

From Industrial Revolution to Northern Powerhouse: productivity in the North of England

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Introduction

Before there was the Northern Powerhouse there was the City Growth Commission¹, an inquiry launched in October 2013 into the underperformance of the city regions of the UK. Chaired by leading economist Jim O'Neill, who went on to be appointed Commercial Secretary to the Treasury and a member to the House of Lords, it soon secured the interest of then Chancellor George Osborne, who saw an opportunity to close the longstanding north-south divide and, in so doing, drive up UK productivity as a whole.

It was Osborne who coined the phrase 'Northern Powerhouse' in a speech in the Power Hall at Manchester's Museum of Science and Industry in 2014.

Poor connectivity is a huge factor in why northern productivity lags behind the rest of the UK. Unreliable and infrequent public transport links mean that it remains impractical for businesses in Greater Manchester to recruit talent from a city as near as Bradford, placing a significant constraint on labour market formation. Furthermore, inadequate digital infrastructure is holding back economic growth in many northern towns. One fast-growing business in Halifax has had to open secondary sites in Leeds for this very reason.

Our analysis shows that there is still a significant productivity gap between the northern core cities and the UK average, although it is slightly narrower in Leeds and Manchester than in Newcastle, Liverpool and Sheffield. This reiterates the necessity to develop the Northern Powerhouse as an economic project – at a time when the Treasury's commitment to levelling up is not as strong as it needs to be to close the north-south divide for good.

There are, however, some positive signs. Many northern towns are feeling more of a benefit from their proximity to a core city. While core cities still have higher productivity per worker than their surrounding travel to work areas (TTWAs), that gap is now closing in the majority of cases.

However, the scarring effect of de-industrialisation has inhibited the economic power of many places – a point made by the University of Manchester's John Holden, among others. In West Yorkshire, all of Leeds' surrounding geographies have now caught up the UK average - but Wakefield and Castleford has seen the slowest productivity growth in the region, in large

¹ Supported by team of secretariat with Charlotte Aldritt from the RSA at the time and now Chief Executive of the Centre for Progressive Policy and Ben Lucas, now at Metro Dynamics.

part due to de-industrialisation. Meanwhile Harrogate – which has no industrial scarring – has seen the highest uplift in productivity.

We remain most concerned for those economies furthest away from a Metro Mayor. Workington and Whitehaven, for example, have seen relative productivity decline. We need to accelerate a Metro Mayoral deal for Cumbria for this very reason, if we're to unlock the economic potential of assets such as Sellafield. Centralised economic policy-making cannot and will not close the productivity gap.

Methodology

Towards the end of 2021 the ONS released the latest data in its series of disaggregated GVA statistics. This release included data down to MSOA level with data down to LSOA level available to approved researchers. This analysis focuses on another part of the data release which included productivity estimates based on GVA per filled job for Travel-To-Work Areas (TTWA)². The Northern Powerhouse was founded with a mission to raise productivity across the region and ultimately increase incomes and improve the quality of life of residents here.

