

# Wales' Productivity Challenge: A Focus on the Future

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## Abstract

This paper builds on the initial Wales productivity insights report (Henley, 2021) to outline the importance of addressing Wales' productivity challenge. It provides a short background to, and a statistical update on, the productivity challenge in Wales (Section 2) and an overview of its drivers (Section 3). Since Wales' productivity challenge is longstanding, and many of the drivers are well-established, the discussion is intentionally forward-looking. In this respect the emphasis is on the case for a renewed focus on productivity in Wales (Section 4) and how this relates to existing policy priorities (Section 5). We subsequently set out an agenda of how this might be achieved (Section 6).

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# 1. Introduction: What is Wales' productivity challenge?

1.1. Productivity growth means increasing the value of goods and services produced with the same inputs. It is critical to real wage growth: it raises profits, enables increased employment and investment; supports increased tax revenues and improved public service delivery. It is thus a fundamental driver of the long-term welfare of the population and vital to achieving the aims of the Well-being of Future Generations (Wales) Act 2015.

1.2. Wales faces (at least) two productivity challenges. Firstly, it shares the UK's 'productivity puzzle'. That is, the UK has experienced a slowdown in productivity growth since the 2008 financial crisis which has extended pre-existing productivity gaps with countries including the US.<sup>1</sup> The further challenge, and the one on which we focus here, relates to a longstanding gap between productivity levels in Wales and the UK average. Given the importance of London and the South East in raising productivity levels in the UK (see Section 2), it is fairly common for UK regions to experience productivity lower than the UK average. The magnitude of the gap is, however, particularly large in Wales. Further, unlike some other regions, there has also been no evidence of convergence over time. This is despite more than 20 years of devolution, European structural funding and the recent UK government 'levelling up' agenda. Moreover, the scale of regional variation in productivity in the UK is pronounced by international standards (see McCann, 2024) and thereby underpins sizeable regional disparities in economic wellbeing and living standards.

1.3. There is, however, a third challenge in Wales, which is common to other UK regions. There is substantial intra-regional variation in productivity, that is, productivity varies across local areas *within* Wales. Indeed, local areas in Wales such as Powys, Gwynedd and Conwy and Denbighshire are among the least productive in the UK. A key test for Wales is therefore ensuring that productivity growth is spatially dispersed and results in convergence *within* Wales, as well as moving Wales closer to the UK average.

1.4. In terms of addressing these challenges, it is important to recognise that Wales is embedded within the wider UK economy and initiatives to enhance UK productivity growth will be an important part of raising Wales' productivity levels. In this respect, the broad principles for pro-productivity policy development identified by [The Productivity Institute \(TPI\)](#) (van Ark and Pike, 2024), while targeted at the UK government, are equally relevant to Wales, and require support from, and implementation by, the Welsh Government.

1.5. Addressing the persistent Wales-UK gap in productivity will, however, require considerable additional attention in Wales. The UK and Welsh Governments first need to consider the implications of UK wide policy decisions, including the development of the new Industrial Strategy, on regional inequality.<sup>2</sup> However, Wales also needs to take ownership of its productivity challenge. This first requires greater awareness, recognition

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<sup>1</sup> Average annual UK productivity growth was 2.2% between 1971 and 2007, but 0.6% between 2011 and 2022 (ONS, 2023a).

<sup>2</sup> [Invest 2035: the UK's modern industrial strategy - GOV.UK](#)

and understanding of the problem and its consequences. From this a long-term strategy needs to be developed, which requires significant collective efforts involving individuals, businesses, those involved in public service delivery as well as policymakers in local, regional and Welsh Government.

1.6. This paper builds on the [initial Wales productivity insights report](#) (Henley, 2021) to outline the importance of addressing Wales' productivity challenge. It provides a short background to, and a statistical update on, the productivity challenge in Wales (Section 2) and an overview of its drivers (Section 3). Since Wales' productivity challenge is longstanding, and many of the drivers are well-established, the discussion is intentionally forward-looking. In this respect, the emphasis is on the case for a renewed focus on productivity in Wales (Section 4) and how this relates to existing policy priorities (Section 5). We subsequently set out an agenda of how this might be achieved (Section 6).

## 2. Background to Wales' productivity challenge

2.1. What economists refer to as productivity is frequently misunderstood. Productivity is the value of goods and services produced with given inputs. At a national level, it is typically measured in terms of Gross Value Added (GVA) per worker or per hour worked, where GVA is the additional value of goods and services produced over inputs. While providing a critical contribution to, it is distinct from economic growth. Economic growth, often measured by changes in Gross Domestic Product (GDP) which is principally made up of GVA, increases in two main ways. Firstly, total work quantity can increase, meaning more people are employed or people are working longer hours on average. Secondly, productivity per worker/hour can increase. The latter might crudely be thought of as improving work quality rather than work quantity.

2.2. This distinction is important. Over the last decade the employment rate in Wales has risen and converged on the UK average (see, for example, Figure 1). That is, at least until COVID-19, there was greater similarity in work quantity among the working-age population in Wales and the rest of the UK.<sup>3</sup> Despite this, GDP per head in Wales, often thought of as a measure of living standards, has remained stubbornly low at below 75% of the UK average since 1998.<sup>4</sup> An important part of the explanation lies in Wales' weak productivity growth. The situation is captured by analysis from the Resolution Foundation, "Employment gaps between Wales and the UK average have halved, but pay and productivity gaps remain broadly unchanged since the 1990s" (McCurdy, 2020). So, while continuing to increase employment rates in Wales is important, doing so in the absence of productivity growth will severely limit what is achieved. Indeed, improving

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<sup>3</sup> Post COVID-19 data from the Labour Force Survey suggest that the employment rate has declined in Wales relative to the UK average but the reduction in response rates and sample size means regional comparisons are now less reliable.

<sup>4</sup> Authors calculations based on [Regional gross domestic product: all ITL regions - Office for National Statistics](#).

productivity is key to enhancing Wales' standard of living through working more effectively rather than working more.

2.3. In most of the analysis which follows we focus on an established measure of labour productivity, measured by GVA per hour.<sup>5</sup> While this is probably the most commonly utilised measure of regional and local productivity, it should be noted that it is a partial measure, and fails to account for other inputs in the production process, including capital. Analysis of experimental measures of Total Factor Productivity (TFP) (ONS, 2022) that account for multiple inputs, however, suggests that, even after accounting for other factors, Wales experiences a productivity gap relative to the rest of the UK.

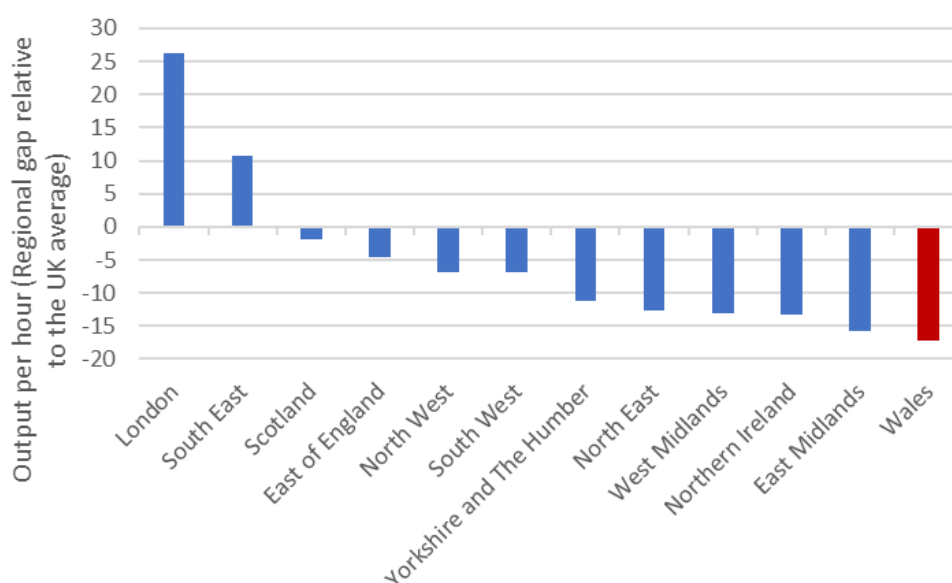
2.4. Figure 1 presents GVA per hour by region in 2022 relative to the UK average (100) based on the most recent data from the Office for National Statistics (ONS, 2024a). The figure shows that Wales has the lowest productivity among all UK regions, with average productivity in Wales in 2022 more than 17% below the UK average. Put very crudely, this means the average worker in the UK could work nearly one less day a week than the average worker in Wales and still achieve the same value of output.<sup>6</sup> Even more concerning, these data show an absolute and relative fall of productivity in Wales between 2019 and 2022. Average annual UK productivity growth over the period was 0.8%, whereas the corresponding figure for Wales was -0.4%, that is, productivity has *fallen*. While the causes of this require detailed investigation, including consideration of measurement challenges during the pandemic, it suggests a particularly negative impact of the COVID-19 pandemic on productivity in Wales, leading to divergence rather than convergence with the UK average.

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<sup>5</sup> GVA per hour (rather than per worker) better accounts for differences in individual hours worked. It also aligns to the indicators used as part of the Well-being of Future Generations (Wales) Act 2015 (GVA per hour worked (relative to UK average)).

<sup>6</sup> This cannot be attributed to differences in worker effort. The complex set of drivers of productivity are explored in Section 3.

