataset includes information on 467 local and district authorities, with data for some variables (and some local authorities) running from 1979 to 2024. In total, the dataset contains over 20,000 observations.

The data used have been downloaded from NOMIS (official census and labour market statistics), Office for National Statistics (ONS), local and other government/third sector websites. The data sources include, but are not limited to, ONS's Annual Population Survey (APS); Annual Survey of Hours and Earnings (ASHE); Business Register and Employment Survey (BRES); Regional Accounts; Inter-Departmental Business Register (IDBR), house price statistics; job density data; population estimates; trade statistics; foreign direct investment; and claimant count data.

To combine the different datasets, we have had to make several assumptions to align time periods and geographies, while including experimental statistics and taking area averages.

Given these data integration challenges, our empirical estimates should be interpreted as indicating the direction and approximate magnitude of relationships between variables. Further, our approach allows us to characterise the nature of the associations between these variables, rather than estimating precise causal effects. The results are most valuable for understanding relative patterns and informing strategic priorities.

What we found

Descriptive analysis: One measure of productivity is GDP per head, which measures economic output per person. This is derived using total economic activity in a region and is heavily influenced by population size.

Over the period 1999 to 2022, GDP per head generally increased across all local authorities (excluding BANES), although growth trajectories diverged (see Figure 1).

South Gloucestershire recorded the highest GDP per head from 2005 onwards, with strong and sustained growth. Bristol was initially ranked first before falling behind South Gloucestershire as the city's growth slowed at the turn of the millennium.

North Somerset and BANES have lower GDP per head, highlighting intra-regional disparities. Notably, BANES experienced a marked slowdown with several periods of negative growth from 2005 onwards, widening the gap with Bristol and South Gloucestershire. North Somerset recorded the lowest GDP per head, with only modest improvement during the period.

The fluctuations seen around 2007—09 and again in 2020 align with the impacts of the global financial crisis and the COVID-19 pandemic.

Figure 1. Gross Domestic Product per head (1999-2022) – Chained Volume Measure (2019 prices)

* Figure 1 presents Gross Domestic Product (GDP) per head using a chain volume measure (CVM) in 2019 prices. The data cover the period 2000 to 2022. The CVM adjustment ensures that the data account for inflation, so real growth patterns are observed.
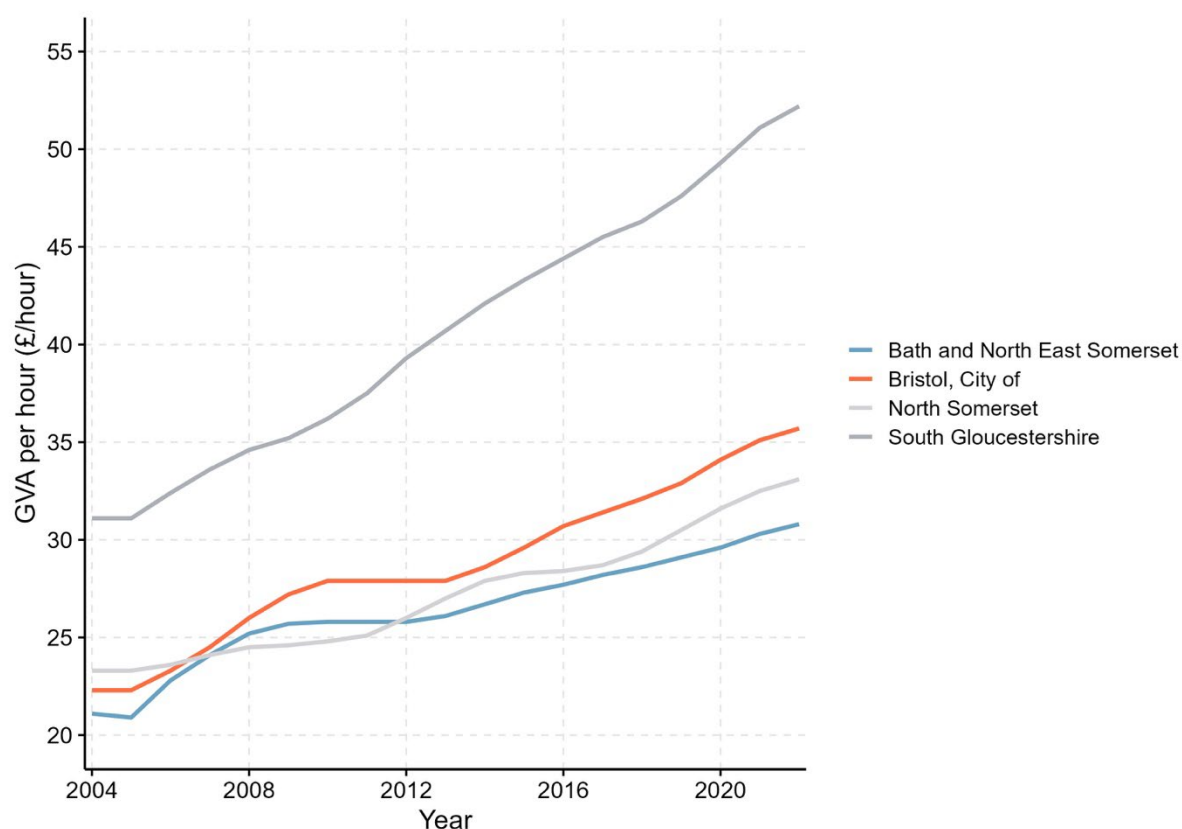
Source: Office for National Statistics Local Statistics