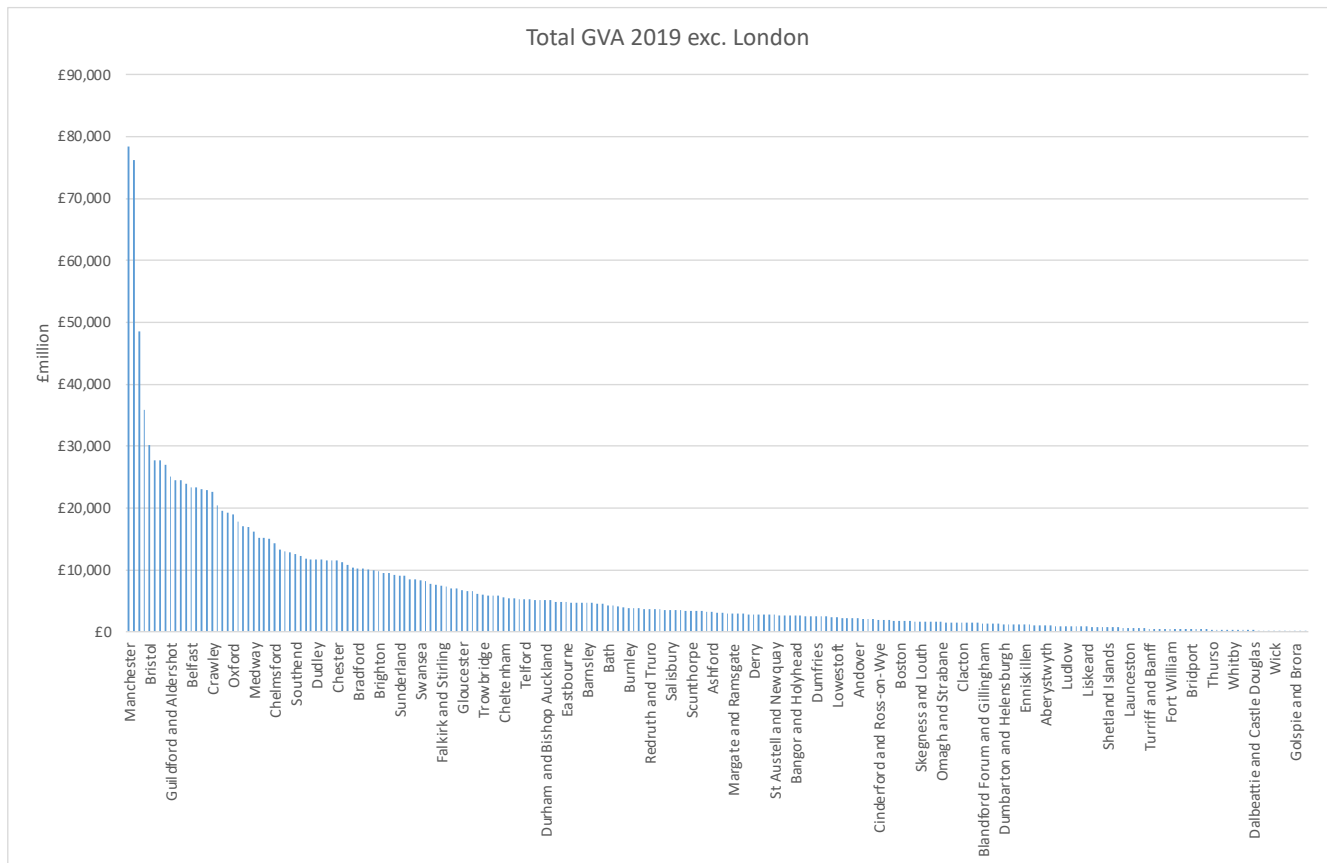
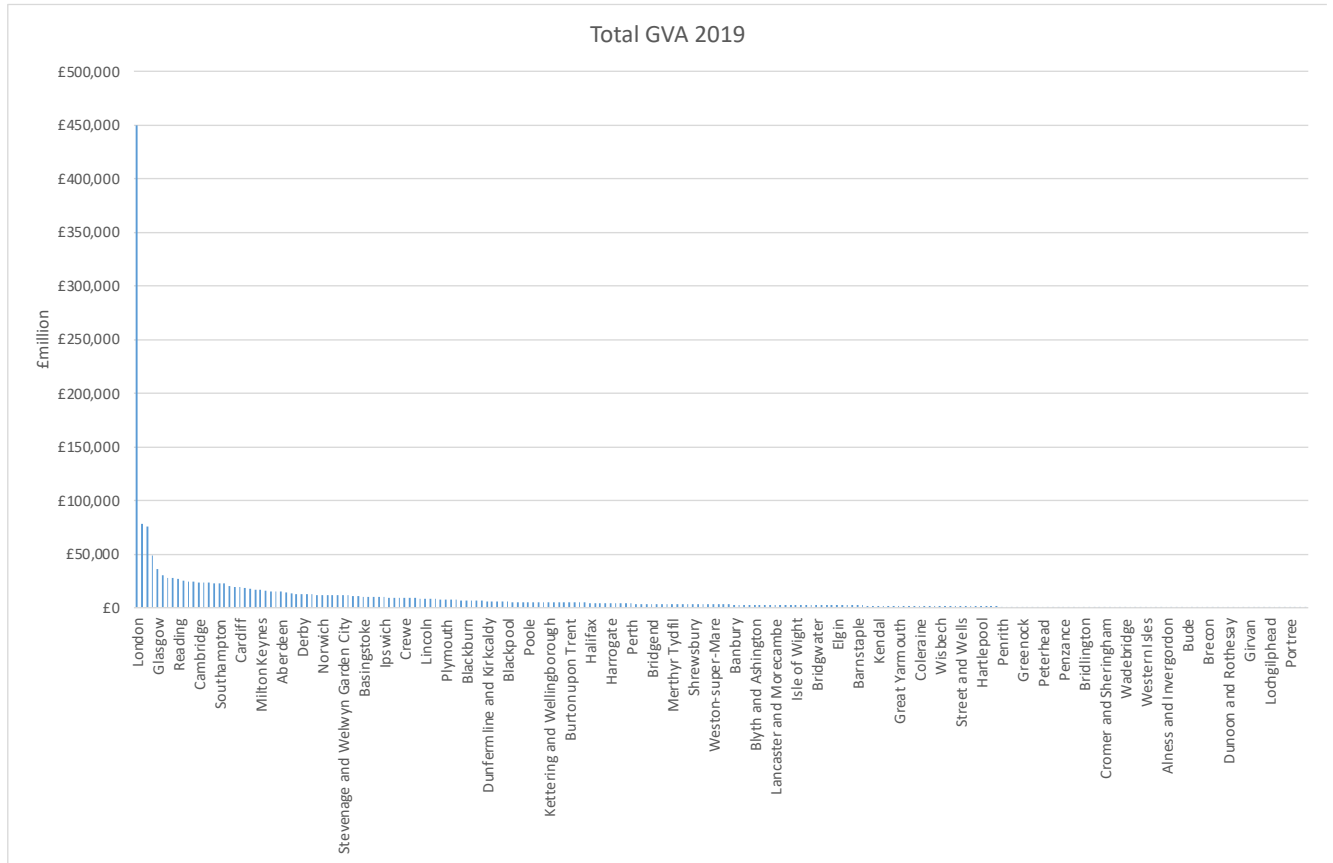
It should be noted that GVA figures at lower geographies can be particularly volatile and should therefore be treated with a degree of caution.