Figure 1. Regional Productivity Gaps in 2022



Notes: Relative output per hour by UK region. Source: ONS (2024a): [Regional and subregional labour productivity, UK - Office for National Statistics](#)

2.5. Given the regional variation that exists within the UK, it is perhaps more insightful to focus on comparisons between UK regions, rather than Wales and the UK average. We present a more detailed analysis of productivity levels and productivity growth by UK region in Figure 2.<sup>7</sup> This also facilitates comparisons across the devolved nations. Figure 2 compares the latest GVA per hour (horizontal axis) with growth in the same measure since 2008 (vertical axis), that is, the period post financial crisis. The dashed lines denote the UK average. Several points are worth noting. Firstly, although Wales (highlighted in yellow) has the lowest productivity level in 2022 out of all UK standard regions, there is a much smaller variation across UK regions once London and the South East are excluded.<sup>8</sup> Secondly, Wales' position relative to the UK average has remained reasonably steady over this period. That is, Wales has shared the UK 'productivity puzzle' which has been detrimental to living standards, but this slowdown has not exacerbated the productivity gap between Wales and the UK. In fact, productivity growth in Wales is slightly above the UK average, meaning it lies within the quadrant classified as regions 'catching up'. It should, however, be noted that both other devolved nations, Scotland and Northern Ireland, which share a similar greater policy independence relative to other English regions, have converged on the UK average to a greater extent over the same period.<sup>9</sup> In this respect the persistence of Wales' productivity gap is far from inevitable. This assessment of Wales' relative productivity performance is not, however, out of line with the broader longer-term assessment of the Welsh economy as

<sup>7</sup> UK regions are defined by International Territorial Levels (ITL).

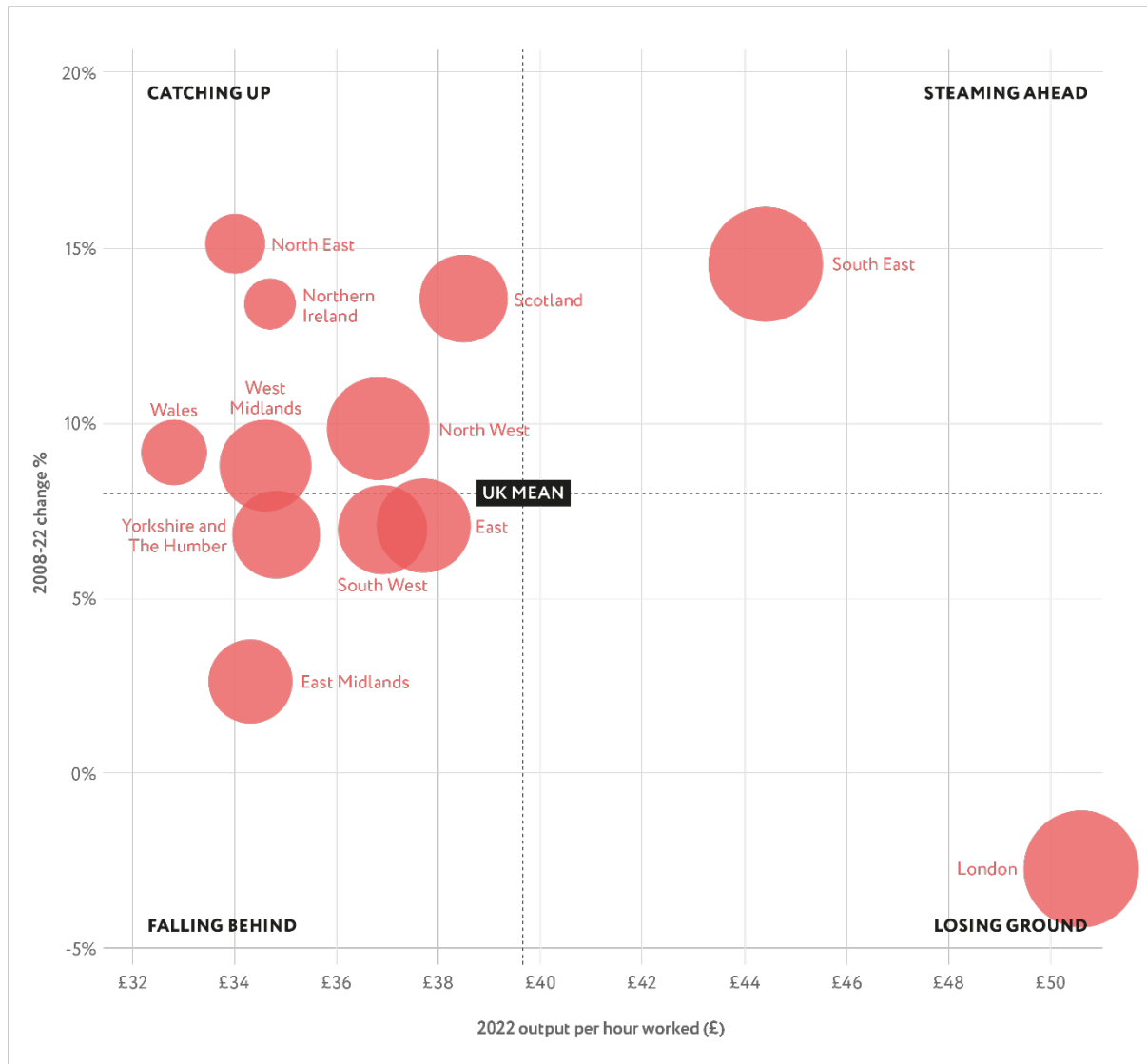
<sup>8</sup> Harris and Moffat (2022) make a similar conclusion using TFP from plant-level data.

<sup>9</sup> For a more detailed discussion see: [Devolution at 25: how has productivity changed in the devolved nations? - Economics Observatory](#).



maintaining rather than improving its relative position within the UK (Bradbury and Davies, 2022).

Figure 2. Labour Productivity Performance by Major UK Regions and Devolved Nations, levels (value added per hour in 2022, in £) and change (growth, in % real terms, 2008-22)



Notes: Size of bubble denotes working population for the region. Source: Office for National Statistics, Subregional productivity: labour productivity indices by UK ITL2 and ITL3 subregions, <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/datasets/subregionalproductivitylabourproductivitygvaperhourworkedandgvaperfilledjobindicesbyuknuts2andnuts3> subregions June 2024. Ortega-Argilés, R. and Menukhin, O. (2025) UK Subnational Productivity Visualisations, TPI Productivity Forum detail DOI:10.48420/28212929

2.6. Productivity within Wales is, however, far from uniform. The intra-regional variation within Wales is perhaps most effectively presented graphically. Figure 3 provides an illustration of 2022 GVA per hour worked across local authorities relative to the Wales

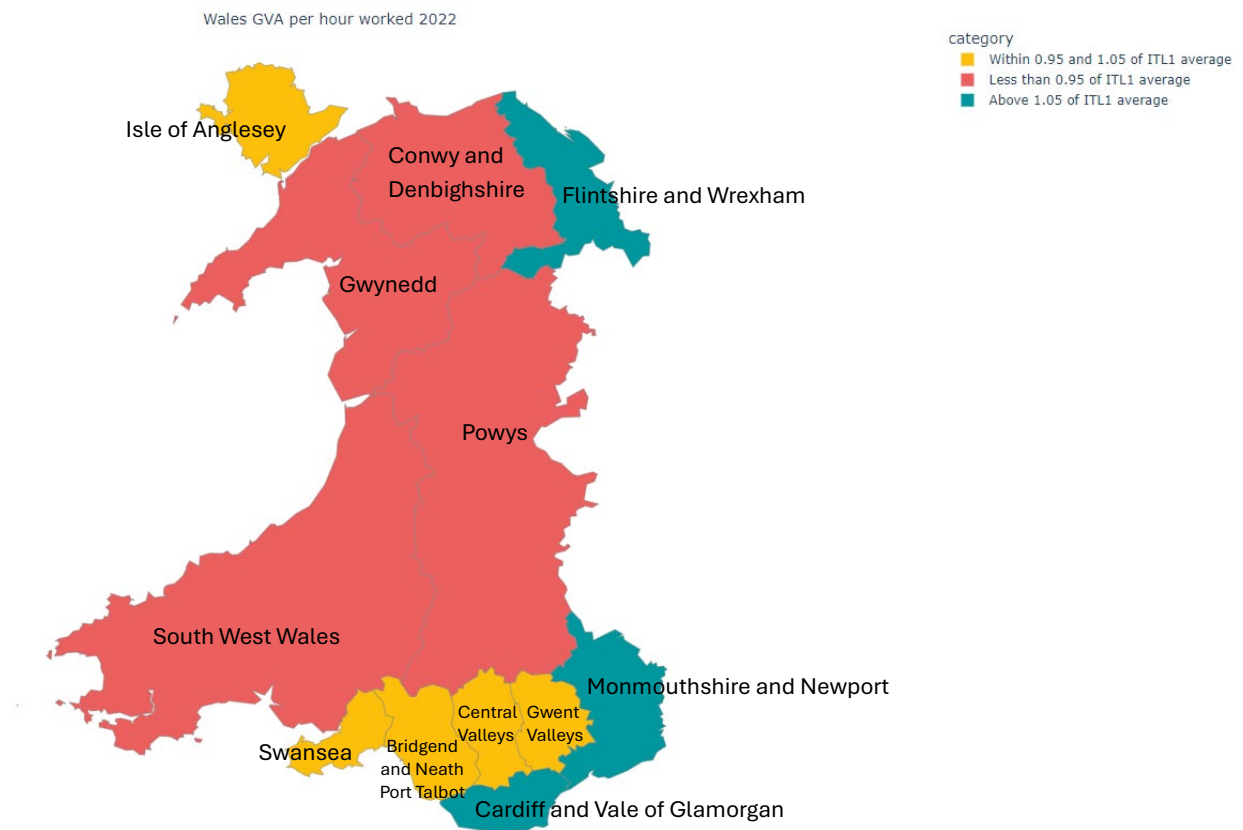
average.<sup>10</sup> Although we should be more cautious in interpreting local variation in productivity due to measurement error, the pattern is stark and illustrates a clear East-West and urban-rural differential. Productivity is less than 95% of the Welsh average (red) in Powys, Gwynedd, Conwy and Denbighshire and, South West Wales (Ceredigion, Carmarthenshire, Pembrokeshire). Productivity in Powys (at only 63% of the UK average) is lower than any other local area in the UK and, Powys, Gwynedd and Conwy and Denbighshire are among the five least productive local areas in the UK. Further, productivity growth has been negative in Gwynedd between 2008-2022 (see Appendix Figure A2), meaning productivity has fallen in both absolute terms and relative to the Wales and UK average. It is also worth noting that productivity growth in Swansea was also negative.

