

Cumbria Productivity Thinkpiece

Report to CLEP Business Strategy Group January 2022

*prepared by Stephen Nicol of Nicol Economics with support
from Ginny Murphy, Cumbria Intelligence Observatory*

CLEP

CUMBRIA
LOCAL
ENTERPRISE
PARTNERSHIP

NORTHERN
POWERHOUSE
HM Government

The exam questions...

1. Why does productivity matter?
2. What's been happening to productivity in Cumbria? *(especially since 2017 the last data used for the Local Industrial Strategy evidence base)*
3. What explains our relative productivity performance?
4. What can we do about it? – *for discussion*

Definitional and data matters:

- We are measuring **labour productivity** in this piece – total GVA (Gross Value Added or economic output) divided by either total jobs or total hours worked.
- There are other measures - eg total factor productivity that takes account of the amount of capital (buildings, plant and machinery), but there is no usable data for Cumbria.
- The measures do not take account of the wider impact on the environment nor use of resources that do not have a market value (eg using up Cumbria's Natural Capital).
- The data used is up to 2019, the last "normal" year before the pandemic.
- Finally, the analysis relies on data from ONS for individual sector and geographies such as Cumbria. This has significant limitations and what is "data" is, in fact, just best estimates by OBS [a particular issue is allocating output across multi-site business that operate in and outside Cumbria]. So the broad brush conclusion we draw are key, not detailed ones.

Why does our productivity performance matter?

Three reasons it does matter for Cumbria:

1. Higher productivity usually means firms/the economy can afford to pay **higher wages** (important to attract and retain people and address housing affordability etc)
2. Cumbria has a **tight, limited and falling labour pool** – improving productivity makes sense [working smarter, not harder]
3. Higher productivity is important for firms **competing** in national and international markets


However, factors to consider:

- Productivity is not the “be all and end all”, it needs to be balanced against wider societal goals (inclusion, physical and mental health, and environmental sustainability)
- The fruits of higher productivity do not necessarily get shared round widely and benefit all current and future residents of Cumbria

“Productivity matters because it has been the primary source of long run economic growth for advanced economies like the UK and is closely linked to wage growth. In other words, it is directly linked to both living standards and the competitiveness of the economy”. [Industrial Strategy Council](#)

Summary points

1. Depending on the precise measure used the overall most recent (2019) rates of productivity in Cumbria would, overall, need to rise by some 20% to 24% below reach the UK average.
2. Overall productivity levels in Cumbria have been in decline relative to the UK for some time (which also has seen stagnation since 2008). This was also true over the last two years to 2019.
3. If overall GVA per job were in line with the UK average then Cumbria's GVA would be some £2.8 bn or 24% higher. An uplift to average overall productivity per job levels in line with GB less London would increase it by around £1.8 bn.
4. The assessed contribution from Cumbria's economic structure is around 40% and the effect caused by productivity increasing to benchmark averages **within sectors** is around 60%. These are broadly in line with previous findings.
5. A feature of Cumbria is the lower share and lower productivity of private services sector (business facing) including ICT, that elsewhere are contributors to higher productivity.
6. If the basic metals sector (where direct Sellafield was placed in 2019) is put to one side then Cumbria's manufacturing sector matches UK productivity levels, but there are large variations sector to sector.
7. The broad factors that determine productivity are: physical capital (equipment, infrastructure etc) human capital (skills), technology adoption, management etc. However, the precise mix and measuring performance on these is complex and will vary across areas, firms and sectors.
8. There is considerable evidence that, in the UK, the "long tail" of firms of less productive firms tend to be explained by lesser diffusion of technology and less good management. We do not have direct evidence that this is the case in Cumbria, but is likely to also be true.
9. Stronger productivity performance is linked to size (bigger is better) and being external facing and focussed (eg ownership and exporting).
10. Within and across sectors in Cumbria the main (interlinked) factors that explain below average productivity performance are:
 - Take-up of new technology opportunities – especially across the tail of less productive and smaller firms
 - Levels of staff employed with higher level skills
 - Management capacity
 - Market orientation – extent and quality of competition and exporting.



What's been happening to productivity?

