State of the Nations research series

GEOGRAPHIES OF CREATIVITY

DOI : 10.5281/zenodo.10245530

Josh Siepel (University of Sussex)
Alejandro Ramirez-Guerra (Newcastle University)
Sawan Rathi (University of Sussex)

December 2023

Creative Industries Policy and Evidence Centre

Led by Newcastle University with RSA

About the Creative Industries Policy and Evidence Centre

The Creative Industries Policy and Evidence Centre (Creative PEC) works to support the inclusive and sustainable growth of the UK's creative industries through the production of independent and authoritative evidence and policy advice. Led by Newcastle University, with the Royal Society of Arts and funded by the Arts and Humanities Research Council, Creative PEC comprises a core consortium of Newcastle University, Work Advance, the University of Sussex and the University of Sheffield.

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Acknowledgements

The authors would like to thank the Creative PEC editorial team, Hasan Bakhshi, Giorgio Fazio, Bernard Hay, Emily Hopkins and an anonymous reviewer for helpful suggestions on previous versions of this report. The contribution of stakeholders through consultations is also acknowledged.

The views expressed in this report are solely those of the authors.

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Executive summary

Recent years have seen growing and coordinated interest from industry, policymakers, funders and education institutions in harnessing the potential benefits that clustering brings for growth in the UK's creative industries. By clustering, we mean the tendency of creative businesses and workers to collaborate and compete with each other in the same places.

Major examples of this include the Arts and Humanities Research Council (AHRC) and UK Research and Innovation's UKRI) Creative Industries Clusters Programme, in which universities play key roles as anchor institutions within regional innovation systems, the UK government's Department for Culture, Media and Sport's (DCMS) and Creative Industries Council's Creative Industries Sector Vision, and other national creative industries strategies such as the 10x Economy vision for Northern Ireland.

UK policymakers and researchers have also recently sought to investigate clusters at a wider range of geographic levels than just cities and to assess their potential for driving regional creative industries growth. Mapping studies by Nesta (Mateos-Garcia and Bakhshi, 2016 and Klinger et. al., 2018) and more recently DCMS (2022) identify creative clusters at the broad level of commuting zones. Creative PEC has shown the important role that microclusters play in the UK's creative industries, while interventions such as the Arts Council England's Cultural Development Fund have supported local cultural and creative initiatives at a neighbourhood or street level. The Local Government Association has stressed the contribution that local authorities can make to creative industries development. A growing number of local enterprise partnerships count the creative industries among their sectoral priorities. At a macro level, cities and devolved regions and nations, together with other stakeholders, are exploring whether they can increase the collective strength of their creative industries ecosystems by joining up in key areas like access to finance and skills, inspired by the experience of 'innovation corridors' in the US and Canada.

The emphasis on creative clustering at different levels of geographical resolution is timely: the UK's devolutionary turn and the renewed commitment by the UK Government to 'levelling up' the economy opens up new opportunities for policy intervention and collaborative action.

This first State of the Nations report from Creative PEC outlines the UK's creative industries geographies. It is the first report to explore three levels of the UK's creative industries geographies in one place: clusters, microclusters and corridors. It provides an up-to-date economic assessment of the UK's clusters and microclusters, including the impact of Covid-19, by building on the recent work commissioned by DCMS, previous reports published by Creative PEC and the earlier studies from Nesta. In addition, it presents preliminary findings from an exploratory analysis to identify creative clusters in the UK where there may be potential for developing 'creative corridors'. Those findings include a deep dive on the North of England.

Our main findings are as follows:

- Notwithstanding the challenges of the Covid-19 pandemic, the creative industries have grown in many parts of the UK, but significant national and regional inequalities remain.
- Creative clusters grew faster than other parts of the UK before the Covid-19 pandemic, but this was not the case on average during it. However, the 55 creative clusters identified by DCMS (2022) continue to make an outsized contribution to the UK's creative industries.
- Creative microclusters are the growth hotspots in the UK's creative industries, and many of these are found outside the group of creative clusters. However, microclusters outside clusters have been hit harder by the pandemic.
- Based on experimental geospatial analysis, we point to broad geographic areas in the UK's nations and regions which could be further explored for their potential to become creative corridors.

We hope that the data presented in this report provides a useful input and reference point for UK policymakers and other creative industries stakeholders at all levels – local, regional, national and UK-wide – as they devise strategies to support growth in the sector.