2.7. Local areas with productivity levels higher than the Welsh average (green) are clustered in less peripheral areas within both South and North Wales, including Flintshire and Wrexham, Cardiff and the Vale of Glamorgan, and Monmouthshire and Newport. Among these areas, productivity growth since 2008 has been greatest in Flintshire and Wrexham. At 25% it has been considerably greater than the Welsh and UK average, but likely heavily dominated by a relatively small number of large capital-intensive manufacturing plants. Indeed, it is important to note that no local area in Wales has productivity levels as high as the UK average, illustrating the consistent pattern of low productivity across Wales.

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<sup>10</sup> The figures for average GVA per hour worked are provided for each Local Authority in Appendix Figure A3. Of course, there are other ways to present intra-regional variation, including by city-region, economic region or ITL(2). We simply present the most disaggregated spatial units possible. The Cardiff Capital Region City Deal (2016-) covers the ten local authorities of the South East Wales Economic Region; the Swansea Bay City Region Growth Deal (2017-) covers four local authorities and the Mid Wales Growth Deal (2020-) covers two local authorities both across the Mid and South West Wales Economic Region, and the North Wales Growth Deal (2020-) covers the six local authorities of the North Wales Economic Region. Henley (2021) provides a more detailed discussion.

Figure 3. Local Productivity Variation in Wales in 2022



2.8. Two questions follow from this analysis. The first is, what explains productivity gaps, both between Wales and the UK average, and between local areas within Wales. The second is whether such spatial variation matters. We address these questions in Sections (3) and (4) respectively.

### 3. Understanding the drivers of Wales’ productivity challenge

3.1. At a national level, productivity growth is most easily thought of as either an increase in the efficiency of production of existing goods and services, or a change in the composition of goods and services produced towards higher value items. Our initial Wales insights report (Henley, 2021) explored the range of factors that are known to contribute to productivity growth. These can usefully be separated into three broad groups, that is, factors which predominately relate to (1) individuals, (2) organisations and (3) the broader environment.

3.2. The first set of factors, which relate to the characteristics of workers themselves, can be referred to as human capital. These are characteristics which make workers more or less productive and would include ability, health, education and skills, as well as dimensions of personality and attitude, including effort and commitment. Like any other form of capital, human capital typically requires investment, and this investment is long-

term. For example, acquiring education has short-term costs but future benefits in terms of higher wages.

3.3. Conditional on a given level of human capital, the characteristics of the workplace and organisation, whether in the public or private sector, also influence productivity. At the simplest level, the industry you work in, and the equipment you have to work with (physical capital), is important. More broadly, organisational capital, management practice (including the ability to motivate and engage employees), the nature of the production process, including the application of innovations and technology, are all organisational factors that can affect productivity. Those factors outside physical capital are typically referred to as intangible capital (and lack a physical presence).

3.4. The productivity of employees within an organisation is further influenced by the external environment. National levels of innovation and technological adoption, openness to foreign trade and investment, digital (including broadband connectivity) and transport infrastructure as well as the nature of geography, particularly proximity to markets and suppliers, are all relevant. So too is the institutional, regulatory and policy environment.

3.5. Of course, in practice, these factors are not independent and come together to create a far more complex set of inter-related drivers. Retaining highly skilled workers and allowing them to utilise their human capital within Wales requires there to be demand for these skills, that is, the availability of highly skilled jobs. Management practice, including organisational investment in training and employee health, impacts employee human capital. Uncertain and changeable government policy deters business investment, in contrast to long-term stable strategies, incentives and policies which can support investment. The adoption and utilization of technology within workplaces depends on employee human capital, business investment and the broader government support for innovation.

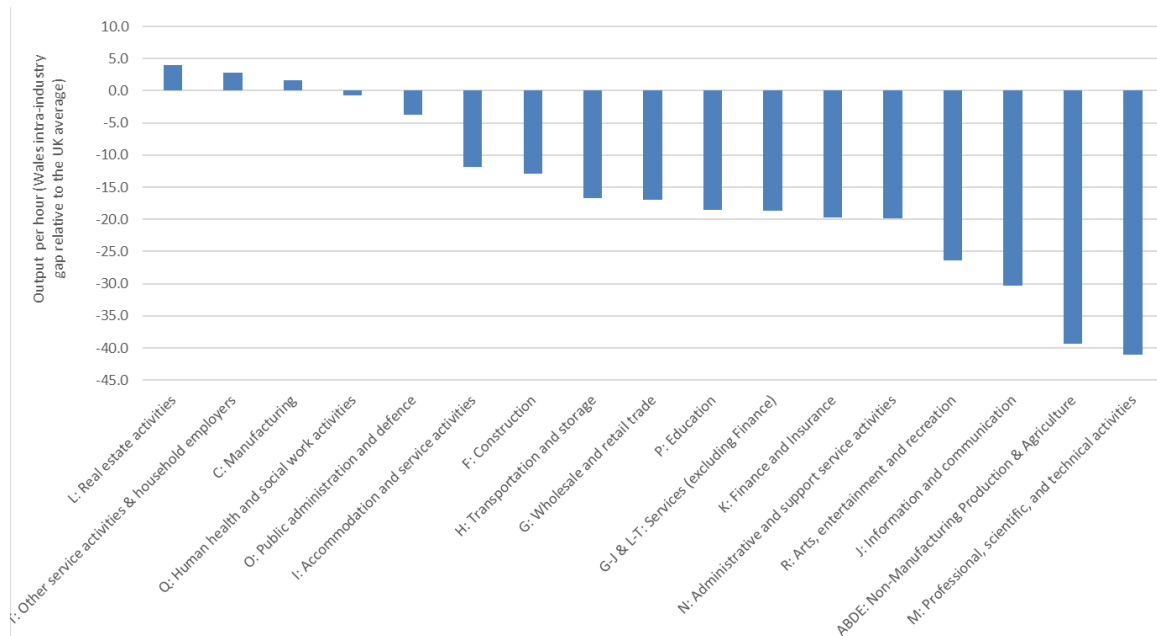
3.6. So, what is it about Wales that drives the productivity gap with the UK? As illustrated by Price (2023), the productivity gap between Wales and the rest of the UK is not simply a consequence of differences in the underlying industrial structure, that is, differences in the industries in which workers are employed in Wales and the UK.<sup>11</sup> Albeit defined by relatively aggregate industry groups which might hide more nuanced differences in industrial structure, Figure 4 shows that the gap between Wales and the UK exists *within* the same industries. Indeed, Wales' productivity gap is not driven by its greater reliance on the manufacturing sector, since manufacturing productivity compares favourably to the UK average, and has risen faster in Wales compared to the rest of the UK since the financial crisis. Instead, Wales' productivity gap is evident in non-manufacturing production (agriculture, energy and water) and across much of the service sector. It is most pronounced in non-manufacturing production, information and communication industries and professional, scientific, and technical activities, where productivity is more

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<sup>11</sup> Indeed, UK productivity estimated based on UK industry productivity levels and Wales' employment structure is much more similar to the UK average than when using the UK employment structure and Wales' industry productivity levels.

than 30% below the UK average.<sup>12</sup> While relative to the UK average, Wales has a concentration of employment in non-manufacturing production it also has a lack of employment in professional, scientific, and technical activities, meaning these composition effects cancel each other out in terms of Wales' productivity gap.

Figure 4. Wales' Productivity Gaps by Industry in 2019



Notes: Experimental statistics. Output per hour by industry section. Gap measured as a comparison between Wales and the UK industry average. Source: ONS (2021): [Region by industry labour productivity - Office for National Statistics](#).

3.7. One way to summarise the complex array of factors which underpin productivity is via the [regional TPI scorecards](#). While necessarily selective, Figure 5 identifies how Wales fares in terms of known drivers of productivity. Areas of strength (green) and weakness (red) in Wales in 2020 are shown relative to the UK average, along with an indication of change (improvement in green and deterioration in red) over both the short (1-year) and long term (5-years).<sup>13</sup> The first thing to note is that Wales typically performs at or below the UK average across all the categories, which capture business performance and characteristics, skills and training, policy and institutions, health and wellbeing, and investment, infrastructure and connectivity. The one driver showing a relative advantage in Wales is export intensity, within the business performance category. Goods exported account for a higher proportion of GDP in Wales than most other parts of the UK. Whilst a potential positive signal of firms' ability to capitalise on international markets, it likely relies heavily on large manufacturing units. Further, this advantage has weakened over time, perhaps reflecting a disproportionate impact of

<sup>12</sup> Low relative productivity in non-manufacturing production is consistent with evidence of a productivity gap between rural and urban areas within Wales in Figure 3.

<sup>13</sup> The productivity data in Figure 5 (and the corresponding Figure A1) reflects an earlier year and is therefore not consistent with the discussion above.

Brexit, widely viewed to have reduced UK productivity, within Wales, consistent with it exacerbating regional inequalities (McCann, 2023).<sup>14</sup>

3.8. The factors which likely contribute to Wales' productivity gap include two measures of business characteristics. Firstly, business spending on Research and Development (R&D) per job, which is thought to increase productivity through process innovation and new product development, is lower in Wales than the UK average, but has shown some relative improvement over time.<sup>15</sup> In contrast, Small and Medium Sized Enterprises (SMEs) in Wales report greater barriers to accessing finance than the UK average, with the differential increasing over the long-term, a likely constraint on business growth and investment.