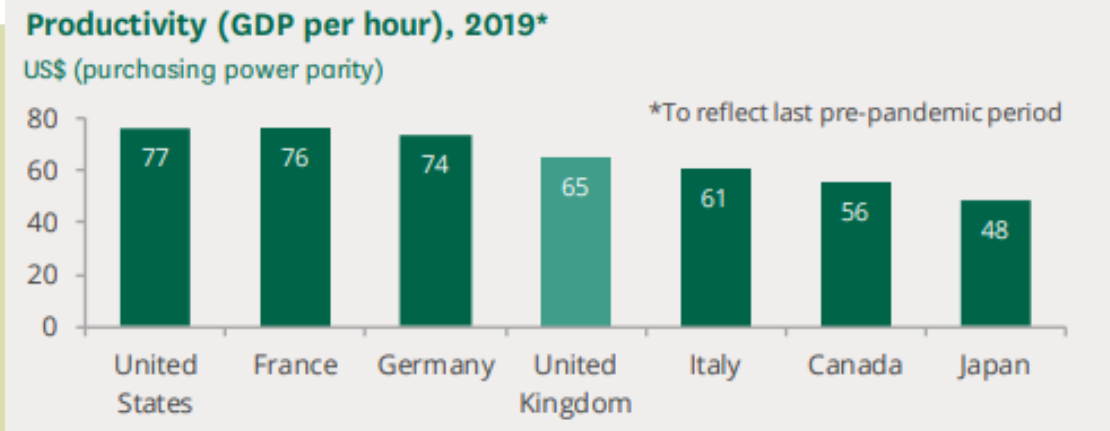
CLEP

CUMBRIA
LOCAL
ENTERPRISE
PARTNERSHIP

NORTHERN  HM Government
POWERHOUSE

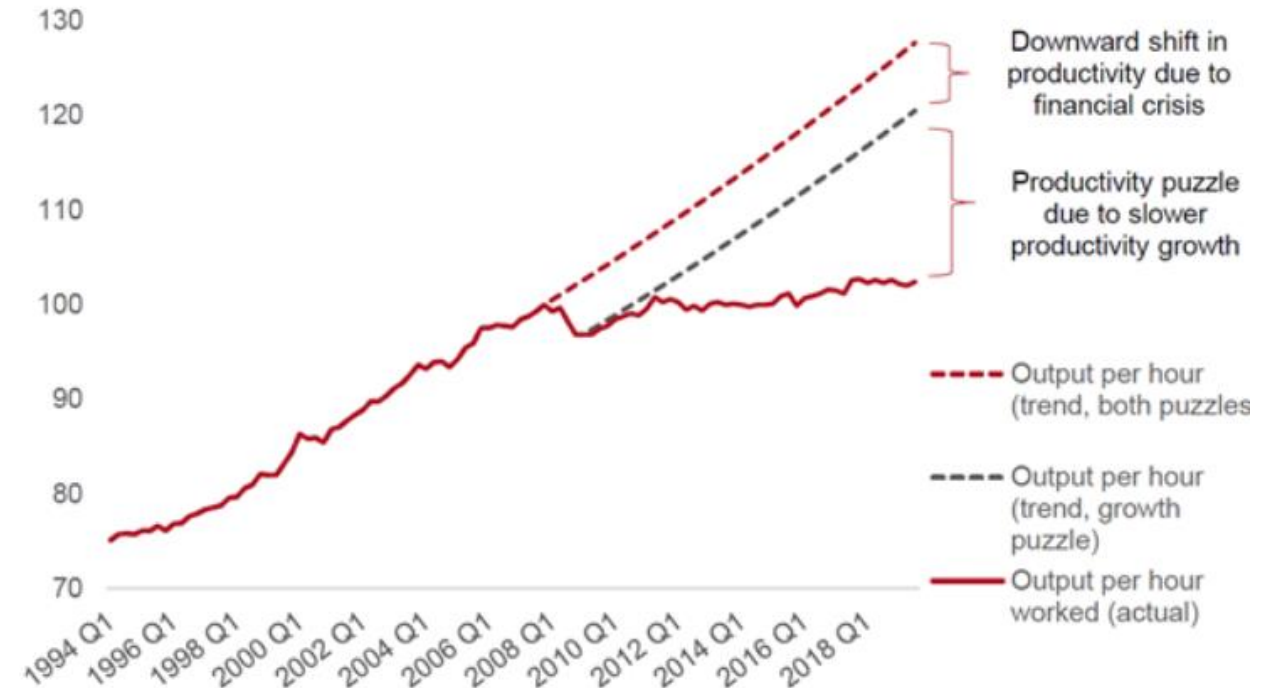
UK Context: a productivity puzzle

- Overall UK productivity has been flatlining since 2008, this is a phenomenon across most developed economies but starker in the UK
- The UK's productivity is below the G7 average and the two other largest economies in Europe (but recent analysis has indicated per hour it is not as poor as previously thought)



Source:: House of Commons Library, Productivity: Key Economic Indicators, [Research Briefing](#) January, 2022

Output per hour worked: actual vs trend (Index, 2007 = 100)



Source:: [Industrial Strategy Council analysis](#) based on ONS Labour Productivity Time Series (February 2020)

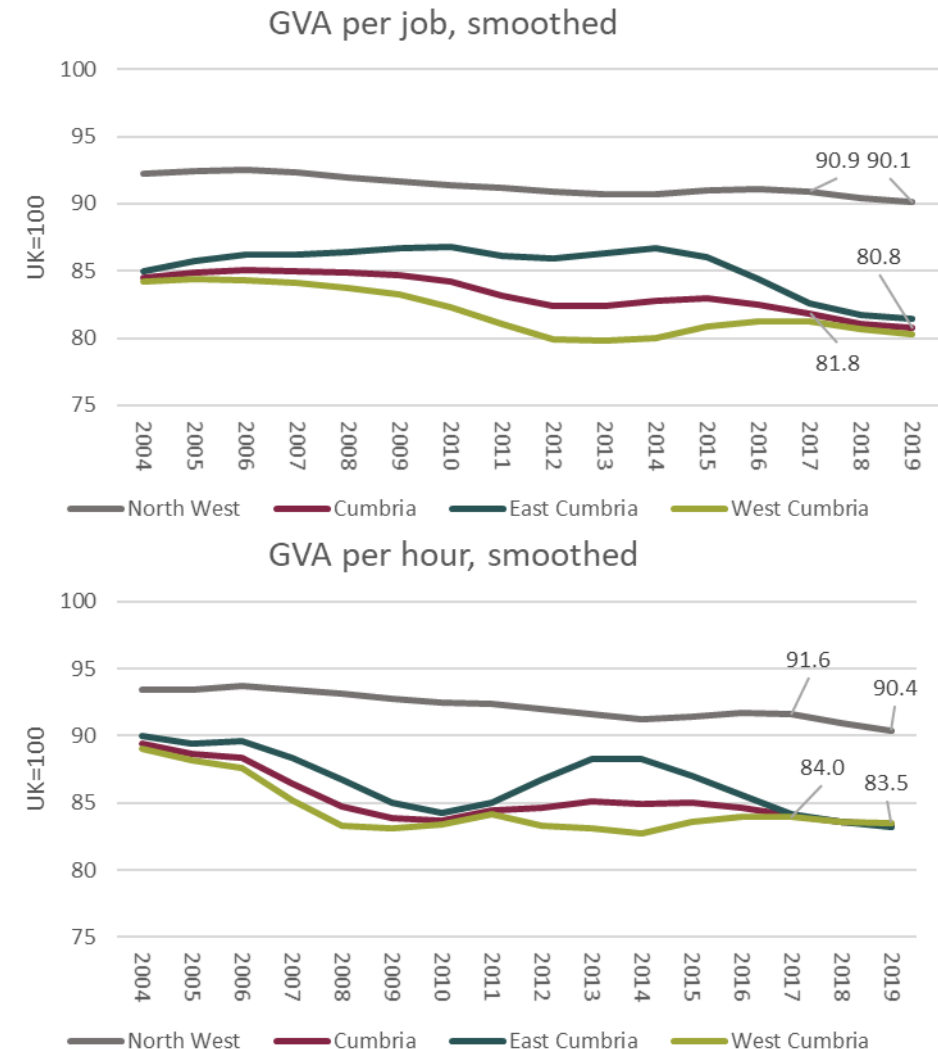
What's been happening to productivity in Cumbria? #1



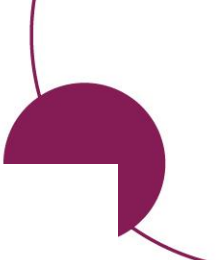
- As noted, UK **productivity performance itself has been poor** since 2008 so that the UK's productivity is now only marginally higher than it was a decade ago*.
- Compared to the UK average, Cumbria has worsened more or less steadily over the last 15 years whether measured per hour or per job, this is also true but less stark compared to the North West.
- Hence, internationally its position has dropped even further.
- The two years since 2017 (data used in the LIS evidence base) have seen this trend continue, although the performance compared to the North West has not changed.
- East and West Cumbria** diverged but have since converged.

Notes: * <https://industrialstrategy council.org/productivity>

**East Cumbria = Carlisle, Eden and South Lakeland; West Cumbria = Allerdale, Barrow and Copeland



What's been happening to productivity in Cumbria? #2

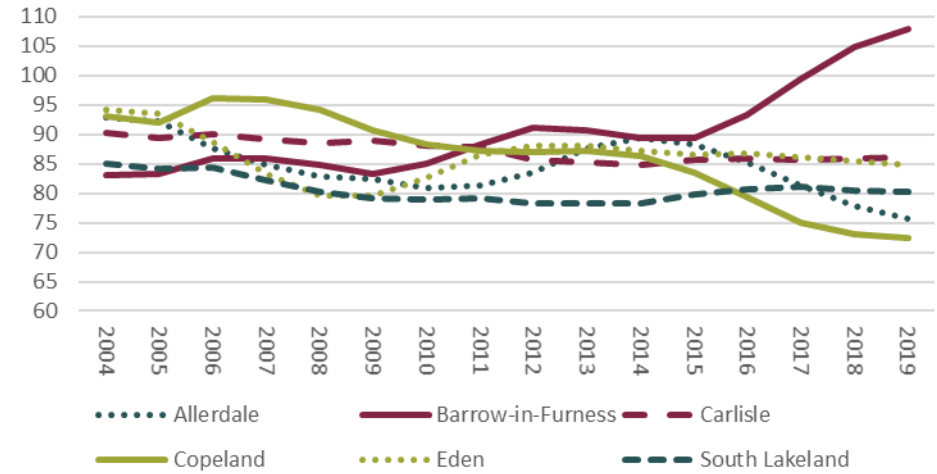


The geography of productivity has changed in Cumbria over time:

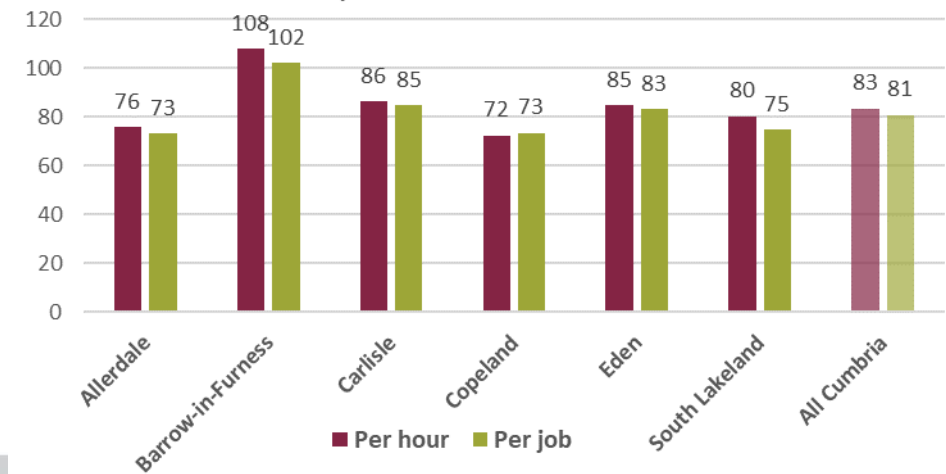
- Barrow has seen a strong upsurge in productivity since the early 2010s - linked to the scaling up of BAE Systems work
- Whereas Copeland (and to a lesser extent Allerdale) has seen productivity slipping back – linked to the change in economic performance of Sellafield over the period
- Other changes have been less dramatic

These geographical changes give some advance clues as to the factors behind overall changes.

GVA per hour worked, UK=100, smoothed



Productivity in 2019, UK=100, smoothed



What's been happening to productivity in Cumbria? #3



- The current productivity gap (as of 2019 ie pre-pandemic) was:
 - Per job filled: at £45,800 per year this 19% below the UK average (10% below the NW average)*
 - Per hour worked: the £29.7 per hour was 17% below the UK average (8% below the NW average).

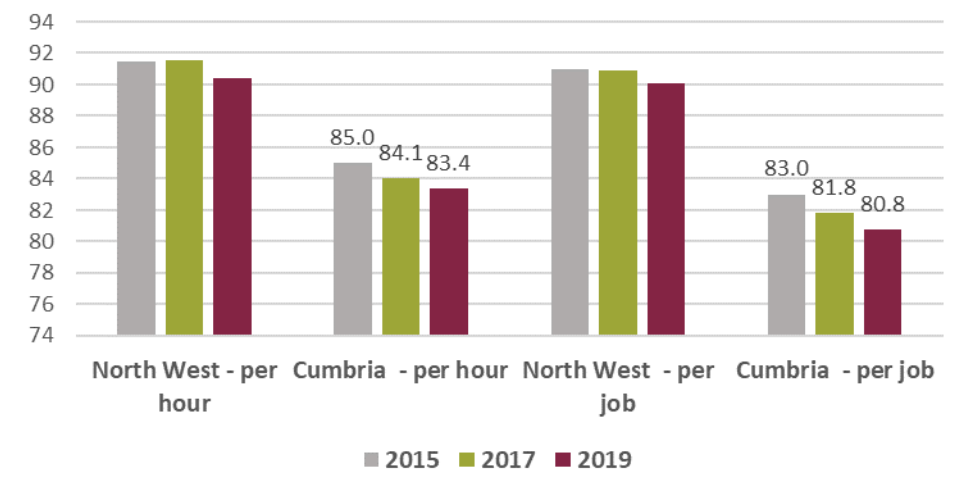
These gaps have worsened slightly since the work for the LIS evidence base was undertaken (based on then 2017 provisional data).

However, the data used by the ONS for Cumbria suggests some surprising shifts in jobs filled and hours worked (which might reflect actual changes in shift to more part time work or the reliability of the estimates).

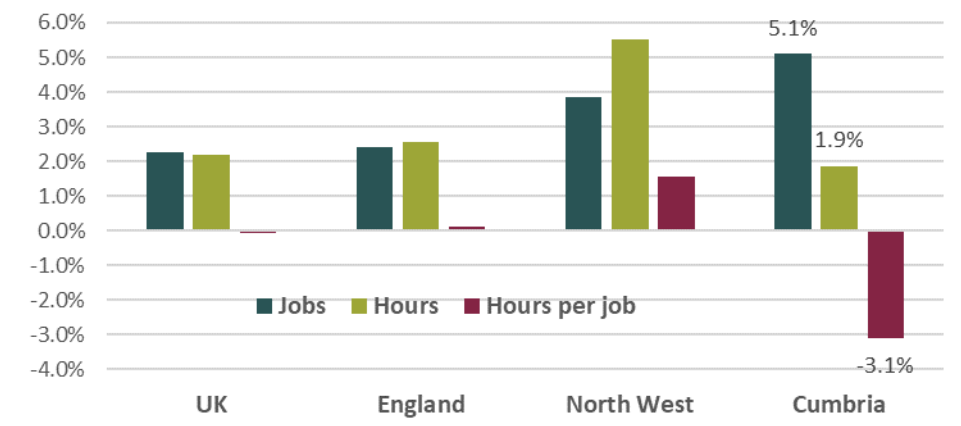
This suggests that overall over time for Cumbria the estimate of **GVA per hours worked** is a more robust measure (and shows a most recent 17% gap on the UK)

* Note: based on FTE employee job (£55,600) the gap on Great Britain average in 2019 (£71,500) is around 22% (this does not take into account the role of the self employed however)

Overall productivity levels (UK=100, smoothed)



Changes in hours and jobs, 2017-19





Explaining productivity performance

CLEP

CUMBRIA
LOCAL
ENTERPRISE
PARTNERSHIP

NORTHERN 
POWERHOUSE

What factors explain productivity performance?



- There is an enormous body of work on the factors that explain differences in productivity across countries, across firms and across regions...
- ...there is no one definitive answer as to the precise mix of factors and their relative importance...
- ...indeed there is contested territory, depending on which academics you ask you will get different answers
- For instance one strand talks about **agglomeration** economies (larger economic areas tend to have higher productivity) and **place** or regional disparities as key...
- ...others focus more at the level of the **firm**
- ...in practice **both** are important
- At the level of the business adoption of technology, innovation and productivity is associated with **size** (lower generally but not always in SMEs), **ownership** (tends to be higher in foreign owned firms) and **export** focus
- It is easy to determine the **broad factors** that determine productivity: physical capital (equipment, infrastructure etc) human capital (skills), technology adoption, management etc
- However, the precise mix and measuring performance on these is complex and will vary across areas, firms and sectors
- Also easier to identify where the gaps and issues are, much harder to determine effective solutions

Wider factors explaining productivity performance #1

Recent North West research concluded*:

- *“the primary reason for low productivity in the North West is the same as for the UK as a whole – chronic under-investment in key growth drivers such as **hard and soft infrastructure, R&D activity, and human capital**”*
- *“**Long-term scarring** from the north west’s industrial declinea key factor for why the region is more affected by these national challenges than other parts of the UK. Deindustrialisation led to an **exodus of skilled people** (particularly young people) and financial and commercial institutions”*
- *“fragmented economic geography and **lack of critical mass** is also a factor”*

National research (Industrial Strategy Council):

- Productivity is driven by a vast number of factors, ranging from the quality and quantity of different forms of capital, such as **human** (e.g. workers’ skills), **physical** (e.g. well-functioning transport network) and **intangible** (e.g. efficient management practices), to the institutional environment within which they interact (e.g. the quality of competition law).