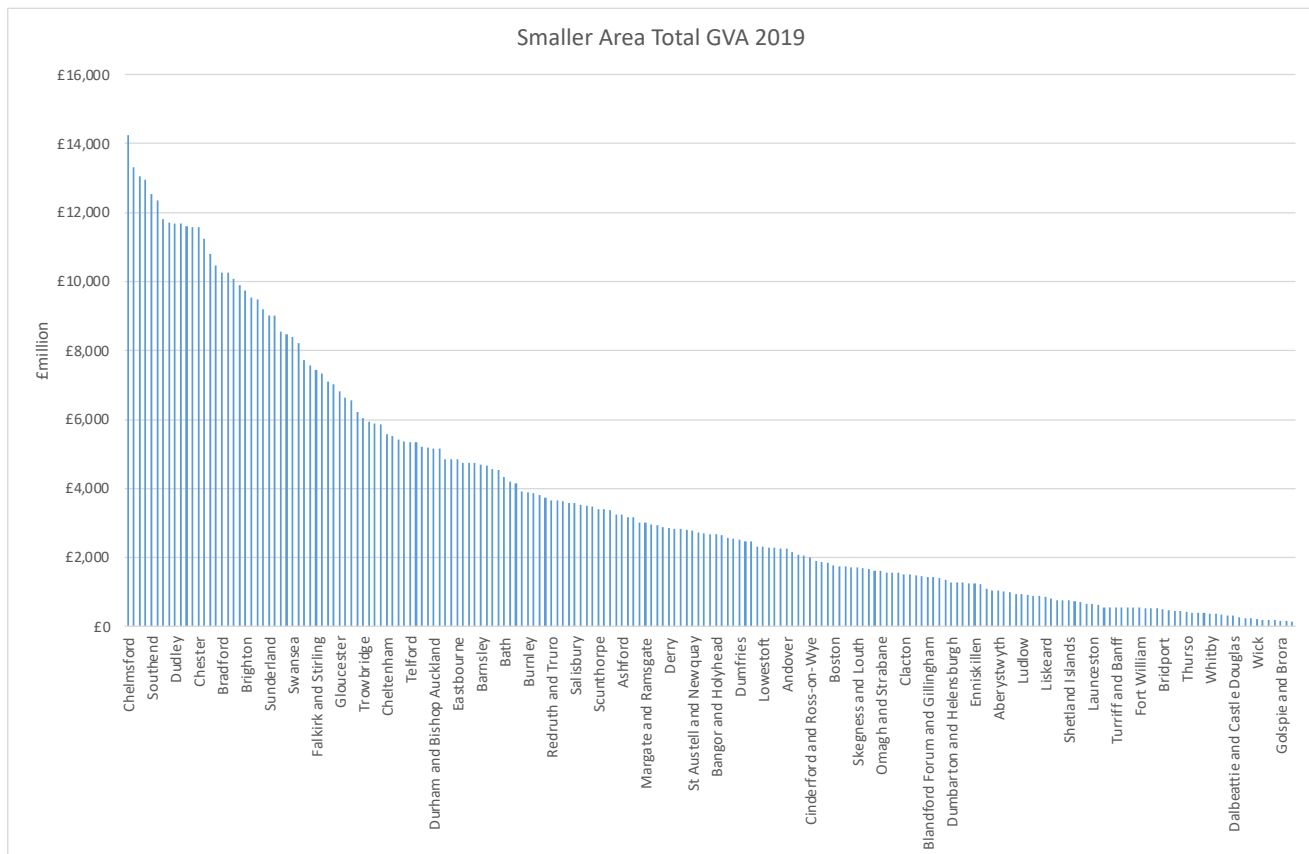
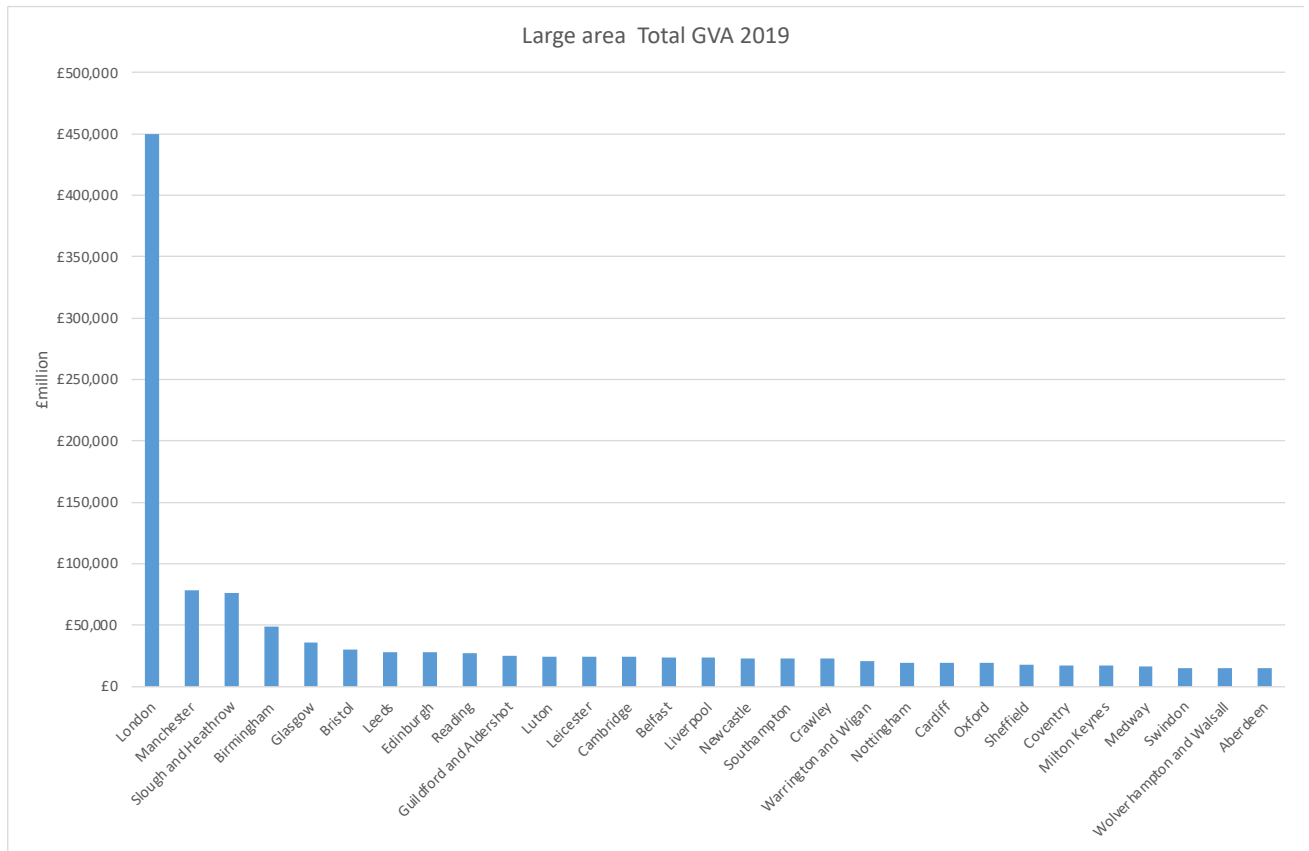
Analysis of GVA

As a starting point we looked at pure GVA in each TTWA. This is not a measure of productivity but a simple measure of economic activity or output. The total GVA of each area in 2019 ranges from £142m in Ullapool to £450bn in London as each area ranges in geographic size as well as the density of people and businesses within them. As you can see in chart 1 below, the GVA from London dwarfs every other region. Even once we remove London as in chart 2, there is still a large spread in terms of total GVA for each of the TTWAs. To try and make the analysis clearer we will split the TTWAs into two groups – the first for those with total GVA of £15bn and above, the second for those below that line. 29 areas fall into the larger group and 199 places into the smaller area group. This is an arbitrary cut off and there is no real significance to being in one group rather than another, it also helps when looking at growth rates where a relatively small absolute change in GVA in a smaller region has a larger impact in percentage terms than in a larger region.

The chart below shows that while London dominates the larger areas, the next largest areas are spread across the country with the rest of the 'top five' including Manchester, Slough and Heathrow, Birmingham, Glasgow and Bristol.