3.9. In terms of human capital, Wales has a relatively high proportion of the working-age population with low levels of education attainment (NVQ1 or lower), although there is evidence of a relative improvement over the long-term. While the long tail of low skills in Wales is well-established, it is often suggested that Wales is similar to much of the UK outside London, but this is not evident in comparisons by region (Appendix Figure A1). Interestingly, a greater concentration of lower-level qualifications is not mirrored by a lower concentration of those with higher level qualifications (NVQ4+) in Wales relative to the rest of the UK.

3.10. In terms of health and wellbeing, the indicators, as much of the policy emphasis, focus on health as a driver of economic inactivity and thus economic growth rather than productivity *per se*. This is, however, an area where Wales has faced longstanding issues, and despite convergence in employment rates over time, Wales remains a region with relatively high levels of economic inactivity and high levels of inactivity attributed to long-term ill-health; features shared with the other devolved nations and Northern England. Both are evident in Figure 5. What is often overlooked in the discussion is that workforce health is also a direct driver of productivity, affecting individual performance including via sickness absence and presenteeism.<sup>16</sup> In this respect the higher prevalence of long-term limiting health problems among workers in Wales relative to the UK average, and the broader growth in long-term health problems across the UK is likely make raising future productivity growth more difficult.<sup>17</sup> A further related challenge is workforce ageing, that is an increasing concentration of older workers in the workforce, which has been shown to reduce labour productivity in Europe (see Aiyar *et al.*, 2016).

3.11. In terms of institutional arrangements, SMEs in Wales are more likely to report that legislation and regulation is a major obstacle to running their business in the next 12

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<sup>14</sup> Recent Office for Budget Responsibility (OBR) forecasts suggest that leaving the EU will reduce UK long-run productivity by 4 per cent. See: [Brexit analysis - Office for Budget Responsibility](#)

<sup>15</sup> Coyle *et al.* (2023) further show that low business spending on R&D is combined with relatively low public spending on R&D in Wales.

<sup>16</sup> In 2022 the rate of sickness absence in Wales at 3.6% was higher than any other UK region and considerably higher than the UK average of 2.6% (ONS, 2023b).

<sup>17</sup> The spatial concentration of ill-health, particularly high rates of long-term ill-health in the South Wales Valleys mean the challenge is likely to be more acute in some areas.

months and there has been divergence with the UK average over time.<sup>18</sup> Further analysis by region (Appendix Figure A1) suggests this issue is shared with the other devolved nations and may therefore reflect the additional layer of governance.

3.12. Figure 5 also suggests Wales faces a particular challenge around investment, infrastructure and connectivity with all three selected indicators, including Foreign Direct Investment (FDI), capital formation (which captures both public and private sector investment into tangible and intangible assets) and digital infrastructure, below the UK average.<sup>19</sup> Indeed, Wales is the only UK region to be in this situation and, even more concerning, the evidence suggests divergence with the UK over the long-term.<sup>20</sup> It is therefore not surprising that Henley (2024) argues that raising levels of productivity-enhancing investment is critical in Wales. Moreover, this is an area where the UK itself is weak relative to international standards, with such investment important to the development of enhanced production processes and practices, including the absorption and application of innovation. The extent of intra-regional variation in capital formation is also worth noting, with low investment evident in the areas identified to have the lowest productivity in Wales - Powys, Gwynedd and Conwy and Denbighshire.

3.13. In relation to the external environment, the peripheral location, relatively sparsely distributed nature of population, lack of large cities and low job density mean that Wales does not benefit from agglomeration economies. These can be thought of as the benefits of co-location between suppliers and markets thereby making transactions more efficient. While in the UK, agglomeration is often argued to be a London driven phenomenon (Coyle *et al.*, 2023), productivity is typically lower in rural or coastal areas (ONS, 2024a). As noted by Price (2023) “Wales also almost certainly experiences some productivity “penalty” from both its dispersed settlement pattern and from the absence of a very large conurbation”. Given this, transport infrastructure and investment in connectivity is likely to be particularly important in Wales. The intra-regional pattern in productivity is consistent with the benefits of greater connectivity to London/South East along the M4 corridor in South Wales and to Manchester from North East Wales.<sup>21</sup> Indeed, previous research by Webber *et al.* (2018) showed that, even after accounting for other factors, travel times to urban centres are an important driver of productivity in Wales. In this respect the current consultation on the removal of core funding for the Western Gateway, a pan-regional partnership who aim to enhance connectivity between South Wales and the West of England, is an obvious concern. While the growth of

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<sup>18</sup> Regulation complexity in Wales has, for example, been proposed as an explanation for the lack of Welsh projects successful in gaining funding for investment in renewable energy through the Contracts for Difference Allocation Rounds 5 and 6.

<sup>19</sup> Interestingly analysis of business management practices known to affect productivity suggests Wales is comparable to the average for Britain and, performing better than Scotland or Northern Ireland (ONS, 2024b).

<sup>20</sup> The recent UK budget (October 2024) does, however, promise that Wales will benefit from UK-wide investment in Project Gigabit and the Shared Rural Network.

<sup>21</sup> Appendix Figure A3 provides a comparison of productivity drivers across local areas in Wales and shows that within Wales, Cardiff and the Vale of Glamorgan perform consistently well across indicators of connectivity. Job density is also high in Cardiff and actually exceeds one, consistent with there being more than one job per working-age resident.

remote working has the potential to weaken some of the benefits of agglomeration, and therefore provide a particular opportunity for Wales, it relies on digital connectivity which presents a constraint for some rural areas in Wales. The widespread models of hybrid working further mean the need for physical connectivity remains.

3.14. In a similar manner to agglomeration economies, economies of scale or cost/efficiency benefits from increasing organisation size provide an explanation for the observed empirical relationship between firm size and productivity. Given the importance of SMEs to the Welsh Economy, which account for 62.3% of employment compared to 60.3% in the UK (Welsh Government, 2023a) differences in productivity by employment size potentially play a role in Wales' productivity gap, especially given Wales has a greater concentration of microbusinesses (0-9 employees). Owners of such small firms are often focused on day-to-day operations and therefore lack the space for long-term, more strategic thinking on productivity (Coyle *et al.*, 2023). There is also evidence of lower levels of innovation within SMEs relative to larger firms, a potential driver of which is more limited access of SMEs to equity finance, which is found to be more pronounced in peripheral regions (Economic Intelligence Wales, 2019).

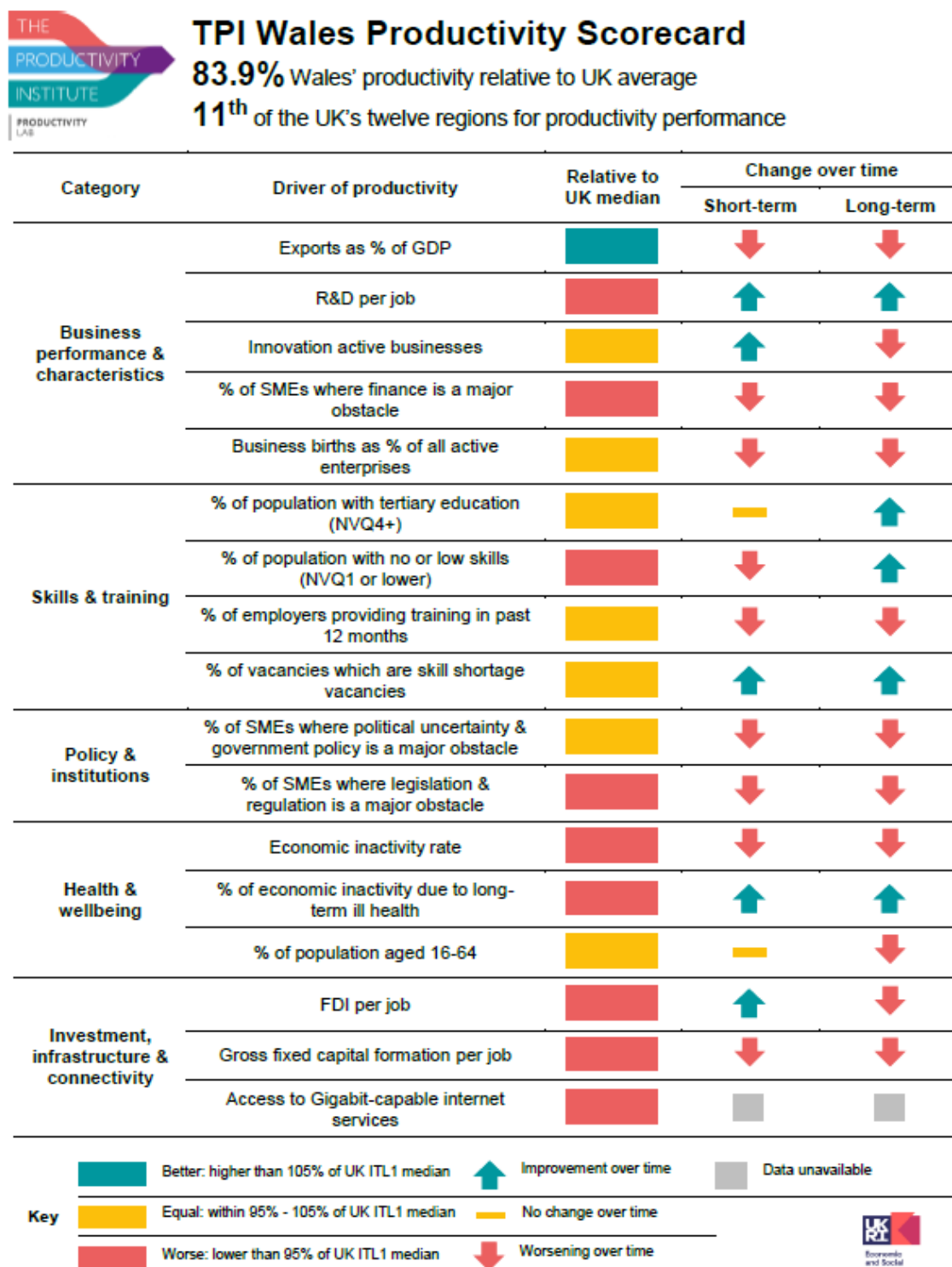
3.15. While it is difficult to quantify the contribution of each factor to Wales' productivity gap, more detailed analysis of TFP has explored the influence of plant level factors to regional productivity differentials. Harris and Moffat (2017) find that the productivity gap between Scotland and the rest of the UK in 2012 was mostly explained by plant characteristics, including a relative concentration of older plants and a higher proportion of plants that do not belong to larger enterprises. However, plant level factors (multinational ownership, trade involvement, enterprise structure, plant age, research and development, subsidization, size, and industrial structure) account for only half of productivity advantage in London relative to the rest of the UK (Harris and Moffat, 2022), leaving a considerable role for place-based factors such as infrastructure and agglomeration economies.