1 Introduction and context

Over the past decade, there has been growing interest from industry, policymakers, funders, and education institutions in harnessing the potential benefits that clustering brings for growth in the UK's creative industries. By clustering, we mean the tendency of creative businesses and workers to collaborate and compete with each other in the same places. Notably, clusters are not simply where creative business and workers are concentrated. Rather, they are places with ecosystems that support investment in R&D and innovation, skills development and give creative firms access to finance. Examples of the interest in clusters include the AHRC and UKRI's Creative Industries Clusters Programme[1], in which universities play key roles as anchor institutions within regional innovation systems and the Creative Industries Council's Creative Industries Sector Vision[2], and other national creative industries strategies such as the 10x Economy vision for Northern Ireland[3].

This interest is supported by a large and growing body of research that emphasises the importance of clusters for the UK's creative industries[4]. Much of this research has examined clusters as largely urban phenomena[5], although there is now emerging evidence about rural creative clustering[6]. To date, many of the studies of creative clustering have been operationalised using Travel to Work Areas (TTWAs), which are commuting zones identified by the Office of National Statistics (ONS) where workers are most likely to live and work. These zones capture cities, towns and rural areas across the four nations of the UK. Because of their ability to capture geographies in a more 'functional' sense (as areas combining workplaces with places where the local workforce resides), they have been deemed as effective units for studying creative clusters.

To this end, previous Nesta reports such as *The Geography of Creativity in the UK*[7] in 2016 and *Creative Nation*[8] in 2018 explored the UK's creative clusters at the TTWA level and presented estimates of creative industries activity based on official statistics and novel sources of online data. These reports were influential, not least for identifying 47 key clusters across the UK that represented the highest level of concentration of creative industries activity. This 'Nesta-47' list was picked up widely as shorthand for the UK's key creative hotspots. More recently, a 2022 report commissioned by DCMS from Frontier Economics[9] revisits these creative clusters and identifies eight further clusters that have demonstrated significant growth in recent years, resulting in a group of 55 clusters, the 'DCMS-55'. That report also presents metrics relating to five determinants of creative cluster growth, namely: access to finance; access to talent; innovation; broad environment; and exporting.

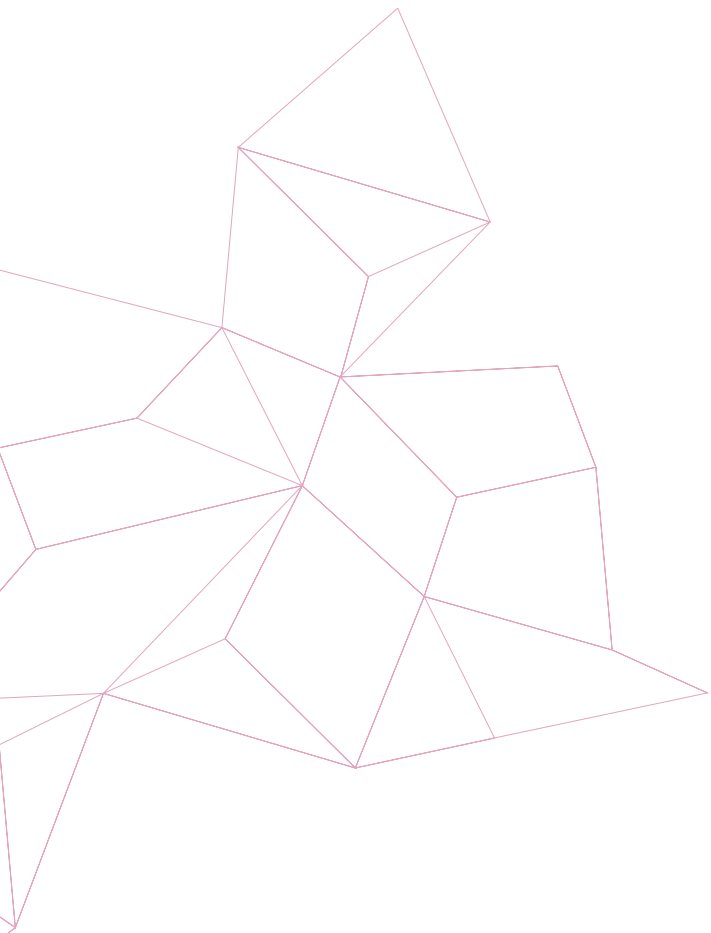
In recent years, UK policymakers and researchers have sought to investigate clusters at a wider range of geographical levels than just those areas delineated by TTWAs. This is partially due to the limitations of the TTWA geography, which cannot differentiate clusters at finer levels of geography and does not always directly map onto the administrative boundaries that are relevant for policymaking. For example, the Manchester TTWA covers an area that does not neatly correspond to local authorities or the Greater Manchester Combined Authority, and includes both creative 'hotspots' and creative 'deserts'[10]. To address this challenge the Local Government Association has stressed the contribution that local authorities can make to creative industries development[11]. A growing number of local enterprise partnerships also count the creative industries among their sectoral prioritie[12]s. Interventions such as the Arts Council England's Cultural Development Fund have supported local cultural and creative industries initiatives at a neighbourhood or street level too[13].