² A map showing the travel to work area boundaries can be accessed at: <https://ons.maps.arcgis.com/apps/MapSeries/index.html?appid=397ccae5d5c7472e87cf0ca766386cc2>

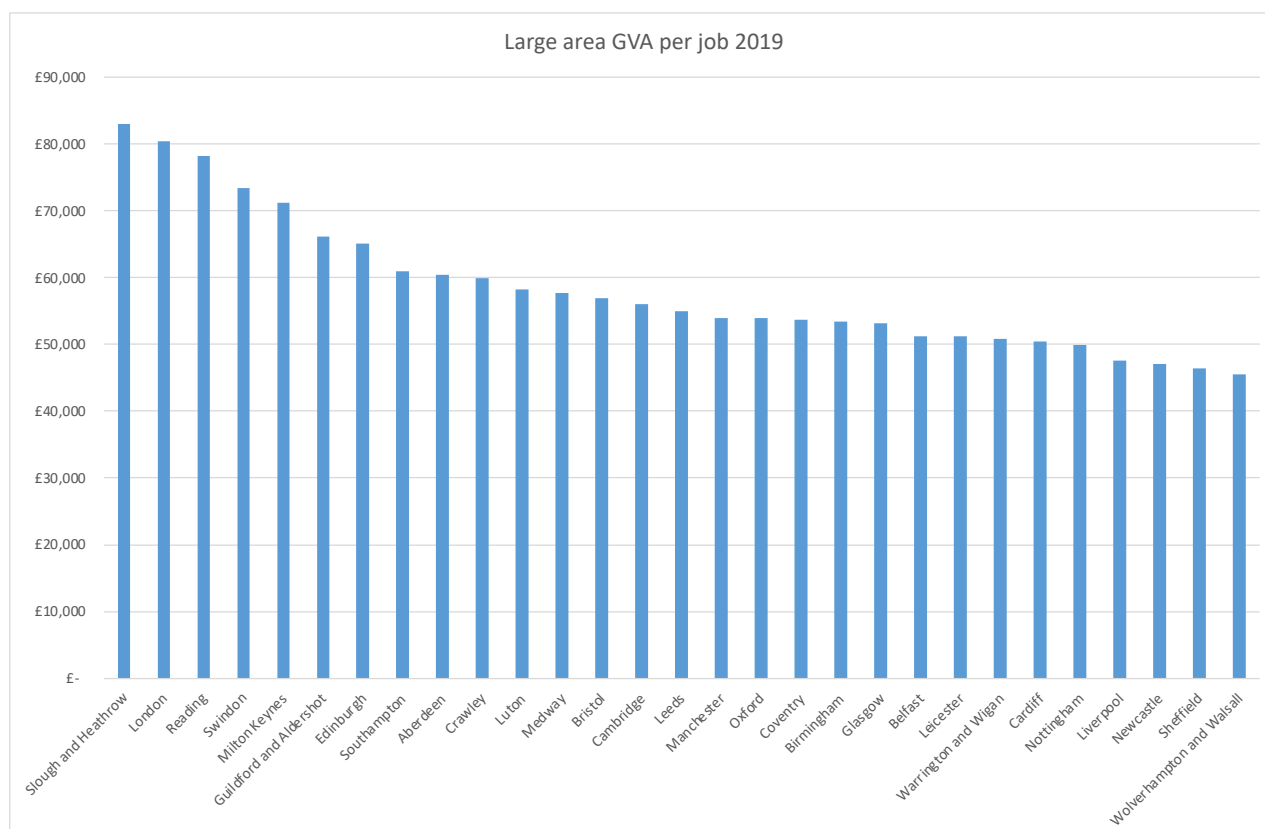


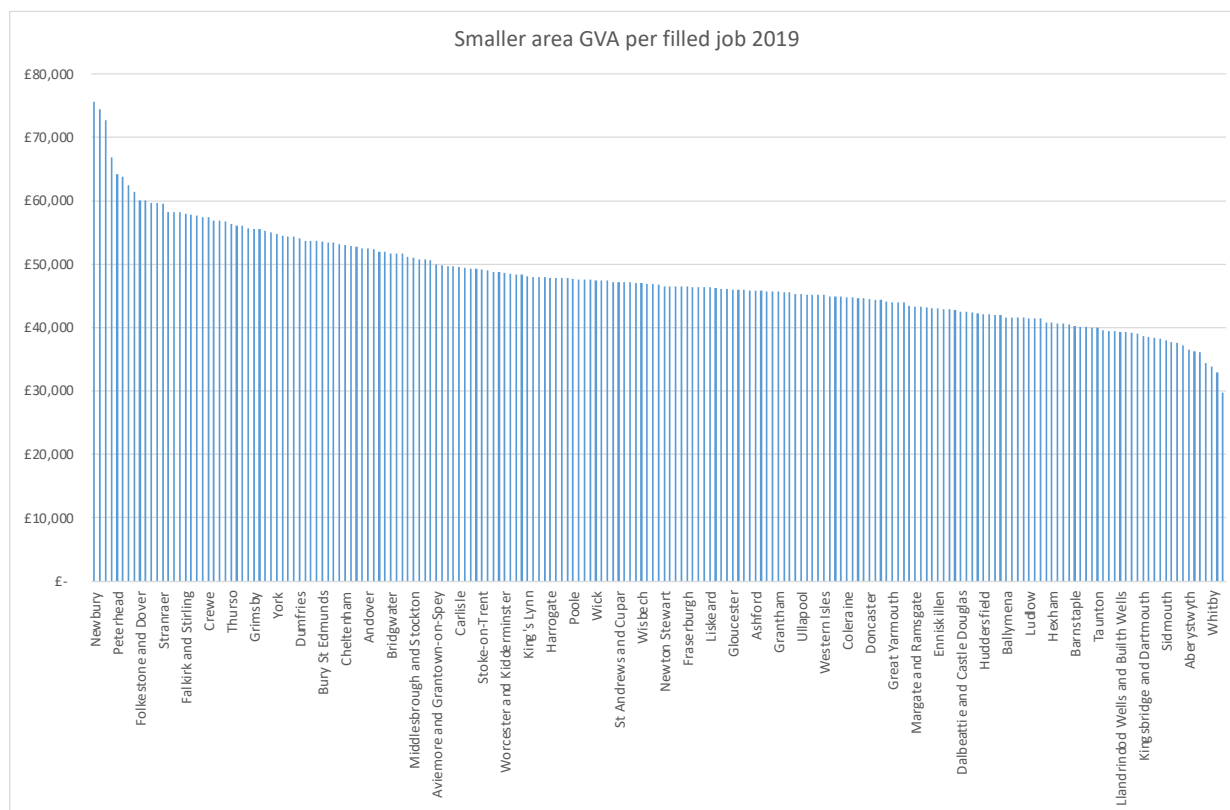


Productivity analysis

However, we are arguably more concerned with the level of productivity rather than just total GVA. Productivity, measured here as GVA per job, determines wages and therefore standards of living. As productivity increases, wages should also increase and therefore increase standards of living. The wide gap in productivity between London and the South East and the rest of the UK is well known as is the difference in living standards – a large part of the reason behind the government’s Levelling Up agenda and White Paper published last week.