BEIS Business Productivity Review:

- UK's overall productivity growth will, in large part, be determined by the performance of **individual businesses**. Whilst the UK has some of the most productive businesses in the world, we also have a large number of low productivity businesses

*The North West of England’s Productivity Challenge: Exploring the issues, The University of Manchester, October 2021

Wider factors explaining productivity performance #2

The long tail of performance by firms is important:

- *“low productivity businesses are found in all regions, sectors, and across all sizes of business. Indeed, there appears to be more variation across businesses within, rather than between, regions, sectors and sizes*”*
- *“There has been a widening dispersion in the distribution of productivity across companies over time. In particular, there is a striking and widening divergence between frontier firms [top 5% of firms] and the long tail of non-frontier companies...”*
- *it is non-frontier companies that largely explain flat-lining productivity over recent years....*
- *....around one-third of UK companies have seen no rise in productivity throughout this century. This is a long tail....*
- *....rates of technological diffusion from frontier to non-frontier companies appear to have slowed. It is stalling diffusion, rather than stifled innovation, that accounts for the UK’s productivity puzzle”***

Sources: * [BEIS Business Productivity Review](#); **Andy Haldane [Productivity Puzzle](#) speech [Note: he does not consider that the UK’s overall productivity performance is a factor of the structure of its economy]

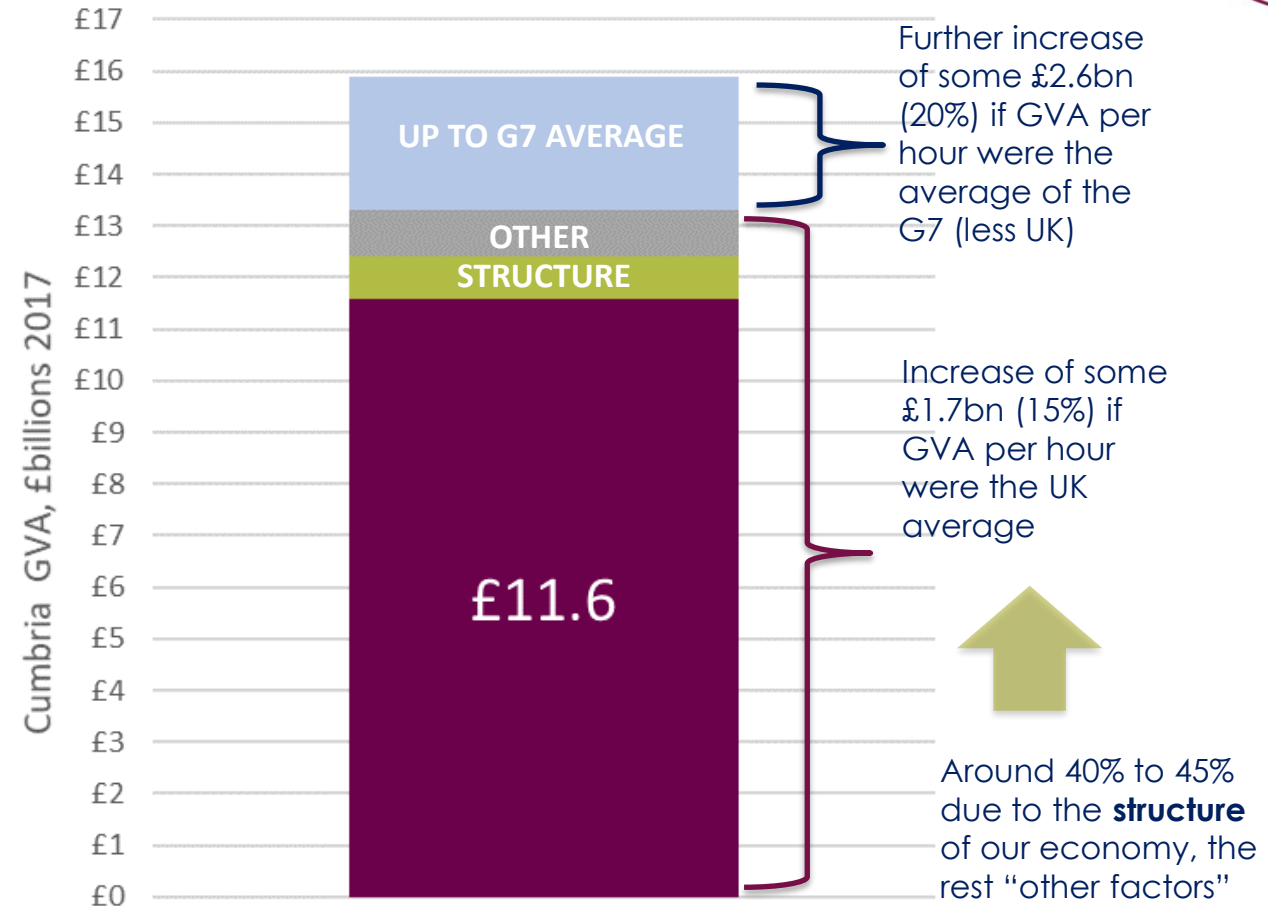
The tail of businesses



Source: [BEIS Business Productivity Review](#), 2019. Note: data for 2015

Explaining Cumbria's productivity performance #1

- There are three sets of factors that explain Cumbria's overall productivity performance:
 1. Our economic structure - the pattern of sectors that makes up our economy
 2. The performance within each sector – how productive are the firms that make up the sector
 3. Factors that might be common across all sectors (although this is harder to identify)
- In 2019 in preparing the LIS the conclusion was around 40% to 50% of the gap on the UK was down to the structure (Factor 1) and the rest to the other factors (Factors 2 and 3)



Explaining Cumbria's productivity performance #2 ROLE OF OUR ECONOMIC STRUCTURE

Cumbria

- Cumbria's economy can be thought as having three sets of sectors in terms of GVA :
 - *Sector Group A*: where we are highly specialised (20% or more above the UK/NW average) (around a third of jobs and GVA)
 - *Sector Group B*: where our shares are around average (+/- 10%) (two fifths GVA, nearly half of jobs)
 - *Sector Group C*: where the share is well below average (20% or less) (a fifth of jobs and less of GVA)
- At a broad level for Cumbria in 2019 these are as shown.

	Share of GVA	Share of jobs
Important and specialised		
Manufacturing	21.3%	15.3%
Accommodation and food	5.3%	11.0%
Agriculture, forestry	2.0%	5.5%
Water	1.9%	0.2%
Total these sectors	30.5%	32.0%
Important and "normal" shares		
Wholesale and retail	11.1%	16.1%
Human health and social work	8.4%	12.5%
Construction	6.8%	5.5%
Public administration and defence	5.5%	4.3%
Transportation and storage	4.5%	4.7%
Other service activities	1.6%	1.8%
Total these sectors	37.9%	44.9%
Important but below average shares		
Education	4.5%	5.9%
Professional, scientific and technical	4.0%	5.9%
Administrative and support services	3.0%	5.1%
Financial and insurance activities	1.5%	1.0%
Information and communication	1.4%	1.2%
Arts, entertainment and recreation	1.2%	2.4%
Total these sectors	15.6%	21.4%

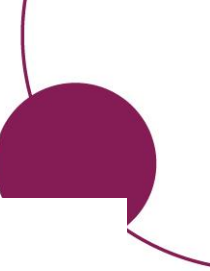
Note: based on ONS 2019 GVA data, excludes real estate activities, activities of households, utilities/energy and mining