Given that GDP per head is influenced by population change, as well as changes in economic output, Gross Value Added (GVA) per hour worked provides a more accurate measure of productivity. This is because it focuses on labour efficiency and is less influenced by population changes.

There is an upward trend in GVA per hour for all four West of England local authority areas (see Figure 2, which shows this measure from 2005 to 2022). This upward trend is expected as the data reported in Figure 2 are in nominal

prices (values measured in the prices of the period, without adjusting for inflation).

Figure 2. Gross Value Added per hour at nominal prices, 2004—22

Source: Office for National Statistics Local Statistics

A striking observation from Figure 1 and Figure 2 is Bristol's slower growth compared with South Gloucestershire. This shift partly reflects Bristol's service-based economic structure, which includes a higher proportion of lower-wage, lower-productivity jobs.

In addition, the 2007-09 financial crisis disproportionately affected Bristol's high-productivity sectors — such as finance and professional services — while the COVID-19 lockdowns in 2020 further suppressed sectors like retail, hospitality and tourism, which are all prominent in the city's economy.

South Gloucestershire was less exposed to the 2007-09 and 2020 shocks because its economy is anchored in advanced manufacturing, aerospace and defence. These sectors are more resilient to short-term downturns and supported by longer-term contracts and international supply chains. These factors appear to have helped cushion the local economy from the worst impacts of both of these shocks.

To assess the productivity performance of the West of England, we compare its local authority areas with the London boroughs. London, as England's largest urban area and most productive region, benefits from strong agglomeration effects. This makes it a deliberately challenging comparator, while we acknowledge comparisons with other city regions, with similar economic structures, may provide a more balanced perspective.

Figure 3 shows GVA per hour worked for the year 2022 (across the horizontal axis) compared with the size of each region's economy in GVA in millions £s (on the vertical axis). This two-way scatterplot provides an insight into the comparable productivity levels between the local authorities; while also highlighting the potential each has in terms of its overall size — productivity improvements in larger economies have a greater economic impact overall.

Panel A plots the performance of the West of England local authorities against the outer London boroughs; these were selected as the most appropriate comparator due the fact that inner London is vastly inflated by the City of London.

As shown, South Gloucestershire's economy is marginally bigger and more productive than the best performing outer London borough (Hounslow). The City of Bristol's economy is over 25% larger than any of the outer London boroughs but is in the bottom quartile of performers in terms of productivity (GVA per hour).

Given the size of Bristol's economy, this suggest that the city has the greatest potential to contribute to regional economic growth through productivity improvements.

Both BANES and North Somerset fall into the bottom-left quadrant, indicating that they are among the smallest and least productive economies in relative terms.