3.16. In relation to the drivers of intra-regional productivity differences, it is worth highlighting the relatively favourable conditions for productivity growth in Cardiff and the Vale of Glamorgan, where the indicators tend to be consistently at or above the Wales average (see Appendix Figure A3). In this respect, the fact that productivity growth in Cardiff since 2008 has been below the Welsh average is disappointing and contrasts to recent analysis predicting considerable economic growth in Cardiff in 2024 and 2025 (PwC, 2004).



Figure 5. TPI Wales Regional Scorecard

Version: March 2023



Cite as Menukhin, O.; Gouma, F.R.; Ortega-Argiles, R. (2023). *TPI UK ITL1 Scorecards*, TPI Productivity Lab, The Productivity Institute, University of Manchester. DOI: [10.48420/21931770](https://doi.org/10.48420/21931770)

[Annex: Methods and Sources](#)

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## 4. Wales' productivity challenge: Does it matter?

4.1. Among economists, the case for, and importance of, productivity growth is immediately evident. The Nobel Prize winning economist Paul Krugman is frequently quoted as saying that "Productivity isn't everything, but in the long run, it's almost everything". There is similar recognition of the importance of productivity for economic wellbeing among the profession within Wales. As the Welsh Government Chief Economist's report argues, the "key long run challenge remains relatively weak productivity, the main long run driver of sustainable increases in pay, prosperity, and the tax base." (Price, 2023). A challenge, however, remains in ensuring that the benefits of productivity growth are more widely understood by the public, business owners and managers, policy makers and public service providers. It is this recognition that will ensure that productivity growth, a key determinant of long-run economic prosperity, does not get overlooked relative to immediate and more tangible short-run priorities.

4.2. In this respect it is important to set out how productivity growth can benefit individuals, business owners, policy makers and those involved in public sector service delivery. As McCurdy (2020) explains, productivity is key for workers and households: "Any future, sustained real pay growth for Wales compared to the rest of the country will be underpinned by growth in productivity, something which has been severely lacking over the last two decades, hampered by a lack of high-output jobs." For business owners, being more productive provides an opportunity to raise employee wages, increase profits, employ more workers and invest in the future. For public service delivery, productivity growth means greater capacity, reduced waiting lists and overcrowding, and the opportunity to enhance service quality. For policy makers enhanced productivity and prosperity among the population will increase tax revenue, reduce the demands on government spending and give the government resources to pursue social and environmental policy agendas.

4.3. The gains from productivity growth are potentially vast, but also difficult to quantify. By way of example, recent analysis by the OBR showed that a 1 percentage point difference in UK productivity growth would have a dramatic impact on levels of public sector debt (OBR, 2024). Assuming long-term earnings growth matches productivity growth, improving productivity directly increases tax revenue and will reduce public sector debt if public spending remains constant. As set out in Ifan *et al.* (2022), Wales faces a fiscal challenge, with the existence of a notional fiscal deficit, whereby government spending exceeds tax revenues due to the inferior economic performance of Wales relative to the UK.<sup>22</sup> Indeed, the gap in living standards between Wales and the rest of the UK is narrower than the productivity gap due to this fiscal transfer, particularly greater receipt of welfare payments in Wales. In this respect, whilst partially insulated from the full impact of Wales' productivity gap, household incomes in Wales are particularly reliant on and therefore sensitive to, UK welfare policy decisions. Meaningful sustainable improvements in productivity are therefore key to underpin

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<sup>22</sup> They note the importance of this to political debates about future independence.

future growth in household incomes and, at the same time, will reduce Wales' fiscal reliance on the rest of the UK.

4.4. It is important to emphasise that raising productivity is not an end in itself. It is, however, a fundamental driver of future population living standards. In this respect productivity growth is key to achieving many of the aims of the Well-being of Future Generations (Wales) Act 2015, including measures beyond prosperity such as improvements in population health and education, and public services.<sup>23</sup> Further, improving productivity does not have to mean trade-offs with objectives relating to equality or environmental protection. Productivity growth, by creating more with given inputs, has the potential to improve living standards without the need for increased resources, including the use of natural resources. Productivity growth can also provide the mechanism through which the Welsh Government can generate financial resources to pursue social and environmental objectives. Moreover, many of the drivers of productivity identified in Section 3 are themselves socially beneficial and aligned to the National Well-being Indicators Framework.<sup>24</sup> The obvious examples relate to improved population education and health, but there are also numerous other synergies, including the social benefits which stem from improved infrastructure and public services.

4.5. The benefits of productivity growth are likely to be long-term, self-reinforcing and intergenerational. For example, by raising living standards, productivity growth is likely to improve population health, which itself will increase productivity. In relation to intergenerational transmission, it is well-established that parental health and education are key influences of child development and later life outcomes. What is key is that the correct foundations are put in place, with the inter-dependencies between productivity growth arising from individual, organisational and local factors likely to magnify the impact on national productivity growth. By way of example, productivity growth in public services, such as health and education, has the potential to improve the human capital of the workforce.

## **5. Tackling Wales' productivity challenge: The policy context**

5.1. Whilst the productivity gap between Wales and the UK average was at the forefront of Welsh Government attention immediately post devolution, with explicit targets set for convergence on the UK average, it has since dropped down the political and policy agenda. Indeed, more recently there has been an inaccurate and concerning perception that productivity growth acts in competition, and/or involves a trade-off, with the aims of the Well-being of Future Generations (Wales) Act 2015. There is in fact no automatic trade-off between efficiency and equity, and international evidence has shown that highly productive countries can also have low levels of inequality.

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<sup>23</sup> [Well-being of Future Generations \(Wales\) Act 2015 – The Future Generations Commissioner for Wales](#)

<sup>24</sup> [Well-being of Future Generations \(Wales\) Act 2015: the essentials \[HTML\] | GOV.WALES](#)

5.2. In fact, the Well-being of Future Generations (Wales) Act 2015 in encouraging decision makers to consider the impact of their decisions on the long-term wellbeing of citizens, provides a motivation and foundation for the focus on productivity growth, including through prioritising support for long-run investment over short-term consumption. Yet, productivity is currently one of fifty indicators used to measure progress. Given its complexity and less obvious immediate benefits it is further unsurprising it is typically not the focus of public and policy debate. Indeed, as Henley (2024) argues there is an “urgent need to (re-) promote productivity within Wales as a policy objective”. Enhancing economic prosperity and standards of living are fundamental to wellbeing and achieved through raising earnings and household incomes via productivity growth. Indeed, there should be greater recognition that Wales’ productivity challenge acts as a restraint on what will be achieved by the Well-being of Future Generations (Wales) Act 2015.

5.3. There have been some recent positive signs. The 2023 Welsh Government’s economic mission for a “stronger, fairer, greener economic future”, recognises productivity as “fundamental for a sustainable and growing economy which produces more with less, innovates, creates returns and rewards to workers and business owners through better wages and incomes”.<sup>25</sup> In September 2024, the First Minister Eluned Morgan further stated that “Delivery, accountability, and improved productivity will be the watchwords of my government”. Moving beyond the rhetoric and achieving the momentum required to release the benefits from productivity growth will, however, require significant and fundamental changes in strategy and policy.

5.4. Given the level of variation in productivity across UK regions, the appropriate target for productivity levels in Wales can be debated. Nevertheless, the UK average remains a useful yardstick for comparison purposes. Living standards in Wales will not converge on the UK average unless there is significantly higher productivity growth in Wales than in the rest of the UK over a sustained period. Albeit recent productivity growth in London has been negative (see Figure 2), the scale of the challenge and commitment required should not be underestimated. Productivity growth which matches the UK average will leave the relative 17 percentage point gap unchanged, whereas growth below the UK average (such as over the COVID-19 period) will result in Wales falling further behind. By way of illustration, convergence to the UK average would require productivity growth at 1 percentage point higher than the UK average for approximately 19 years, 0.5 percentage points higher for 38 years and 0.25 percentage points higher for 76 years. Whilst there might be short-run opportunities to ‘catch-up’, for example, in terms of adopting existing technology, there should be no doubt that this is a long-term, intergenerational, project. Nevertheless, it requires immediate and urgent attention.

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<sup>25</sup> [Economic mission: priorities for a stronger economy \[HTML\] | GOV.WALES](#)

## 6. Tackling Wales' productivity challenge: Change for the future

6.1. What is clear from research is that there is no single simple solution or quick fix (Coyle *et al.*, 2023). The consensus is that productivity is multifaceted, and that change requires long-term and sustained interventions. This at least partly explains the challenge for politicians, public sector service delivery providers, and businesses who are often faced with addressing more immediate short-term issues. Instead, what is required is improvement across multiple drivers (see Figure 5), and a shared responsibility across stakeholders led by the Welsh Government and informed by existing expertise across sectors. Most immediately this could be supported by collaboration between the Welsh Government, the [Wales Productivity Forum](#) and wider stakeholder expertise to identify short, medium, and long-run priorities based on existing evidence of cost effectiveness and deliverability.<sup>26</sup> Embedding the recommendations into future economic strategy and policy implementation would signal an initial commitment to addressing Wales' productivity challenge.