In the same way as we did for total GVA, the two charts below show the spread of GVA per job filled in our two groups. For the larger areas, this ranges from £45,500 in Wolverhampton and Walsall to £83,000 in Slough and Heathrow. Note that despite having by far the largest total GVA, London is only second in its group for productivity. In the smaller area group, productivity ranges from £30,000 in Brecon to £76,000 in Newbury. In fact, 123 of the ‘smaller areas’ had a level of productivity above that of the lowest productivity largest area of Wolverhampton and Walsall.





Note that the figures released by the ONS are in nominal terms so producing growth rates on this raw data would really tell us how productivity is changing, given the effect of changes in prices.

However, we are clearly interested in understanding how these areas are performing over time, especially given the focus on narrowing 'gaps' such as the productivity gap between areas. There are two options to rectify this; the first is to look at how areas performing relative to each other in this nominal price data, the second is to turn the nominal price data into real prices to adjust for inflation.

Looking first at the nominal data measuring areas relative to the UK average, we have constructed measures of those that have seen the greatest improvement over time in their performance and those that have seen their position weaken. For the North, where over coming decades we looked in the Northern Powerhouse Independent Economic Review (NPIER) to dramatically increase productivity, seeing the change in places which have significantly improved their relative performance demonstrates that such change can be achieved, albeit in these cases below in smaller travel to work areas where the scale is much less than the whole North of England.

Smaller areas with the greatest improvement vs UK	GVA per job 2009 (UK=100)	GVA per job 2019 (UK=100)	Change
Pembroke and Tenby	65.9	102.6	56%
Launceston	78.2	100.5	28%
Bridlington	79.7	102.1	28%

Leamington Spa	98.1	118.0	20%
Arbroath and Montrose	88.7	105.3	19%
Aviemore and Grantown-on-Spey	75.7	88.1	16%
Inverness	82.3	94.7	15%
Campbeltown	84.7	97.1	15%
Malton	73.9	84.4	14%
Thurso	87.3	99.5	14%

Smaller areas with the lowest improvement vs. UK	GVA per job 2009 (UK=100)	GVA per job 2019 (UK=100)	Change
Ballymena	129.0	73.5	-43%
Orkney Islands	103.1	78.8	-24%
Lochgilphead	89.6	70.8	-21%
Whitehaven	94.2	75.7	-20%
Workington	84.2	69.6	-17%
Bideford	70.1	58.1	-17%
Fraserburgh	98.9	82.0	-17%
Wisbech	97.0	82.9	-14%
Street and Wells	83.7	71.6	-14%
Tywyn and Dolgellau	74.3	64.0	-14%

Larger areas with the greatest improvement vs. UK	GVA per job 2009 (UK=100)	GVA per job 2019 (UK=100)	Change
Milton Keynes	116.8	125.6	8%
Edinburgh	107.3	115.0	7%
Medway	95.6	101.7	6%
Nottingham	83.0	88.0	6%
Belfast	85.4	90.5	6%
Slough and Heathrow	139.4	146.5	5%
Luton	98.9	102.8	4%
Guildford and Aldershot	112.4	116.8	4%
Cardiff	85.8	89.0	4%
Glasgow	90.8	93.8	3%

Larger areas with the lowest improvement vs. UK	GVA per job 2009 (UK=100)	GVA per job 2019 (UK=100)	Change
Crawley	120.8	105.6	-13%
Aberdeen	118.6	106.6	-10%
Cambridge	109.7	98.8	-10%
Liverpool	92.1	84.1	-9%
Leeds	102.1	97.1	-5%

Warrington and Wigan	94.1	89.7	-5%
Oxford	97.8	95.1	-3%
Sheffield	84.0	81.9	-2%
Newcastle	84.2	83.1	-1%
Bristol	101.7	100.4	-1%

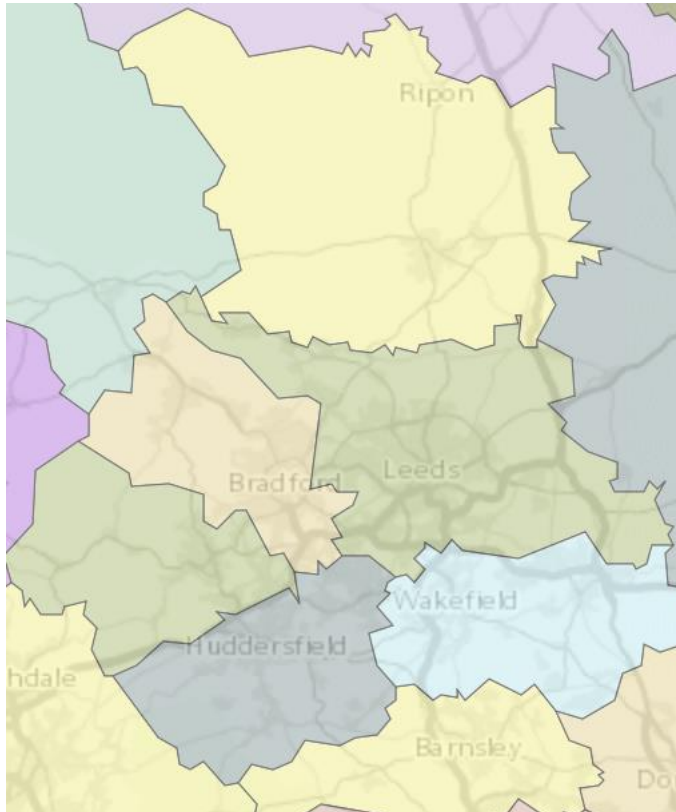
Sub-regional productivity analysis

The analysis of the data presented so far demonstrates its significance from the national view. However, we also want to look at the perspective of the Metro economic level, specifically as we want to understand the effect of being in close proximity to a core city or equivalent Metro.

The work of Patricia Rice and Tony Venables has made the case that access to cities has a big influence on regional productivity, with proximity of ‘economic mass’ key.