Explaining Cumbria's productivity performance #3 ROLE OF OUR ECONOMIC STRUCTURE

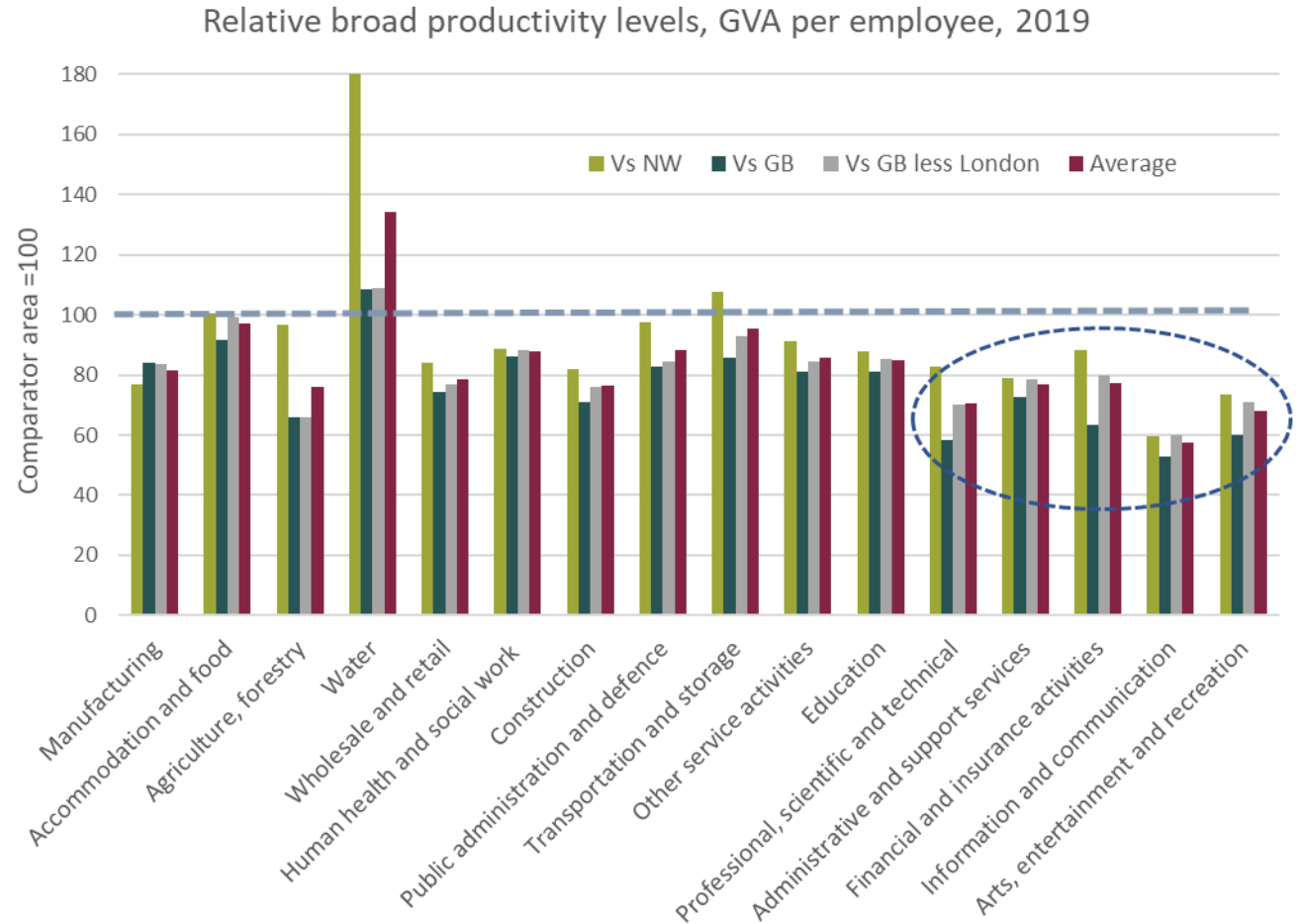
- Depending on the measure used we have:
 - 50% to 100% more manufacturing activity/jobs compared to regional or national benchmarks
 - 80% to 50% more accommodation services (linked to visitor economy)
 - 100% to 200% more agricultural activity.
- Shares of education activity are around 30% below benchmarked areas (likely due to relative low HE activity in Cumbria compared to other areas).
- Arts/entertainment sector has average shares of GVA but not jobs (more on this later).
- A range of private sector services are “under-represented” in Cumbria.

	Degree of GVA specialisation compared to			Degree of JOBS specialisation compared to		
	North West	All UK	UK less London	North West	GB	GB less London
Important and specialised						
Manufacturing	1.5	2.2	1.7	1.7	2.0	1.7
Accommodation and food	1.8	1.7	1.7	1.6	1.4	1.5
Agriculture, forestry	5.5	3.1	2.3	5.1	3.5	2.9
Water	1.4	1.5	1.2	0.5	0.6	0.5
<i>Total these sectors</i>	1.6	2.1	1.7	1.8	1.8	1.7
Important and "normal" shares						
Wholesale and retail	0.9	1.1	1.0	1.0	1.1	1.0
Human health and social work	0.9	1.1	1.0	0.9	1.0	0.9
Construction	1.1	1.0	1.0	1.2	1.1	1.0
Public administration and defence	1.1	1.1	1.0	1.0	1.0	1.0
Transportation and storage	1.0	1.1	1.1	0.8	1.0	1.0
Other service activities	0.9	0.9	0.9	0.9	0.8	0.9
<i>Total these sectors</i>	1.0	1.1	1.0	1.0	1.0	1.0
Important but below average shares						
Education	0.7	0.7	0.7	0.8	0.7	0.7
Professional, scientific and technical	0.6	0.5	0.6	0.7	0.7	0.7
Administrative and support services	0.5	0.6	0.6	0.6	0.6	0.6
Financial and insurance activities	0.4	0.2	0.4	0.4	0.3	0.4
Information and communication	0.3	0.2	0.3	0.4	0.3	0.4
Arts, entertainment and recreation	0.8	0.8	0.8	0.9	1.0	1.0
<i>Total these sectors</i>	0.5	0.5	0.5	0.6	0.6	0.6

Explaining Cumbria's productivity performance #4



- At a high level our sector's productivity fall into three groups:
 - At or close to national productivity levels – **accommodation/food, transport/storage** (water well above)
 - Around 15% to 20% below (ie around the average deficit) – **manufacturing, retail, health, public admin, education**)
 - Private **sector services** where the gap is 50% to 20%, but generally the gap is lower once London is removed from the comparison
- This last groups is also the groups of sector least well represented in Cumbria, so we have both less economic activity and less productive activity taking place in the county