Figure 3. GVA per hour worked by size of the economy, 2022

Panel A: West of England compared with outer London boroughs

Region ● Outer London ● West of England
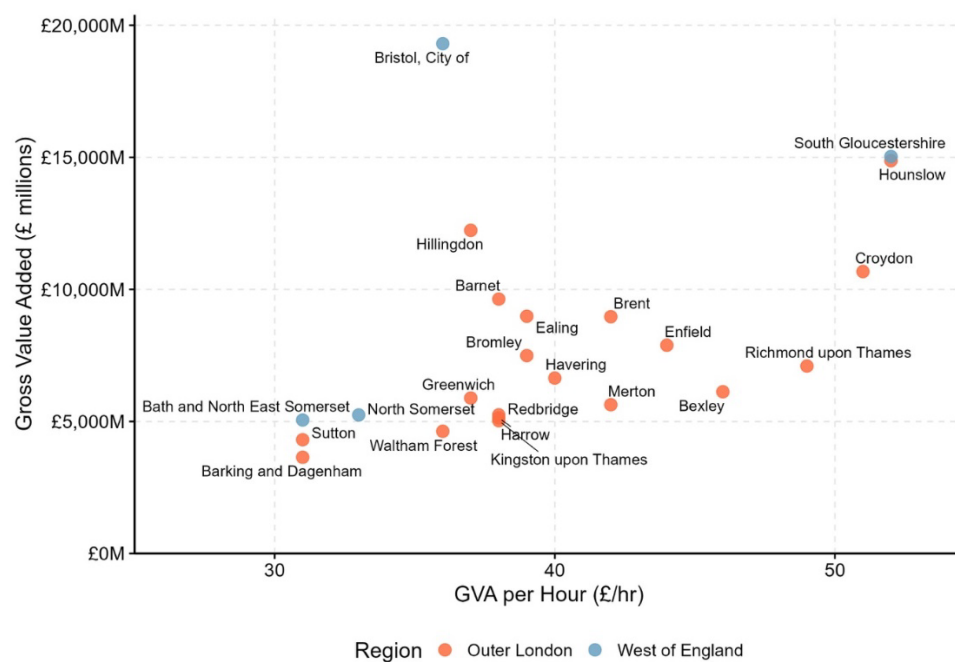
Panel B: West of England compared with inner London boroughs

Region ● Inner London ● West of England
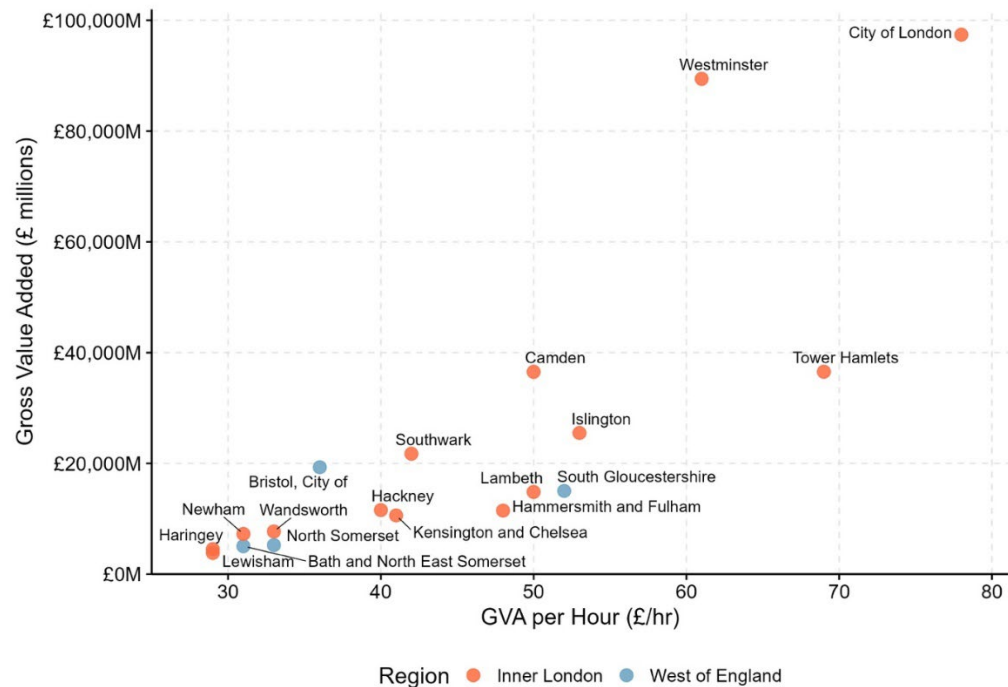
Source: Office for National Statistics Local Statistics

Comparing the performance of the West of England local authorities with the inner London boroughs, shows that South Gloucestershire's productivity performance is only exceeded by four inner London boroughs (see Panel B). Specifically, those that are home to world-leading financial and professional services hubs (e.g. City of London and Canary Wharf).

Bristol's economy ranks strongly, with only six London boroughs generating a larger overall output. Its productivity performance, however, is less competitive, trailing ten London boroughs. This suggests that while Bristol benefits from scale and diversity, it lags in terms of operational productivity, partially reflecting structural differences in its economic base — such as lower levels of capital investment, and fewer large corporate headquarters compared with London boroughs.