Leeds City Region

Area	GVA per filled job 2009 (UK=100)	GVA per filled job 2019 (UK=100)	Change 2009-19
Leeds	102.1	97.1	-5.0%
Bradford	81.3	83.0	2.1%
Halifax	75.6	81.8	8.2%
Huddersfield	72.2	74.3	2.9%
Wakefield and Castleford	87.5	87.6	0.1%
Harrogate	76.1	84.5	11.1%



For West Yorkshire, before its Mayoral deal the economic geography of Leeds as a core city was organised in the model of Leeds City Region, including Harrogate as well as Craven, Selby and York local authorities. Remaining the highest in productivity terms despite having fallen back against the UK average, the growth of its neighbours has closed the gap in the last 10 years. In the context of the poor transport links between Bradford and Leeds, with huge dependence on car journeys, the economic mass effect of Leeds would be strengthened if public transport were improved. It would also contribute to the scale of travel to work area available to businesses in Leeds.

Figure 1 Map of the Leeds travel to work area and surrounding ones³

York and North Yorkshire

Area	GVA per filled job 2009 (UK=100)	GVA per filled job 2019 (UK=100)	Change 2009-19
York	100.3	96.6	-3.7%
Malton	73.9	84.4	14.1%
Northallerton	68.3	73.1	6.9%
Scarborough	82.8	74.8	-9.6%
Bridlington	79.7	102.1	28.1%
Whitby	64.7	59.8	-7.6%

³ Contains OS data © Crown copyright 2016

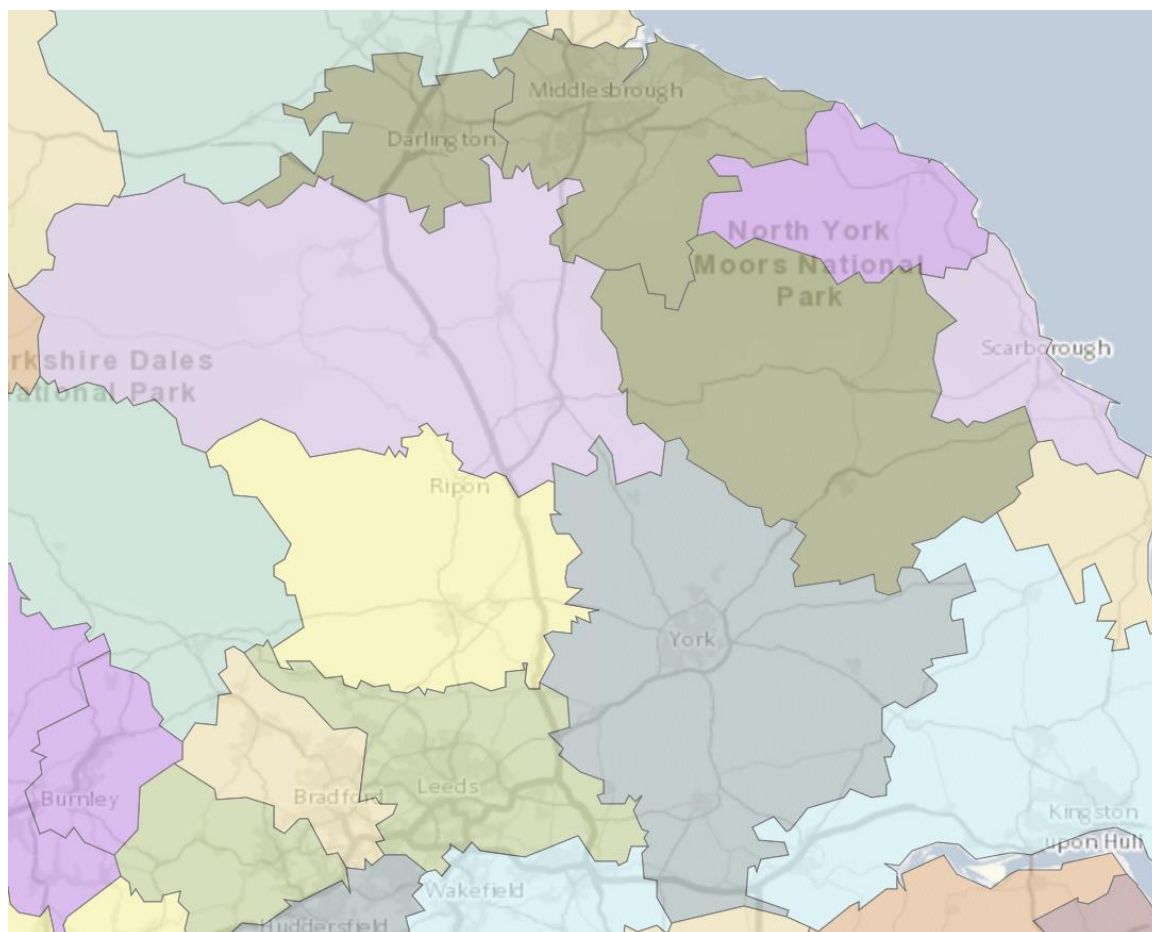


Figure 2 Map of the York travel to work area and surrounding ones

York is an intriguing city to look at for comparison because it is not a core city, but will also be the centre of an upcoming devolution deal. Its near neighbour Malton, with close proximity to York, and its neighbour Bridlington, are two of the best performing travel to work areas in the country in growth outside the larger group (the latter overtaking York, and administratively in East Yorkshire not in North Yorkshire). The growth rate of Northallerton, also connected by rail to York, is also above that for York in the last decade. However, Scarborough and Whitby (the latter with no direct rail, and the former further away than Malton) have fallen further behind the UK average in the last decade than York has (from its previous position just above the UK average).

It suggests that the upcoming devolution deal must focus on the strength of connection between York and Scarborough, with plans for a shuttle between both places to increase frequency and new stations on the line being actively pursued.

Northumbria

Area	GVA per filled job 2009 (UK=100)	GVA per filled job 2019 (UK=100)	Change 2009-19

Newcastle	84.2	83.1	-1.3%
Sunderland	98.3	99.0	0.7%
Blyth and Ashington	72.2	76.7	6.2%
Hexham	67.6	71.9	6.4%