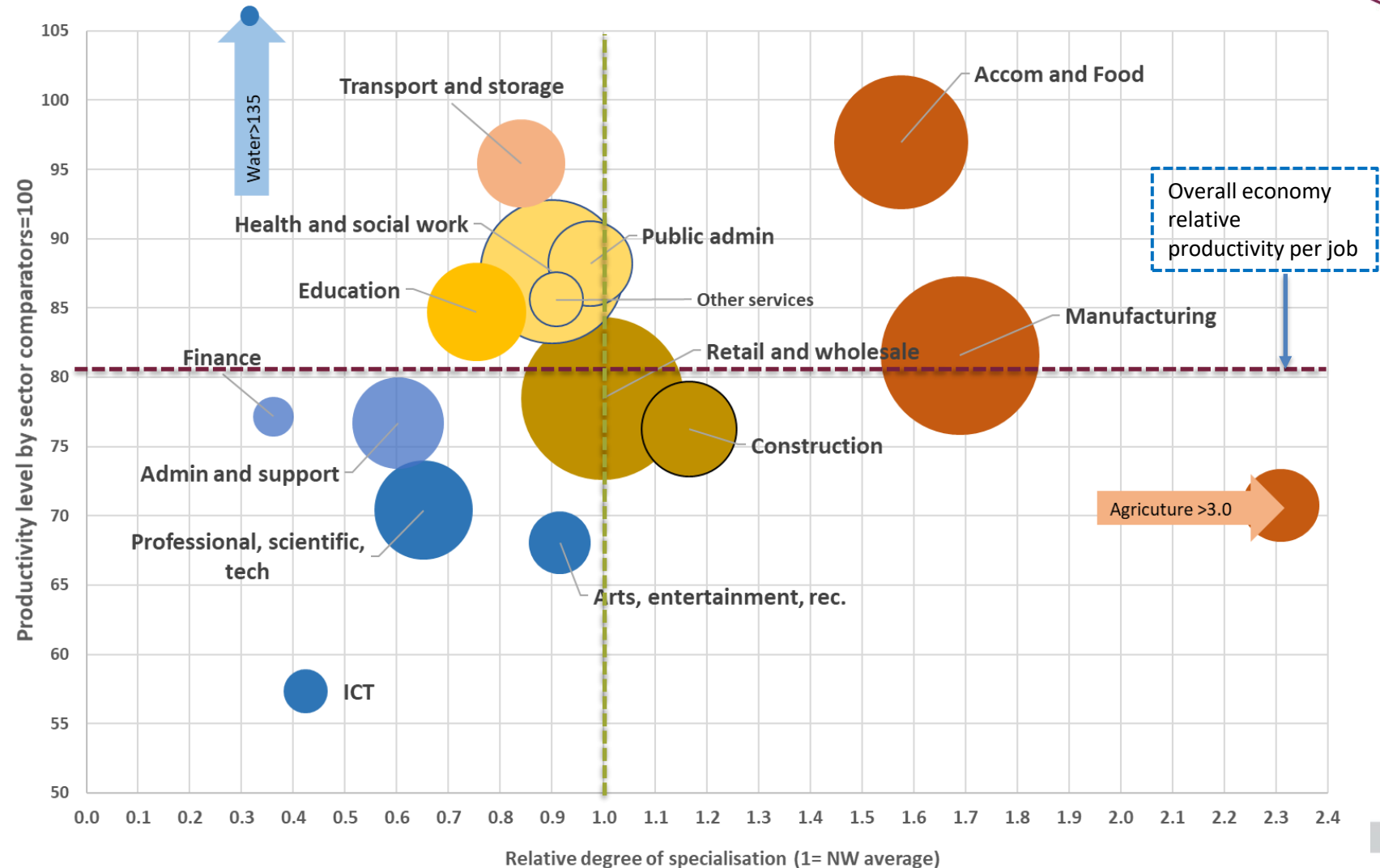


Explaining Cumbria's productivity performance #5



- Vertical axis shows productivity within a sector compared to the national comparisons for that sector
- At a broad level only water (and utilities) have above average productivity levels (but these are small sectors)
- The majority of private sector service sectors that are business facing (in part at least) are both low specialisation and low productivity
- Retail/wholesale and construction are large but relative low productivity sectors
- Accommodation/food services is a large specialised and relatively well performing sector
- Agriculture is very specialised and apparently low productivity (on GVA measures)

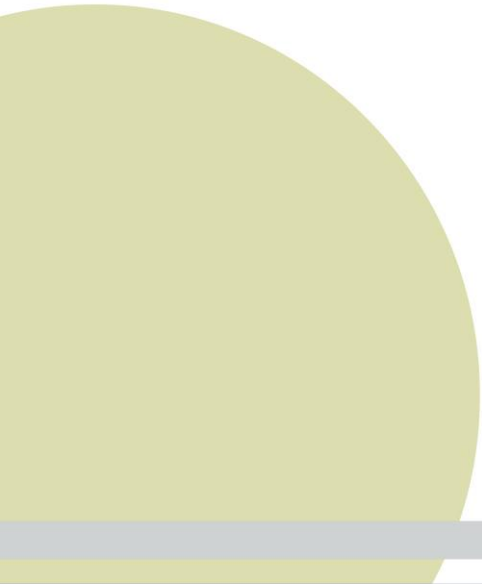
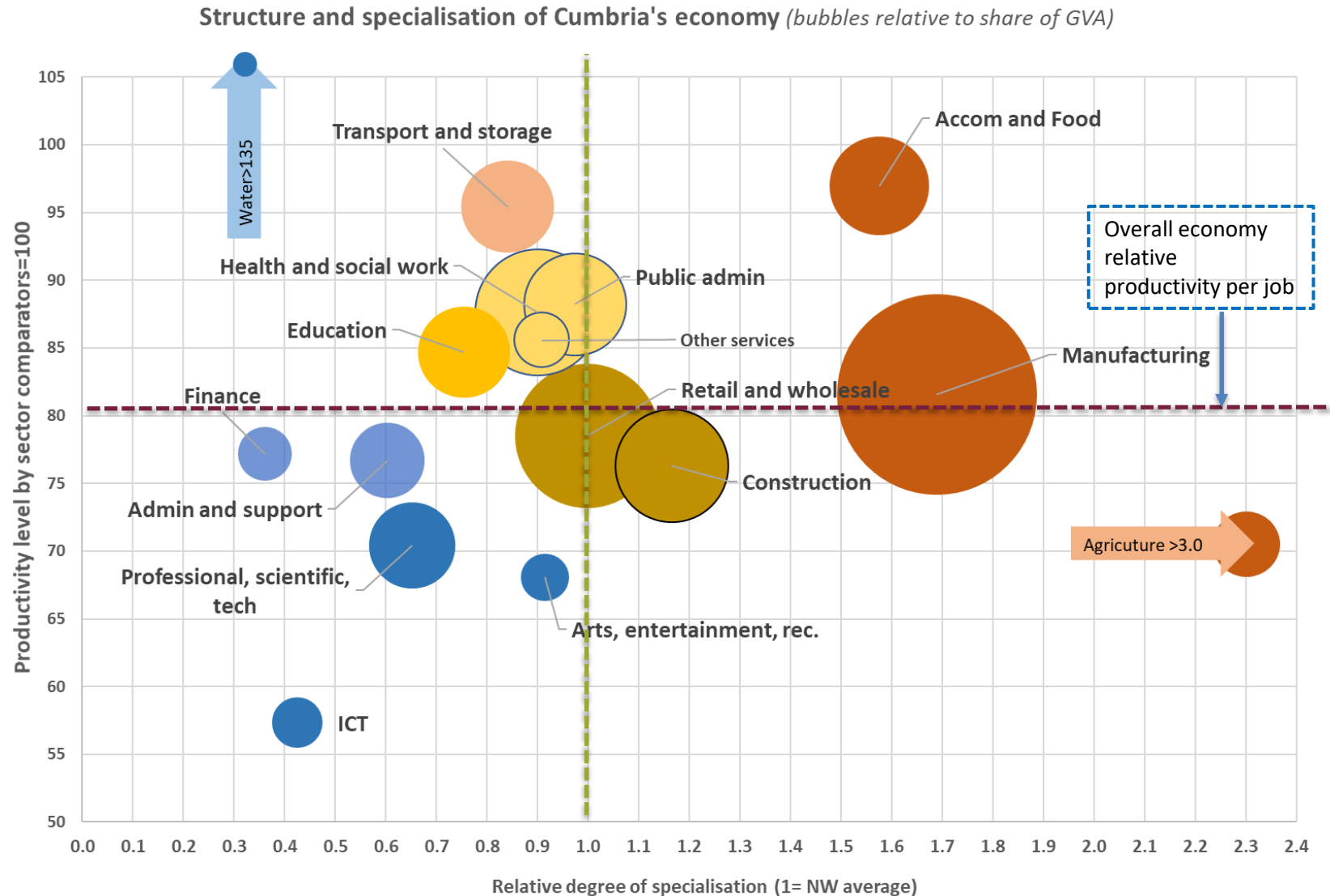
Structure and specialisation of Cumbria's economy (bubbles relative to share of jobs)



Explaining our relative productivity performance #5 (version B)



- As previous slide but sectors weighted by GVA



Explaining our relative productivity performance #6 STRUCTURE OR PERFORMANCE?