In summary, the analysis shows that South Gloucestershire has a productivity performance stronger than the leading outer London borough and better than most inner London boroughs. Bristol's comparative productivity performance with the London boroughs is weaker, but it has an economy that is over 25% larger than any of the outer London boroughs. Its scale, connections and proximity to the high performing area of South Gloucestershire suggests that the City of Bristol has significant potential to contribute to regional and UK economic growth.

Empirical analysis

Table 1 includes descriptive statistics of indicators used in our modelling. It highlights that the London boroughs generally outperform the West of England Mayoral Combined Authority (WECA) local authority areas (South Gloucestershire, City of Bristol and Bath and North-East Somerset, but excluding North Somerset) across key economic indicators.

Productivity, measured by average GVA per hour, is notably higher in London (£40.60) compared with £35.09 across the WECA local authority areas. Similarly, capital per job — a measure of investment in fixed assets such as machinery, IT or buildings — is greater in London, averaging around £8,000 versus £4,700 in WECA.

Although London also has slightly higher rates of Level 2 attainment (measured by the proportion of pupils achieving grade 4 in English and Maths by age 19), WECA demonstrates strengths in other areas. Notably, it reports higher average employment levels (average number of employments per WECA local authority and London borough areas) and greater R&D investment per job — £962 compared with London's £713.

These findings suggest that the WECA has built strong research capabilities but may lack the complementary investments in physical capital and skills needed to fully translate this research advantage into productivity gains.

Table 1: Descriptive statistics of key variables by London, and WECA region

Variable	All London		Outer London		Inner London		WECA Region	
	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.
GVA per hour (£)	£40.60	£9.45	£38.99	£5.54	£42.79	£12.69	£35.09	£8.23
GVA per job (£)	£61,736	£18,226	£56,703	£9,254	£68,565	£24,248	£51,916	£12,566
Employment	133,335	36,336	132,123	28,880	135,023	44,756	154,758	62,031
Capital per job (£)	£8,010	£3,476	£7,837	£3,568	£8,244	£3,344	£4,730	£1,021
GCSE attainment (%)	58	7	59	6	58	7	55	6
R&D (£ million)	£146	£180	£79	£39	£237	£246	£182	£82
R&D per job (£)	£713	£224	£660	£140	£784	£288	£962	£218

Source: ONS, NOMIS

We run regressions for different measures of GVA to understand the relationship between productivity and employment, education, capital and R&D for all the local authority districts from 2012 to 2022. The results presented in Table 2 provide insights into some of the main determinants of productivity, measured as the logarithm of GVA per job (in column 1, 2) and GVA per hour (in column 3, 4).

The analytical model in columns (2) and (4) controls for one additional variable (R&D per job). The fixed effects specification means that we take account of all characteristics of each area that remain fixed over time.

Across all models, capital per job and GCSE attainment rates emerge as strong indicators of productivity.

Table 2: Regression results of GVA (panel, fixed effects, 2012-22)

	Log GVA per job (1)	Log GVA per job (2)	Log GVA per hour (3)	Log GVA per hour (4)
Total employment	0.0021** (0.0009)	0.0014 (0.0013)	0.0029** (0.0009)	0.0014 (0.0013)
Share of GCSE attainment	0.0033*** (0.0006)	0.0035*** (0.0009)	0.0046*** (0.0008)	0.0035*** (0.0009)
Capital per job (log)	0.1161*** (0.0102)	0.1290*** (0.0314)	0.1546*** (0.0119)	0.1290*** (0.0314)
R&D per job (log)		0.2437* (0.1085)		0.2437* (0.1085)
Constant	9.3807*** (0.1857)	0.4202 (0.5664)	1.5816*** (0.2094)	0.4202 (0.5664)
N	1,350	1,350	1,350	1,350
r2	0.2725	0.5261	0.4539	0.5261
F	59.6893	29.1046	85.2526	29.1046

* Note: This table reports the results of the panel regression from 2012-22, fixed effects. The regression is run on all local authorities across the country. All control variables are three year moving averages. Robust standard errors are reported in the brackets. ***, **, * denote significance level at 1%, 5%, 10%, respectively.

Source: ONS, NOMIS

Figure 4 presents a counterfactual analysis examining productivity levels that WECA could achieve under different scenarios. The first bar shows the actual GVA per job in the WECA region (£51,916), while the second shows the fitted value from the regression model (£51,905). This closely matches the actual data, confirming the model's accuracy. The third bar displays the fitted GVA per job for London when estimated using London-only data (£58,420). Most significantly, the fourth bar presents a counterfactual

scenario: taking London as the counterfactual, our model predicts WECA's GVA per job would reach £62,622, exceeding London's fitted performance by £4,202 and its actual recorded performance of £61,736.