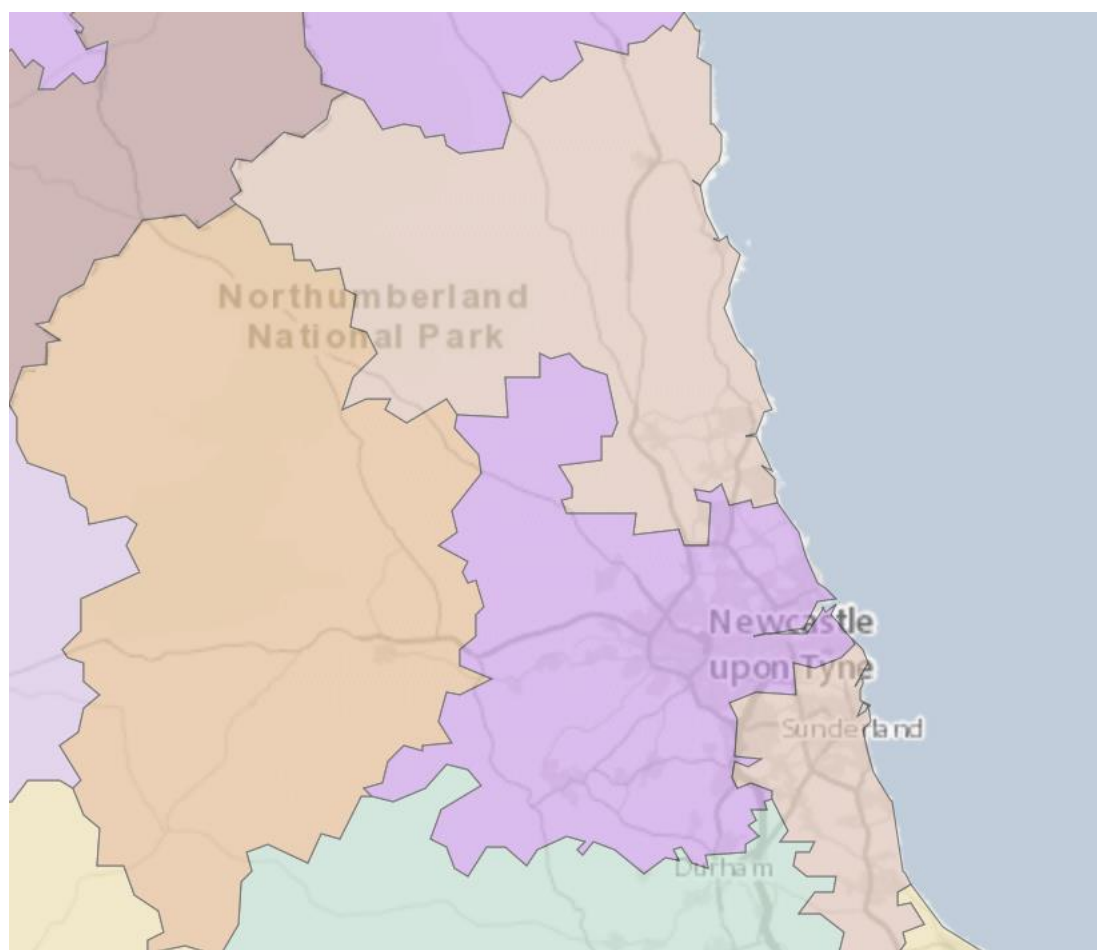


Figure 3 Map of Newcastle and surrounding travel to work areas

The pattern of productivity growth in the expanded devolution deal of Northumberland, Tyneside and Wearside (proposed to cover the same area as the Northumbria Police so coterminous) shows higher productivity in Sunderland, where it is almost UK average. This is not unexpected given the presence of Nissan and its supply chain. If replicated on a wider pan-northern level - as Michael Gove has argued for - similar effects could be replicated elsewhere across the Northern Powerhouse. The story on growth rates within the existing North of Tyne Mayoral footprint is the same as in West Yorkshire – convergence with Newcastle as the nearest core city, from their lower starting point on a per filled job basis.

Tees Valley

Area	GVA per filled job	GVA per filled job	Change 2009-19
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	2009 (UK=100)	2019 (UK=100)	
Middlesbrough and Stockton	91.5	89.9	-1.7%
Darlington	86.6	89.6	3.5%
Hartlepool	75.0	78.3	4.3%

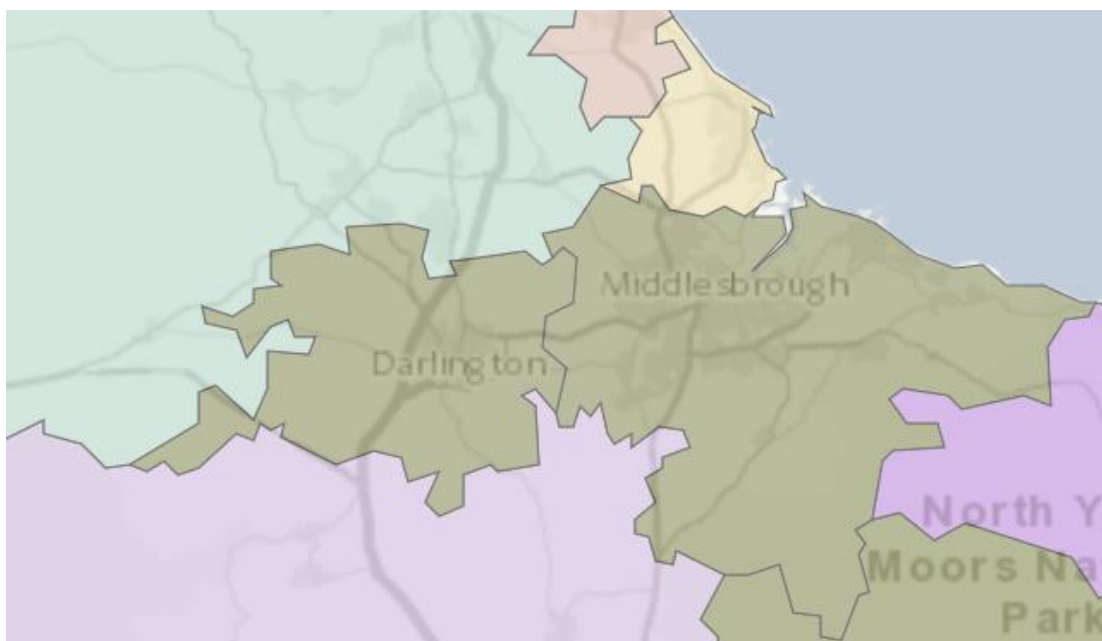
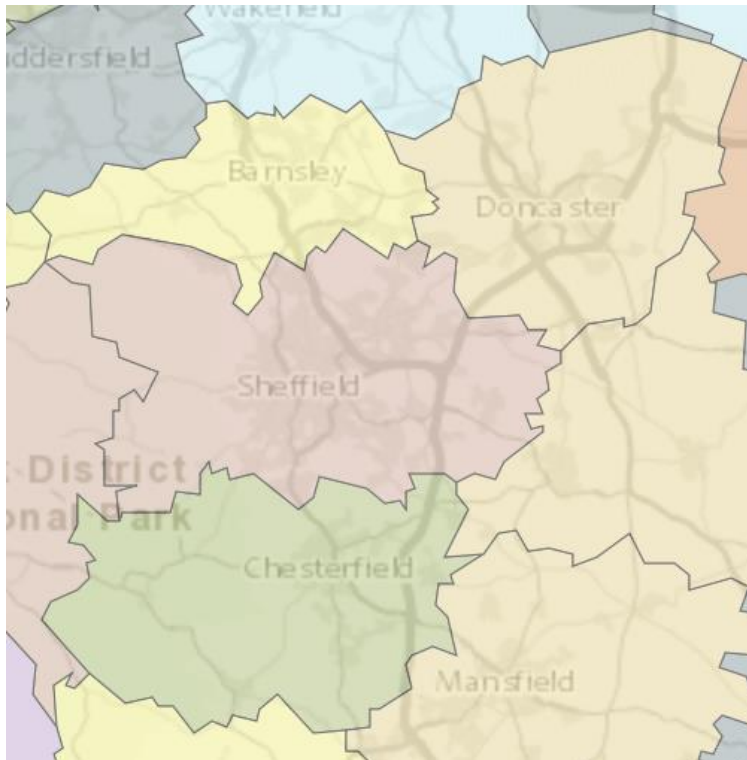