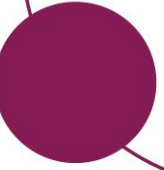
- It is actually quite hard to disentangle the relative contribution of our economic structure to overall productivity performance. We have carried out an exercise where we increase the GVA per FTE employee in **each sector** to the national average (for that sector) and compare that to simply increasing GVA by the difference in average jobs filled.
- The comparison depends on whether we used detailed sector breakdowns and whether the benchmarks are the overall GB averages or if they exclude London.
- The assessed structural economic effect on the productivity gap is around 40% (ranging from 35% to 45%).
- The effect caused by productivity increasing to benchmark averages **within sectors** is therefore 55% to 65% of the overall gap.

Impact of productivity on Cumbria's GVA



Note: analysis of the overall uplift based on the GVA per job uplift from ONS data for 2019 (of £2.8 bn or 24% to GB and approx. £1.8 bn for uplift to GB less London GVA)

Explaining our relative productivity performance #7 SECTORAL



- Given this initial analysis, which are the sectors where there is most scope to effect change?
- The table categorises sectors depending on whether there is obvious scope to increase productivity levels or the relative scale of the sector in the economy (employment), or both.
- This is high level analysis as within each sector there may well be scope to improve productivity in a sub-sector or in groups of firms.
- We focus the deep dive later on (in Annex A) in turn on each of the sectors where there maybe more scope to increase productivity within the sector.

		Scope to increase relative productivity within sector?	
		LESS	MORE
Scope to increase scale an/or share?	LESS	<ul style="list-style-type: none"> • Transport and distribution • Accommodation and food (maybe more)*? 	<ul style="list-style-type: none"> • Manufacturing • Construction • Arts, entertainment etc • Agriculture? • Retail/wholesale
	MORE		<ul style="list-style-type: none"> • ICT • Professional, scientific and technical services

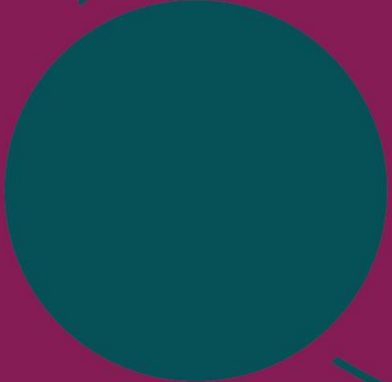

Note: * the apparently relatively high productivity overall is in accommodation (6% below GB average less London), rather than food services (20% below). This may be because there are fewer jobs in accommodation sector in Cumbria due to high levels of self-employment in B&B sector etc

Explaining our relative productivity performance #7 WIDER FACTORS

Wider explanatory factor	Summary of Cumbria's performance and possible impact on productivity	Comments
Physical infrastructure	<ul style="list-style-type: none"> • Transport access and transport costs are issues for some sectors, but interestingly there appears no direct correlation with the relative productivity performance in these sectors. Hard to measure impact and realistically scope to make major changes is limited. • Access to digital connectivity is growing in importance and will be critical, this could become a drag on productivity for firms in locations with poor connectivity (but unlikely to be reflected in the 2019 data) 	<ul style="list-style-type: none"> • The shift to greater reliance on remote working and meeting and services should in theory reduce to some degree physical access issues for people (but not goods and supplies)
Physical capital (sites, buildings, equipment etc)	<ul style="list-style-type: none"> • There is no evidence that the relative modest choice in terms of sites and premises is a more of a drag on business productivity in Cumbria than elsewhere. Indeed land and property costs are low in Cumbria compared to most other parts of England. There is not the same degree of industrial dereliction found elsewhere in the North West. 	<ul style="list-style-type: none"> • Unlikely to be a key factor explaining productivity
Human capital (skills)	<ul style="list-style-type: none"> • Previous work for CLEP has identified the relative low level of people with higher level skills on average working in Cumbria, higher level skills are strongly associated with higher productivity by area, sector and firm. There is also a smaller pool of choice for business (see agglomeration). • Previous work suggested that the higher levels skills located in Cumbria are relatively well used within the economy. • The proportion of higher level skills in the Cumbrian economy is partly a composition effect (importance of sectors with relatively low rates of people with NVQ4 level qualifications such as tourism and agriculture) and also a below average rate within the private sector knowledge based service sectors. 	<ul style="list-style-type: none"> • Undoubtedly a key area for action and already well recognised by CLEP and partners. • There are mixture of supply and demand pull factors at work. • In the private sector knowledge based services the below average proportions with higher level skills reflects the structure of activity

Explaining our relative productivity performance #7 WIDER FACTORS

Wider explanatory factor	Summary of Cumbria's performance and possible impact on productivity	Comments
Management	<ul style="list-style-type: none"> • There is no robust evidence on the relative performance of management and quality of management in Cumbria firms (within sector and across the economy). • There has been some suggestion that Cumbria, in some sectors, has a disproportionate share of life-style businesses, who may be less focussed on growth and improvement. 	<ul style="list-style-type: none"> • Haldane (op cit) noted that a lack of management quality is a plausible candidate explanation for the UK's long tail of companies and potentially high returns to policies which improve the quality of management within companies.
Exporting	<ul style="list-style-type: none"> • As noted earlier a strong correlation between productivity, innovation and propensity to export. Overall Cumbria has an above average proportion of firms who export (as a result of the importance of its manufacturing base); however we do not know within sector whether rates of exporting are in line, better or worse than UK average. • The small size of firms in much of the economy suggests that exporting may be limited in some sectors (eg private sector services firms) 	<ul style="list-style-type: none"> • Supporting wider take-up of exporting should help drive, indirectly, productivity improvements. • The previous research for CLEP on the adverse impact of EU-Exit on SME's propensity to export is worrying in this regard.
Innovation (inc R&D)	<ul style="list-style-type: none"> • The national research suggests that rates of innovation and use of technology are strongly linked to productivity. The rate of diffusion of more basic technologies across the whole "tail" of business is very important (as well as the stellar, early adopters). There is limited evidence on the scale and nature of the "tail" in Cumbria. • Recent research for CLEP and EPSRC identified that on average rates of innovation and R&D appear below average given the size and structure of the economy (the relative importance of SMEs would not help here). However, there are strong pockets of innovation, linked to nuclear and some other key firms. 	<ul style="list-style-type: none"> • This is likely to be a factor explaining productivity performance within sectors (and to some degree the sectoral mix). • The issue is both smaller number and prevalence of the "frontier" firms who are strong innovators as well as slow rates of diffusion of best in class technology across a broad swathe of businesses. • STRONG LINK TO MANAGEMENT
Agglomeration (ie benefits of size)	<ul style="list-style-type: none"> • The importance of agglomeration (in accessing markets, labour, collaborators etc) has been much debated. Clearly Cumbria is and will be very disadvantaged in this respect compared to larger and more densely populated areas of the UK. This could be in part and explanation for the small and lower productivity elements of private sector business facing services 	<ul style="list-style-type: none"> • This has been an inherent weakness in Cumbria. However, post Covid, with new forms of virtual working and business collaboration this weakness might become less of an issue.