*"Wales urgently needs to develop a productivity growth plan, with the Welsh Government committing to its long-term implementation." Robert Lloyd Griffiths OBE, Director for ICAEW in Wales, Wales Forum Chair.*

6.2. In many respects these calls are not entirely new, with the Institute of Welsh Affairs (IWA) (2015) arguing that "Ambitions to close the wealth gap between Wales and England will remain elusive unless Ministers set out an ambitious plan for economic growth backed up by actions". They argue that convergence in economic growth on the UK average would require a dramatic change in strategy alongside large-scale investment across areas such as education, research and development, and infrastructure. There has also been criticism that the economic development strategy since devolution has lacked "coherence, consistency and methods of implementation" (Bradbury and Davies, 2022). While reflection on the failures of prior commitments should be part of developing what works, what is clear is that maintaining the status quo will not address Wales' productivity gap.

6.3. While there are clear long-run benefits of a pro-productivity strategy, implementing change will not be free of short-run costs. Although the total cost of improvements in process and regulation might be relatively modest, many initiatives will have direct upfront costs akin to any sort of investment. More fundamentally, there will also be winners and losers, and job creation and loss, in any dynamic and innovative economy. Indeed, competition drives productivity growth through the reallocation of resources to industries and firms with higher levels of productivity. However, at the UK level, the long tail of low productivity firms, a potential reflection of a lack of competition, has been identified as a cause of the productivity puzzle. In this respect, achieving productivity growth requires new and growing businesses to have higher productivity than those in

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<sup>26</sup> Assessing the cost effectiveness of potential drivers of productivity growth is, however, particularly complex given the multitude of, and interconnections between, established drivers.

which employment is shrinking and/or those which close. In a similar manner, national productivity growth is likely to be greater if resources are diverted to high productivity firms, industries and areas, exacerbating pre-existing inequalities. Managing the distributional impacts of productivity growth therefore needs to be embedded within a socially inclusive approach.

6.4. Proactive change on this scale needs to be led by, but is not simply a job for, government. Such a leadership role needs clear accountability and ownership within the Welsh Government, with an explicit ministerial responsibility for productivity. While instigated by the Welsh Government and developed through regional growth deals, local authorities and public bodies; consistent with Welsh Government principles of working in social partnership, much more will be achieved if there is broader public and organisational buy in. In this respect Wales can build on existing campaigns and frameworks which require collective action, such as the commitment to reach net zero by 2050 and the Welsh Government Innovation Strategy which aims to create a 'culture of innovation'.<sup>27,28</sup> Change of this nature starts with raising the profile of productivity, including improving public awareness and understanding of its definition, measurement and importance to improving household economic wellbeing. Further, Wales has an opportunity to maximise the benefits of being a relatively small country, with a greater ability to coordinate across stakeholders including government departments and local service providers, and to work in partnership with the private sector. Could, for example, collaboration across public service delivery providers help improve productivity by exploiting economies of scale? Achieving this awareness and motivation requires a national conversation on productivity, with coordinated effort and widespread commitment to invest in long-term productivity growth. In relation to the latter, people, businesses, public service providers and regional/local policymakers require government support to be stable, reliable and consistent such that they are confident in making informed decisions and investment to enhance productivity in the long-term.<sup>29</sup>

6.5. The focus on economic growth as the first mission for the current UK government, with job quality and productivity recognised as critical to this, provides a timely platform on which Wales can build.<sup>30</sup> Given Wales is embedded in the UK economy the Welsh Government has an important role in supporting such developments and ensuring they translate into growth in Wales. The focus on productivity growth as a facilitator of the wellbeing of future generations and way of achieving wider societal goals means the strategy can also align to existing priorities in Wales. In this respect productivity growth can benefit from, and support Wales make progress towards, existing objectives such as the Economic Mission, Innovation Strategy and Fair Work agenda. More generally, the potential for closer collaboration between the new UK and Welsh Labour governments

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<sup>27</sup> <https://www.climateaction.gov.wales/>

<sup>28</sup> [Wales innovates: creating a stronger, fairer, greener wales \[HTML\] | GOV.WALES](#)

<sup>29</sup> See Tilley *et al.* (2023) for a criticism of regional governance in relation to productivity, including specific analysis of the Cardiff Capital Region.

<sup>30</sup> "Sustained economic growth is the only route to improving the prosperity of our country and the living standards of working people. That is why it is Labour's first mission for government." (Labour Party Manifesto, 2024).

should also provide a platform for greater policy alignment with coordinated and complementary actions, and a focus on ensuring the benefits of economic policy are distributed across the UK.<sup>31</sup> In this respect the Welsh Government has an opportunity to ensure the impact of current UK policy development, including the UK Industrial Strategy (Invest 2035), is integrated with, and supports, Wales' productivity agenda. Important questions include how the focus on specific sectors and strategic locations will impact on Wales, and how to ensure knowledge diffusion beyond London and the South East.

6.6. The Welsh Government can itself be led by, and have a role in, supporting pro-productivity policy in the UK as set out in [TPI recommendations for the UK government](#) (van Ark and Pike, 2024). These recommendations become even more pertinent in the context of Wales' productivity gap. Several elements are worth emphasizing. First is the importance of stability and certainty in economic policy for business investment which is particularly low in Wales. Second is the opportunity to focus on inclusive and sustainable growth given the Well-being of Future Generations (Wales) Act 2015. Third is the need to include public sector productivity growth within the agenda to address long-run challenges in public service delivery and, as a particularly important contributor to employment and the economy of Wales.

6.7. In terms of supporting business, the starting point is instigating improved understanding of the concept and measurement of productivity, and its benefits, such that businesses see the need to develop productivity as a Key Performance Indicator (KPI).<sup>32</sup> However, support for business investment and foreign direct investment is key. This includes creating the right macroeconomic environment for investment but extends to simplified regulation (including in relation to planning, for example, to encourage brown field development in urban areas), awareness of new technologies and effective management practices. It further includes direct support for business, such as through providing access to finance, opportunities for sharing best practice and advice and guidance tailored for SMEs, for example via the provision of productivity toolkits. In this respect, since many firms are operating within the 'productivity frontier', Wales should be able to exploit opportunities to share knowledge and diffuse established productivity enhancing processes and innovation. Further, Wales has opportunities to build on existing policy infrastructure to do this, through for example prioritising productivity growth through the work of the Development Bank for Wales and Business Wales.

*"We need to support and encourage both small and large businesses to better understand and measure productivity within their organisation in order that becomes possible for them to track, target and enhance productivity growth." Rhian Elston (Wales Investment Director, Development Bank of Wales), Wales Productivity Forum Member.*

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<sup>31</sup> [Wales - Kickstart economic growth – The Labour Party](#)

<sup>32</sup> The following productivity calculator from ONS is particularly useful in benchmarking productivity performance: [How productive is your business? - Office for National Statistics](#)



6.8. Making productivity growth in Wales align to the Well-being of Future Generations (Wales) Act 2015 provides opportunities to embed productivity throughout the institutional and policy infrastructure such that productivity growth is considered in all future policy decisions. In relation to the latter, productivity growth should be embedded in policy decisions around infrastructure and transport investment and planning, brought together in Future Wales – the National Plan 2040.<sup>33</sup> Here, the public sector has a key role in acting as a catalyst for the private sector. Productivity growth will be stronger if the vision is shared by national as well as local government, and underpinned by principles of longevity, continuity and certainty. It can further be considered within a lifecycle and intergenerational perspective to facilitate inclusive growth. In this respect, it is important to focus on investment in people and infrastructure.

6.9. In relation to skills, the devolved nature of education in Wales means that Welsh Government strategy in this area is key.<sup>34</sup> It is clear from the Programme for International Student Assessment (PISA) assessments that some of the gap in human capital between Wales and the rest of the UK emerges before and/or from the formal compulsory education system. Sibieta (2024) attribute this to differences in education policy and approach, particularly the focus on a general skills-based curricula, rather than the characteristics of children in Wales. He advocates for greater use of data to improve external accountability in the future. Addressing these attainment gaps clearly requires renewed focus on the early years, including pre compulsory schooling, and on the fundamentals of education which provide individuals with the foundation to achieve intermediate level qualifications. At the same time, it is important to also recognise the role of continuous education and employer provided specialist training, including in relation to the diffusion of technology noted above.<sup>35</sup> Further, since people are mobile, educational attainment among the population, also reflects lower levels of skilled migration to Wales and a graduate ‘brain drain’ to London from much of the rest of the UK. Indeed, the ability of Wales to attract and retain highly skilled people depends on the demand for skills and availability of well-paid and engaging jobs.<sup>36</sup> Further, given the increasing emphasis on the role of non-cognitive skills, and evidence on the effectiveness of early interventions, it is important to consider ways to develop the wider skillset of the population as a driver of productivity, including among those with a low level of formal qualifications (see, for example, Aghion *et al.* 2023). Support focused

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<sup>33</sup> In relation to this, it is important to recognise the importance of key UK and Welsh Government decisions not to pursue investments in transport infrastructure e.g. rail electrification in South Wales and the M4 relief road, as well as the current debate about potential financial transfers to Wales due to the high-speed rail construction in England (High Speed 2 (HS2)).

<sup>34</sup> Policy in relation to education, health, transport and infrastructure is devolved, whilst most elements of macro-economic policy remain the responsibility of the UK government.

<sup>35</sup> Concerningly, Pember *et al.* (2021) document declining levels of engagement in life-long learning and low participation among those with no formal qualifications.

<sup>36</sup> Experimental statistics from the ONS (2024c) suggest that education mismatch is similar across regions in England and Wales except for London. This aligns to evidence from the Employer Skills Survey 2022, which shows a high degree of similarity in terms of skill-shortages and employer provided training across nations (Kik *et al.*, 2024).



on those least educated, including from the most disadvantaged backgrounds, will also reduce attainment gaps *within* Wales.