Figure 4 Map of Tees Valley travel to work areas

Despite not being a classic Metro, Middlesbrough has seen its near neighbours catching it by growing faster in GVA per filled jobs compared to the UK average. The interesting dimension here is whether Darlington, with the arrival of the Treasury, is behaving as a Metro as well to some extent. In the absence of a core city, the economic dynamics are different.

South Yorkshire

Area	GVA per filled job 2009 (UK=100)	GVA per filled job 2019 (UK=100)	Change 2009-19
Sheffield	84.0	81.9	-2.5%
Barnsley	79.1	74.0	-6.5%
Doncaster	74.8	78.6	5.2%
Chesterfield	78.2	79.8	2.0%



The Sheffield City Region is an economic construction which was never able to be fulfilled as a Metro Mayoral area, with the opposition from some institutional actors with entrenched interests leading to Judicial Reviews. Most areas are catching up with Sheffield, except Barnsley which has poor public transport connections with Sheffield and currently no mass transit system solution funded.

Figure 5 Sheffield and surrounding travel to work areas

Liverpool



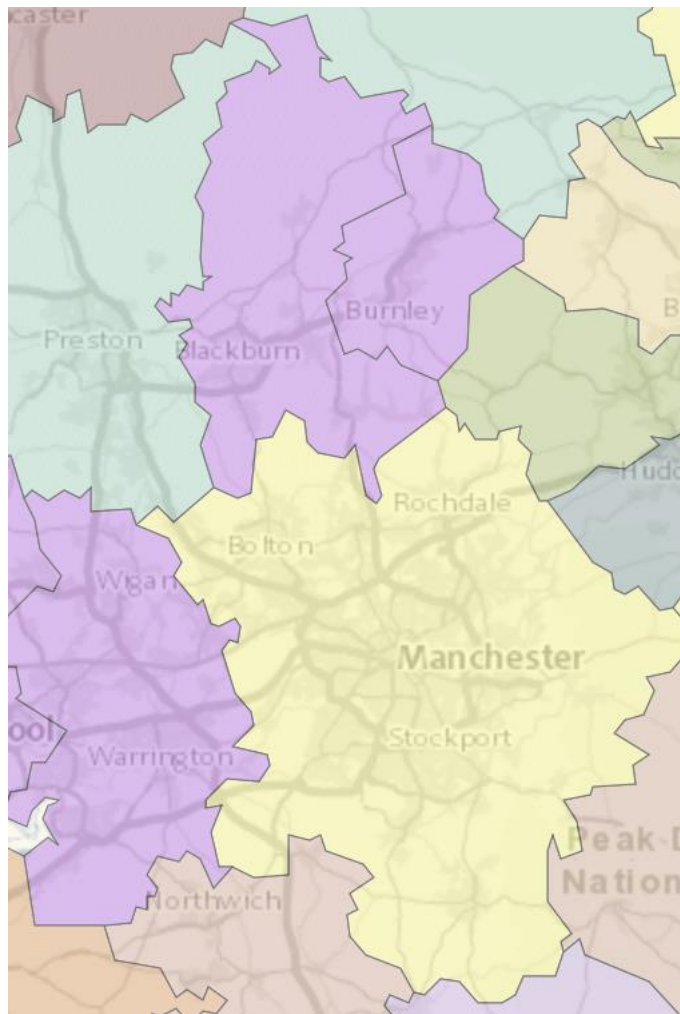
Area	GVA per filled job 2009 (UK=100)	GVA per filled job 2019 (UK=100)	Change 2009-19
Liverpool	92.1	84.1	-8.8%
Birkenhead	84.6	80.7	-4.6%

The same pattern as in West Yorkshire is also evident when comparing Liverpool and Birkenhead. There has been convergence between Birkenhead with its near neighbour Liverpool, though both have declined relative to the UK average.

Figure 6 Liverpool and Birkenhead travel to work areas

Greater Manchester

Area	GVA per filled job 2009 (UK=100)	GVA per filled job 2019	Change 2009-19
Manchester	96.2	95.3	-1.0%
Blackburn	81.8	82.7	1.0%
Warrington and Wigan	94.1	89.7	-4.7%



Most of the combined authority area of Greater Manchester is in the Manchester ONS travel to work area, and its productivity in relative terms to the UK has fallen slightly but as with Leeds is significantly closer to the UK average than the three other northern key cities. Stretching beyond its governance boundary, Blackburn is converging but Warrington and Wigan are not (but have a higher previous level than many other economies which surround core cities in the North).

Figure 7 Manchester and surrounding travel to work areas

Conclusion

The Northern Powerhouse as an economic plan is rooted in agglomeration. This analysis shows that productivity growth in towns is driven by nearby core cities.

It makes the case for a single travel to work area across the Pennines, using digital and transport connectivity to create a labour market of millions that could act as a counterweight to London, attracting businesses and investment from around the globe. It is vital to connect northern towns and cities to each other and the rest of the country, ensuring that places such as Scarborough and Whitby are no longer cut off but integrated into a larger economic whole. Levelling Up will fail if it treats towns in isolation, instead of considering their context within a region.

It is not towns vs. cities. It is both growing together.