Cumbria Productivity Deep Dive Report to BSG January 2022 SECTORAL ANNEXES

CLEP

CUMBRIA
LOCAL
ENTERPRISE
PARTNERSHIP

NORTHERN  HM Government
POWERHOUSE

Explaining our relative productivity performance

ICT

GVA per FTE job was £66k in 2019 for the 2,500 FTE jobs, 15% above the all Cumbria average, but was just 58% of the all GB and 67% of the GB less London average

- The stand out sector where there is both an extremely low share of jobs and GVA and where productivity levels are particularly low (just 50% of all GB and 60% excluding London)
- Part of the reason is the low share of sectors that tend to be more productive (eg telecoms/film/TV,) but in each sub-sector productivity levels are well below the UK and UK less London average.
- The challenge is likely to be more about sector development to attract the right kinds of business and jobs rather than poor productivity per se (although to the extent that businesses only serve local markets and the lower end of activity this will tend to reduce productivity levels).
- This challenge is in part picked up in the new **digital strategy**

Professional, scientific and technical services

GVA per FTE job was £35k in 2019 for the 13,500 FTE jobs, 36% below the all Cumbria average, but was just 59% of the all GB and 71% of the GB less London average

- A complex picture as a diverse sector. There are clear strengths in the engineering/architectural sectors where productivity levels are in line with the GB (but are relatively low overall)
- Cumbria has fewer of the higher value higher paid private sector business services (in part because of its rural location) and the activity in legal/accounting etc is much lower productivity level than the GB less London average

Arts, entertainment and recreation

GVA per FTE job was £31k in 2019 for the 4,750 FTE jobs, 44% below the all Cumbria average, and was just 57% of the all GB and 67% of the GB less London average

- The picture here is similar to the other two sectors with low productivity, but in the case of this sector with a share of jobs that is close to the national average (linked in part to the important visitor economy).
- Generally productivity levels in the cultural sector are lower in the North than the UK average as there are fewer higher value private sector creative/artistic activities being carried out and wage levels are low (compared to London)

Explaining our relative productivity performance

MANUFACTURING (A)

GVA per FTE job was £69k in 2019 for the 37,000 FTE jobs , 24% above the all Cumbria average, but was 87% of the all average

- A crucial sector in driving overall productivity given its overall size and contribution to the economy.
 - There are very large variations by sub-sector (in part due to levels of capital intensity and the precise mix of activity).
 - Some sectors have above and some below average productivity levels compared to the UK/GB
 - Overall, if average productivity levels were the same in each sector as the GB average then this would make little difference overall (some improvements would be offset by some reductions)
- The table overleaf sets out the key facts based on 2019 data, key points are:
 - The effect of Sellafield (basic metals) distorts the overall picture due to the large numbers of employees and low GVA
 - If excluded then the rest of Cumbria manufacturing sector would be producing GVA per FTE in line with the GB average (ie 15% higher)
 - Cumbria has fewer of the very high productivity capital intensive manufacturing sectors (such as aerospace, chemicals, pharmaceuticals or oil refining
 - Other transport equipment (an estimate of BAE Systems activity in the main) provides a strong boost to overall productivity as it has a large share of all jobs, is above average levels of productivity compared to the rest of manufacturing and

Explaining our relative productivity performance

MANUFACTURING (B)

Sector	FTE jobs		GVA £ms		Productivity: GVA per FTE		
	Nos.	%	£ms	%	(£00s)	% of GB for sector	% of Cumbria average GVA per FTE in man.
Manufacture of basic metals	9,350	25.8%	£390	15.3%	£41.5	72%	60%
Manufacture of other transport equipment	7,088	19.5%	£640	25.4%	£90.9	102%	132%
Manufacture of food products	4,500	12.4%	£270	10.8%	£60.7	95%	88%
Manufacture of wood and paper products	3,108	8.6%	£200	8.0%	£65.3	115%	95%
Manufacture of fabricated metal products	2,825	7.8%	£160	6.3%	£56.6	102%	82%
Manufacture of rubber and plastic products	2,810	7.7%	£190	7.4%	£66.5	131%	97%
Repair and installation of machinery and equipment	923	2.5%	£40	1.7%	£45.5	76%	66%
Manufacture of other non-metallic mineral products	910	2.5%	£100	3.8%	£104.4	162%	152%
Manufacture of computer, electronic and optical products	780	2.1%	£50	2.1%	£66.7	57%	97%
Manufacture of electrical equipment	763	2.1%	£40	1.7%	£56.4	85%	82%
Manufacture of petroleum, chemicals and pharmaceuticals	595	1.6%	£170	6.8%	£287.4	142%	417%
Manufacture of furniture	475	1.3%	£30	1.1%	£58.9	113%	86%
Manufacture of machinery and equipment	443	1.2%	£40	1.7%	£99.4	117%	144%
Other manufacturing	410	1.1%	£30	1.1%	£68.3	92%	99%
Manufacture of beverages and tobacco products	328	0.9%	£40	1.5%	£119.1	74%	173%
Manufacture of wearing apparel and leather products	270	0.7%	£20	0.9%	£88.9	102%	129%
Printing and reproduction of recorded media	265	0.7%	£10	0.5%	£49.1	81%	71%
Manufacture of textiles	265	0.7%	£40	1.6%	£150.9	220%	219%
Manufacture of motor vehicles	203	0.6%	£60	2.3%	£286.4	292%	416%
Total	36,308	100.0%	£2,530	100.0%	£68.9	87%	100%
GB average all man.					£79.4		
Less basic metals	26,958		£2,140		£79.4	100%	115%

Explaining our relative productivity performance



CONSTRUCTION

GVA per FTE job was £61k in 2019 for the 13,000 FTE jobs, 11% above the all Cumbria average, but was 80% of the GB less London average

- Within the overall sector these are strong differences in relative productivity performance (see below) with general construction and civil engineering having much lower productivity in relative terms and specialised construction higher

RETAIL/ WHOLESALE

GVA per FTE job was £43k in 2019 for the 31,000 FTE jobs, 22% below the all Cumbria average for all sectors, but was 83% of the all GB average (less London)

- The sectoral analysis below shows that relative productivity is relatively low in wholesale trade rather than retail or motor trade
- This could reflect the lesser presence of larger wholesaling centres and activity in Cumbria (rather than any intrinsic productivity issues)

AGRICULTURE/FORESTRY

GVA per FTE job was £19k in 2019 for the 13,000 FTE jobs, just 35% above the all Cumbria average, and was 74% of the all GB average

- This not really a fair comparison as the mix of agricultural activity in Cumbria is very different from the national average (far less arable or horticulture).
- Within the broad sector forestry is actually a much more productive sector £65k per FTE job, but has a very small number of jobs
- The GVA measure does not take account of farm subsidies and payments (for agri-environment and other activities)activity
- Not to say there is no scope for increase, indeed the potential use of technology in the sector will be increasingly important.

Productivity (GVA per FTE) 2019		Cumbria			Cumbria, comparator=100	
		Cumbria FTEs	GVA per FTE	GVA per FTE vs average	GB	GB minus London
F	All Construction	12,938	£61,604	110.9	74	80
41	Construction of buildings	3,725	£54,765	98.6	59	69
42	Civil engineering	2,275	£72,967	131.3	62	66
43	Specialised construction activities	6,975	£61,219	110.2	87	90

Productivity (GVA per FTE) 2019		Cumbria			Cumbria, comparator=100	
		Cumbria FTEs	GVA per FTE	GVA per FTE vs average	GB	GB minus London
G	Wholesale and retail trade; repair	31,250	£43,072	77.5	80	83
45	Motor trades	5,900	£49,831	89.7	87	84
46	Wholesale trade	6,500	£40,769	73.4	63	67
47	Retail trade	18,500	£42,541	76.6	91	96