This suggests that there is an unexplained 'WECA productivity premium' that could be unlocked through targeted investments in education, capital infrastructure and R&D. The analysis indicates that such investments could deliver substantial productivity gains, particularly in Bristol where the combination of economic scale and this latent productivity potential create the greatest opportunity for regional impact.

Realising the region's productivity premium requires a growth plan that coordinates investment across capital infrastructure; education, training and skills development (or human capital formation); and innovation systems.

Upgrading transport and digital networks, expanding energy and workspace capacity, and addressing educational attainment gaps would reduce barriers and enhance labour market efficiency.

Complementary measures to deepen university-industry linkages, support small and medium-sized enterprise (SME) innovation and strengthen sectoral clusters are also essential to foster knowledge diffusion and technological adoption.

Figure 4: GVA per job between WECA and London
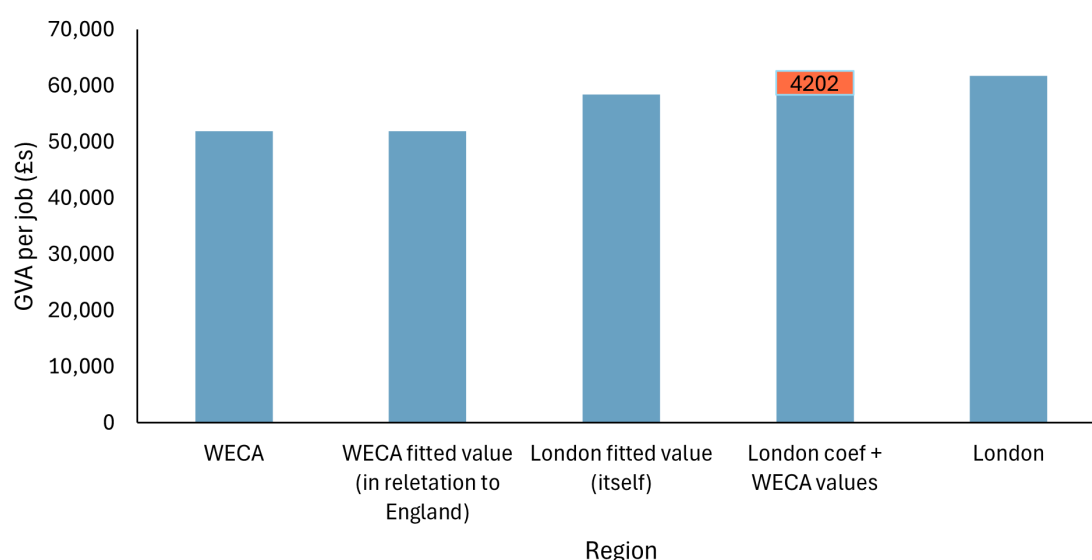
Why this matters

Improving productivity is vital for long-term, inclusive economic growth across the West of England. This Policy Insight provides new, place-based evidence to inform investment decisions, policy development and economic strategy.

By identifying the region's strengths and gaps — such as Bristol's untapped potential and South Gloucestershire's strong performance — it can help to support the use of targeted interventions that can deliver high-impact returns.

Crucially, it highlights the role of education, capital investment and R&D in driving productivity, offering a roadmap for future economic resilience.

What next for the Brunel Centre?

With the Brunel Centre now launched, its focus turns to delivering on an ambitious year-one agenda. Over the coming months, the Brunel Centre will finalise its governance structure, including the formation of a Regional Reference Group to ensure our work remains rooted in the priorities and insights of local and national partners.

Central to the work of the Centre is the production of a Strategic Economic Audit of the Region. This will offer fresh insight into the performance and prospects of the West of England economy. It will be developed in consultation and will culminate in a major publication by March 2026.

Alongside this, the Centre is building a publicly accessible, real-time Data Hub and Observatory to provide open economic intelligence for decision-makers across the region. Design work has already started and will be steered by the needs of stakeholders and supported by our growing analyst team.

Looking further ahead, the Centre is also beginning to shape a sustainable funding model and build an economic consultancy service to support its long-term impact.

Acknowledgements

Contacts

Article:

Dr Damian Whittard
Associate Professor
University of the West of England
damian2.whittard@uwe.ac.uk

Brunel Centre:

Dr Lucy Martin
Brunel Centre Director
University of Bath
lm2977@bath.ac.uk