6.10. Aligned to the Welsh Government economic mission, a productivity strategy can also be forward looking and support future productivity growth as well as environmental protection and social inclusion (Zenghelis *et al.*, 2023). Achieving “green” productivity growth or a path to net-zero which brings productivity gains is possible but will require investment in sustainable resource-efficient innovation and processes, including digital technology.<sup>37</sup> In this respect it will require productivity to be embedded in Welsh Government commitments to achieve net zero. Households and businesses require significant initial support to make these changes since there is considerable uncertainty about the return to green investments which, when combined with high initial costs, act as a deterrent to investing. Equally, however, maintaining the status quo is unlikely to be a long-run option given that businesses are at risk of becoming increasingly uncompetitive as a result of growing demand for green products, future regulation of, and rising costs from using non-renewable resources, and finance opportunities linked to environmental protection.<sup>38,39</sup> Indeed, managed carefully this structural change might provide the opportunity Wales needs to address the twin challenges of economic prosperity and environmental protection.

6.11. A programme of public sector productivity enhancement starts with a debate on the meaning and potential measures of productivity in this context, which is made difficult by the absence of direct ‘prices’. In particular, it is important to distinguish between productivity enhancement and negative perceptions of cost savings and efficiency drives. While complex, ONS has undertaken a review of public services productivity with a focus on enhancing measurement. The focus has been on England, and similar measurement and monitoring should be extended to Wales as a pre-requisite for identifying and learning from differences across devolved nations and improving public sector productivity growth.<sup>40</sup> Indeed, rising costs, and current and likely future budget pressures mean productivity growth will be needed simply to maintain existing levels of public service delivery. Or put differently, without productivity gains, we can expect future deterioration of public service provision with associated declines in the health and wellbeing of the population. In this respect, the evidence of the negative impact of the pandemic on UK public sector productivity is particularly concerning. In contrast, productivity improvements offer further opportunities to release resources to invest, enhance service quality and develop a more resilient provision for the future.<sup>41</sup> Improvements in public sector productivity are also a potential driver of wider productivity growth through enhancing health, education and infrastructure. Public

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<sup>37</sup> Examples include the recent UK government funding for electrolytic hydrogen projects in Wales and the Welsh Government launch of Trydan Gwyrdd Cymru a publicly-owned renewable energy developer.

<sup>38</sup> The UK already has the highest price for industrial electricity among countries within the International Energy Agency (see Department for Energy Security and Net Zero, 2024).

<sup>39</sup> Including, for example, the Tata Steel green steel project in Port Talbot.

<sup>40</sup> In light of the discussion of the importance of educational attainment, evidence of productivity within the education industry at less than 82% of the UK average (see Figure 4) is an obvious concern.

<sup>41</sup> There are also likely to be important spillovers across sectors with potential for the public sector to drive productivity growth in the private sector through its supply chains.

sector productivity growth will further be key to facing some of the challenges that inevitably lie ahead. Perhaps the most obvious being demographic change and population ageing, with the corresponding fall in relative size of the working-age population, tax revenue and increase in demand for public services, particularly healthcare. Given the population is already older on average in Wales compared to the UK as a whole, these challenges are likely to be more severe than in some other regions in the UK, and particularly acute in some of the least productive areas in Wales. In this respect they call for an openness to innovation, willingness to utilise data and adopt new processes and digital technology in the public sector. Such actions can be aligned to support existing priorities, for example, in relation to improving healthcare, as well as environmental and inclusion agendas; but will require government support for a long-term planning horizon, as well as coordination across the public sector.

*“We either need to transformatively drive productivity per capita or recognise that some areas, for example in West Wales, will be heavily reliant on migration to service the demands of an ageing society, let alone grow our economy. Is society ready for that?”*  
Huw Thomas (Hywel Dda UHB - Director of Finance), Wales Productivity Forum Member.

6.12. Transparency, accountability and external scrutiny of policy and progress is critical to maximise productivity growth and ensure Wales’ commitment to pro-productivity policies over the long-term. In this respect, our recommendation aligns to Henley (2024) on the need to establish a Welsh Productivity Commission to inform and evaluate policy design. In relation to the former, there is an urgent need to scope out specific policy options for Wales which maximise the impact of government investment. This, however, is no easy task given the vast range of possible drivers and uncertainties around estimating long-term impacts. In terms of evaluation and monitoring, productivity should be core to measuring the effectiveness of policy interventions. Fundamental to this is the quality and timeliness of regional productivity data which has been criticised (see Bean, 2016). Further, building on recent boosts to the samples of some UK surveys, there is a need for additional investment in data collection relating to the drivers of productivity in Wales to support more comprehensive regional analysis. While the scale of administrative data means it offers huge potential for future research, the differences across devolved systems often limit comparability across the UK. We further emphasise the need for such a Commission to be independent and evidence-led, to draw on academic and practice-based expertise and to learn from best practice across the UK and internationally. In relation to the latter there are opportunities for shared learning across UK regions with pronounced productivity gaps (see Figure 1).<sup>42</sup> Such a commission in Wales would be well placed to contribute to relevant UK agendas. This would include the proposed TPI [Growth and Productivity Institution](#) and framework that aims to align pro-productivity policies between UK-wide, devolved nations, regional and city levels (Coyle *et al.*, 2023) and potential future institutional frameworks aimed to address spatial disparities (McCann, 2024).

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<sup>42</sup> Indeed, McCann (2024) criticises the lack of coordination on productivity growth among devolved nations.

*“There is a need to review progress by an independent body on a five yearly basis, drawing on existing models such as the Manchester Independent Economic Review”.*  
*Huw Morris (Honorary Professor, University College London), Wales Productivity Forum Member.*

6.13. Productivity growth will provide the opportunity to decide how the gains from growth should be distributed to reflect social preferences, including through political choices relating to government spending and taxation. These are the choices that will make productivity growth more or less inclusive, influence the extent to which gains from productivity growth are retained and invested within Wales, and how they are distributed spatially. Further, wider policy frameworks will also influence choices such as the extent to which natural resources should be utilised to facilitate productivity growth.

6.14. Referring to the discussion in Henley (2024) Wales is far from a ‘lost cause’ but neither can we, or indeed the next generation, afford to wait for a ‘miracle’. Rather than set unrealistic targets for productivity growth, Wales needs to be open about the scale of the challenge and realistic about the time frames over which meaningful and sustainable progress can be achieved. The benefits will not be immediate. Instead, we need to have the ambition to tackle Wales’ productivity challenge. Taking this agenda forward requires the confidence that, by embedding productivity into everyday thinking and the decisions of individuals, business, and policymakers, over the long-term we will enhance our future standard of living and those of future generations.

#### **Our Core Recommendations**

- The Welsh Government needs to establish a long-term commitment to improving productivity, with independent guidance and assessment of performance.
- A national productivity growth plan should identify short, medium, and long-run priorities to support productivity growth.
- Wales needs a national conversation on productivity. Collaboration between policymakers, businesses, public sector service delivery providers, and individuals is essential to address the scale of the challenge.
- Business support should include advice, guidance, and best practice on how to achieve productivity growth, and the benefits of this.
- There should be a focus on public sector productivity growth as a means of supporting future public service delivery.
- Addressing Wales’ productivity challenge is a long-term and intergenerational project. It will require significant government investment in people and infrastructure.

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# 9. Appendix

Appendix Figure A1. TPI UK Regional Scorecard



## TPI Regional Productivity Scorecard: ITL1 Overview



Ordered by productivity rank

Category	Driver of productivity (relative to the mean of ITL1 regions in the UK)	ITL1 median 2020	London	South East	Scotland	East of England	North West	South West	West Midlands	East Midlands	North East	Yorks & The Humber	Wales	Northern Ireland
	Productivity of UK's twelve regions		1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>	9 <sup>th</sup>	10 <sup>th</sup>	11 <sup>th</sup>	12 <sup>th</sup>
Business performance & characteristics	Exports as % of GDP	24.2%	Teal	Teal	Yellow	Yellow	Red	Red	Yellow	Yellow	Teal	Red	Teal	Yellow
	R&D per job (real)	£631.55	Red	Teal	Red	Teal	Red	Teal	Teal	Teal	Red	Red	Red	Teal
	Innovation active businesses	45.3%	Red	Yellow	Red	Teal	Yellow	Yellow	Yellow	Yellow	Red	Teal	Yellow	Red
	% of SMEs where finance is a major obstacle	8.0%	Red	Teal	Yellow	Teal	Yellow	Yellow	Yellow	Red	Red	Yellow	Yellow	Red
	Business births as % of all active enterprises	11.6%	Teal	Red	Red	Red	Teal	Red	Teal	Yellow	Teal	Yellow	Yellow	Red
Skills & training	% of population with tertiary education (NVQ4+)*	39.3%	Teal	Teal	Yellow	Yellow	Yellow	Yellow	Yellow	Red	Red	Yellow	Yellow	Teal
	% of population with no or low skills (NVQ1 or lower)*	17.5%	Teal	Teal	Yellow	Yellow	Yellow	Yellow	Yellow	Red	Yellow	Yellow	Yellow	Red
	% of employers providing training in past 12 months**	50.0%	Teal	Yellow	Teal	Yellow	Yellow	Yellow	Yellow	Yellow	Teal	Yellow	Yellow	Yellow
	% of vacancies which are skill shortage vacancies**	5.0%	Yellow	Red	Red	Red	Red	Red	Yellow	Yellow	Teal	Yellow	Yellow	Teal
Policy & institutions	% of SMEs where polit. uncertainty & gov. policy is a major obstacle	24.0%	Red	Yellow	Red	Teal	Yellow	Teal	Teal	Yellow	Yellow	Yellow	Yellow	Red
	% of SMEs where legislation & regulation is a major obstacle	21.0%	Red	Teal	Red	Yellow	Teal	Red	Teal	Yellow	Yellow	Teal	Red	Red
Health & wellbeing	Economic inactivity rate	21.6%	Teal	Teal	Red	Teal	Red	Teal	Yellow	Yellow	Red	Yellow	Red	Red
	% of economic inactivity due to long-term ill health	24.6%	Teal	Teal	Red	Teal	Red	Yellow	Yellow	Yellow	Red	Yellow	Red	Red
	% of population aged 16-64	62.0%	Teal	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow
Investment, infrastructure & connectivity	FDI per job (real)	£30.858	Teal	Teal	Yellow	Yellow	Red	Red	Teal	Yellow	Red	Red	Red	Yellow
	Gross fixed capital formation per job (real)	£10.122	Teal	Teal	Yellow	Teal	Yellow	Yellow	Red	Yellow	Red	Yellow	Red	Yellow
	Access to Gigabit-capable internet services*	66.6%	Teal	Yellow	Red	Red	Yellow	Red	Teal	Yellow	Yellow	Yellow	Red	Teal

Note: Scorecards for each separate ITL1 region are available from the Productivity Lab repository at <http://doi.org/10.48420/21931770>

**Key**

- Better: higher than 105% of UK ITL1 median
- Equal: within 95% - 105% of UK ITL1 median
- Worse: lower than 95% of UK ITL1 median

Cite as Menukhin, O.; Gouma, F.R.; Ortega-Argiles, R. (2023), TPI UK ITL1 Scorecards, TPI Productivity Lab, The Productivity Institute, University of Manchester.

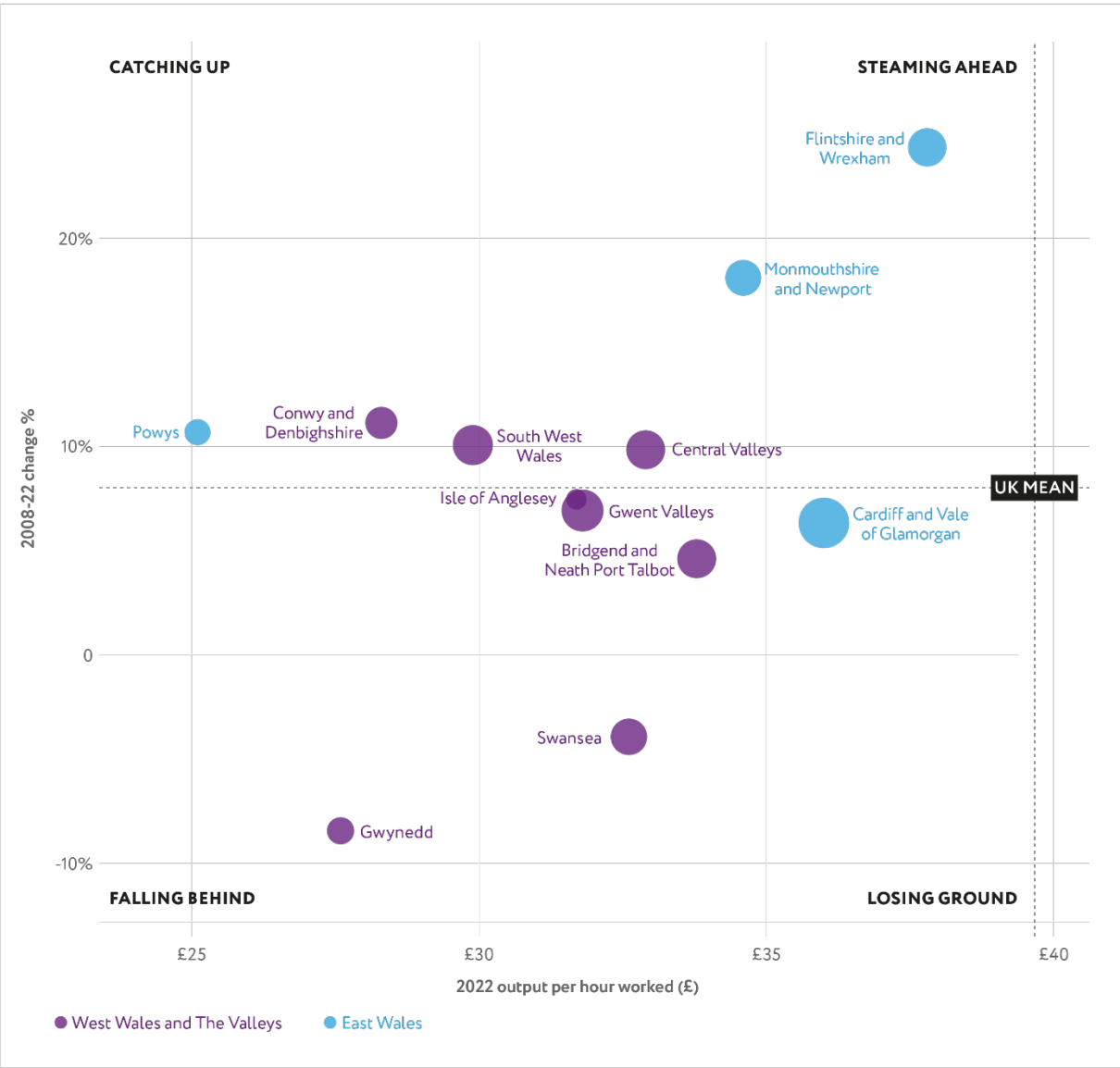
[DOI: 10.48420/21931770](https://doi.org/10.48420/21931770)

[Annex: Methods and Sources](#)

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Appendix Figure A2. Labour Productivity Performance by ITL3 Regions in Wales, levels (value added per hour in 2022, in £) and change (growth, in % real terms, 2008-22)





Notes: Size of bubble denotes working population for the region and colour denotes ITL2 region. Source: Office for National Statistics, Subregional productivity: labour productivity indices by UK ITL2 and ITL3 subregions, <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/datasets/subregionalproductivitylabourproductivitygvaaperhourworkedandgvaaperfilledjobindicesbyuknuts2andnuts3subregions/current> June 2024. Ortega-Argilés, R. and Menukhin, O. (2025) UK Subnational Productivity Visualisations, TPI Productivity Forum detail DOI:10.48420/28212929

# Appendix Figure A3. TPI UK Intra-regional Scorecard



## TPI Regional Productivity Scorecard: ITL3 Wales

### Wales ITL3 Scorecards for 2022

		TLL	TLL23	TLL22	TLL21	TLL17	TLL15	TLL18	TLL16	TLL11	TLL14	TLL13	TLL12	TLL24
Category	Driver of Productivity	Wales	Flintshire and Wrexham	Cardiff and Vale of Glamorgan	Monmouthshire and Newport	Bridgend and Neath Port Talbot	Central Valleys	Swansea	Gwent Valleys	Isle of Anglesey	South West Wales	Conwy and Denbighshire	Gwynedd	Powys
Productivity	Taxonomy relative to the UK	Catching up	Catching up	Falling behind	Catching up	Falling behind	Catching up	Falling behind	Falling behind	Falling behind	Catching up	Catching up	Falling behind	Catching up
	Taxonomy relative to ITL1		Steaming ahead	Losing ground	Steaming ahead	Losing ground	Steaming ahead	Falling behind	Falling behind	Falling behind	Catching up	Catching up	Falling behind	Catching up
	GVA per hour worked	£32.80	£37.80	£36.00	£34.60	£33.80	£32.90	£32.60	£31.80	£31.70	£29.90	£28.30	£27.60	£25.10
Business Performance	Export Intensity	30.3%	45.6%	19.6%	28.7%	41.5%	57.2%	26.4%	22.5%	27.6%	39.9%	10.1%	10.7%	21.3%
	New Businesses	11.6%	10.9%	14.3%	12.2%	15.8%	12.6%	11.6%	13.1%	8.5%	9.0%	9.1%	7.8%	7.2%
Skills & Training	Low Skilled*	12.0%	13.4%	10.1%	10.0%	12.8%	15.7%	10.6%	15.0%	13.5%	10.7%	15.6%	8.7%	6.5%
	High Skilled	41.4%	41.9%	49.7%	46.7%	38.6%	29.2%	45.9%	34.2%	35.8%	42.0%	38.6%	43.5%	43.8%
Health & Well-being	Active	78.7%	81.7%	75.7%	81.4%	76.6%	74.2%	82.1%	79.4%	82.0%	78.3%	80.4%	81.2%	82.0%
	Inactive due to illness*	40.6%	48.9%	25.5%	42.7%	48.8%	47.5%	37.1%	51.7%	29.4%	40.3%	47.7%	29.9%	35.2%
	Working Age	58.6%	58.7%	62.8%	54.8%	57.4%	60.7%	63.6%	59.0%	54.6%	56.3%	53.8%	60.5%	52.0%
Investment, Infrastructure & Connectivity	4G connected	75.6%	65.1%	88.9%	85.2%	82.7%	78.2%	81.2%	89.1%	30.9%	64.7%	67.8%	55.2%	61.9%
	Fibre connected	38.6%	56.4%	61.6%	30.6%	24.5%	36.5%	36.1%	25.6%	22.1%	34.0%	50.3%	22.6%	26.0%
	GFCF per job	£7,813	£6,968	£9,413	£6,344	£6,829	£8,258	£7,794	£10,479	£7,705	£7,780	£6,266	£5,347	£6,937
	ICT per job	£389	£593	£438	£338	£430	£351	£315	£378	£328	£310	£344	£243	£410
	Intangibles per job	£1,502	£1,554	£1,900	£1,296	£1,338	£2,084	£981	£2,135	£1,210	£836	£974	£720	£2,606

**Key**

	Better: higher than 105% of weighted mean of ITL1 parent region
	Equal: within 95% - 105% of weighted mean of ITL1 parent region
	Worse: lower than 95% of weighted mean of ITL1 parent region
	No data available

\* Reverse colour scale, lower values stimulate productivity