To address the issue of clusters at a finer geographical level, Creative PEC's *Creative Radar* study highlighted the importance of the UK's creative 'microclusters'[14]. In that study, microclusters[15] were not identified at the TTWA level but at the level of streets, neighbourhoods and towns. The *Creative Radar* report identified 709 discrete microclusters across the whole of the UK, and it found that there was untapped growth potential in microclusters that were located outside of the Nesta-47 clusters.

At the same time as the growing interest in devolution and local support for creative industries in the UK, policymakers across the world are reckoning with the dominance of global hubs – cases in point being Silicon Valley for IT and biotechnology, or New York and London for financial services. These very large, world-leading centres have been called 'superclusters'. The exceptionality of superclusters has led researchers and policymakers to question how innovative places and clusters that are not large enough to achieve the critical mass of superclusters can further develop and eventually reach supercluster status by linking with other places and clusters[16]. Creative PEC[17] and others[18] have noted that the UK already has one creative supercluster: London and the South East. This global hub in arts, media, culture and business plays a disproportionate role in the UK's creative industries. As it has for hundreds of years, London exerts a huge pull, attracting workers and businesses and providing them with access to connections, customers and opportunities to compete on a global scale.

In response to the rise of superclusters, there has been considerable interest in ways to exploit the economic benefits of agglomeration across multiple locations within and across regions, through so-called 'innovation corridors'. One well-known example from Canada is the corridor that emerged in the 2000s between Waterloo, Ontario (home of the mobile phone maker BlackBerry), and Toronto[19]. The two cities are 100 km apart, but rather than compete, companies in the clusters began to cooperate, and new businesses emerged between these cities, thus creating an innovation corridor across the region that helped the rise of a supercluster. Another example of policy intervention in this direction is the Innovation Supercluster Initiative, now the Global Innovation Clusters programme[20], first introduced by the Canadian federal government in 2018 to create innovation superclusters, with the aim of replicating the success of superclusters like Silicon Valley and the Waterloo-Toronto corridor in other places[21].

In the UK, there have also been suggestions that creative corridors can be stimulated to create emergent properties in a number of cities to, in a sense, emulate the Waterloo-Toronto corridor discussed above. In 2022, following the publication of the *Levelling Up the United Kingdom* White Paper[22], Andy Haldane, CEO of the Royal Society of Arts, Manufacturing and Commerce (RSA), proposed the creation of a 'Northern Creative Corridor'[23] that would increase the linkages between the cities in a belt across the North of England – from Liverpool to Newcastle, including cities such as Manchester, Leeds and Sheffield, all of which have their own distinct creative clusters – to support them in developing the supercluster strengths exhibited by London[24]. A Creative PEC briefing paper on the North of England's creative industries[25] suggested that if the creative industries' 3% contribution to gross value added (GVA) in the North were to rise to be half of London and the South East's 10% share of GVA, it might lead to a GVA boost of £10 billion by 2030. Several leading organisations have now confirmed their commitment to the development of a Northern Creative Corridor[26].



Aims of the report

As the first report in Creative PEC's State of the Nations series, this publication is aimed at outlining the geography of the UK's creative industries by building upon previous reports published by DCMS, Creative PEC and Nesta before that. We also wish to bring together the now established focus of policymakers and funders on creative clusters with the growing interest shown by a wide range of stakeholders in supporting the creative industries at both the local and pan-regional levels.

To this end, we have three aims for the report:

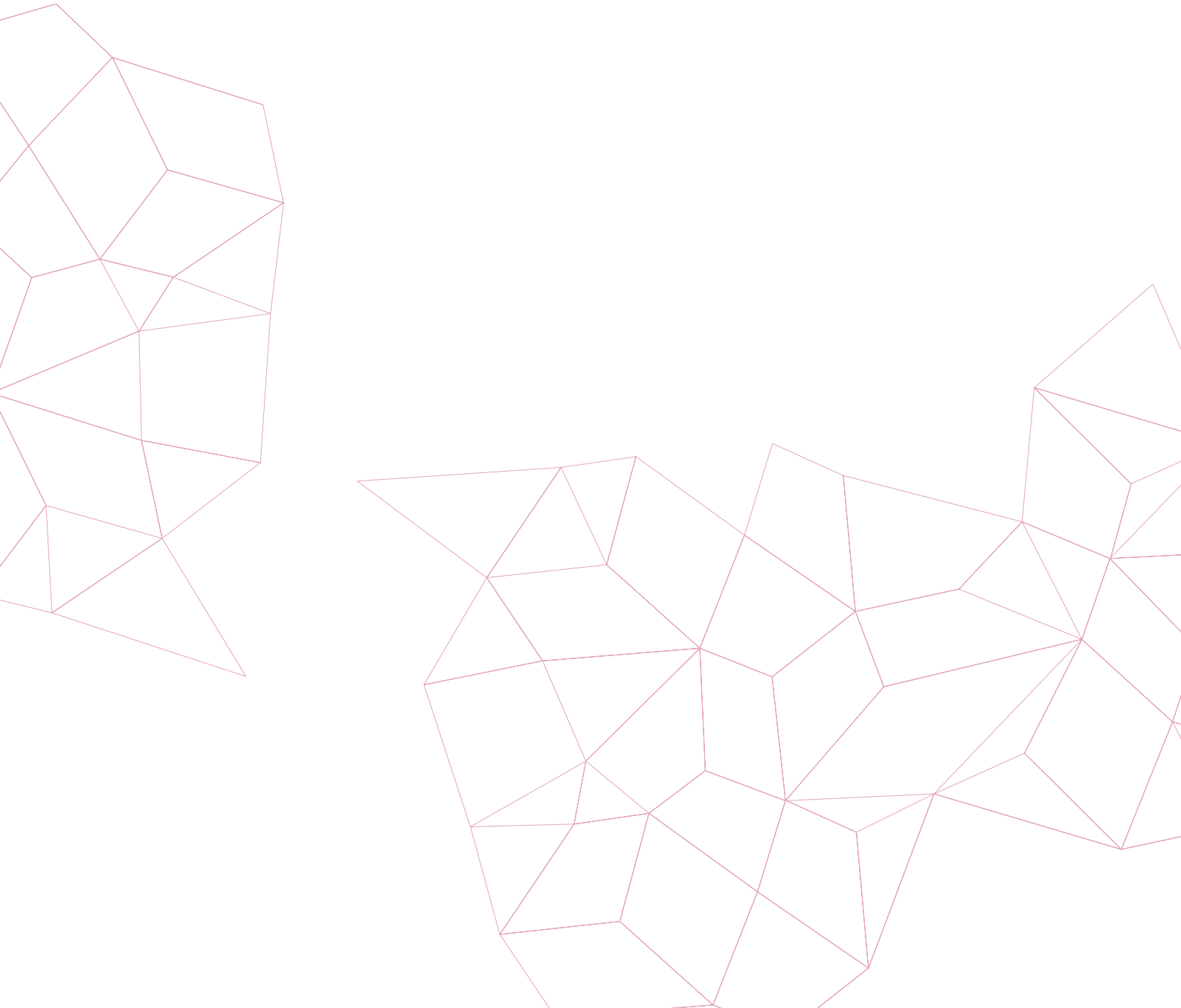
- To provide up-to-date data for local, regional and national policymakers on the economic performance of the UK's creative clusters and microclusters, including a first assessment of the impact of the Covid-19 pandemic on the UK's creative clusters using official statistics.
- To quantify the relative importance of creative microclusters that are located within clusters and to explore growth trends for microclusters as they relate to other clusters more generally.
- To present the results of an experimental analysis pointing to places in the UK that may want to explore the potential for creative corridors, including the findings of a deep dive on the proposed creative corridor in the North of England.

Importantly, we do not in this report repeat the earlier analysis by Nesta, Creative PEC and DCMS of local creative industries ecosystems which identifies the places within the UK that are clusters and microclusters. Rather, our intention in this report is to provide policymakers and other creative industries stakeholders at the national and UK-wide levels with update evidence on the economic performance of the UK's creative clusters as they are understood, highlighting the continued importance of creative microclusters, highlighting the continued importance of creative microclusters and signalling the growing interest in the potential for creative corridors.

Context: Regional trends in growth in the creative industries

To better understand the context facing creative clusters, microclusters and corridors, it is helpful to understand the regional context of creative industries and their broader trends. This is a vital question for the creative industries and has been explored by several publications from Creative PEC, such as Tether's (2019)[27] overview of regional inequality. The trends behind this inequality were also discussed by Gardiner and Sunley (2019)[28], who explored the long-term trends and changes in regional distribution for creative industries in the two decades to 2018.

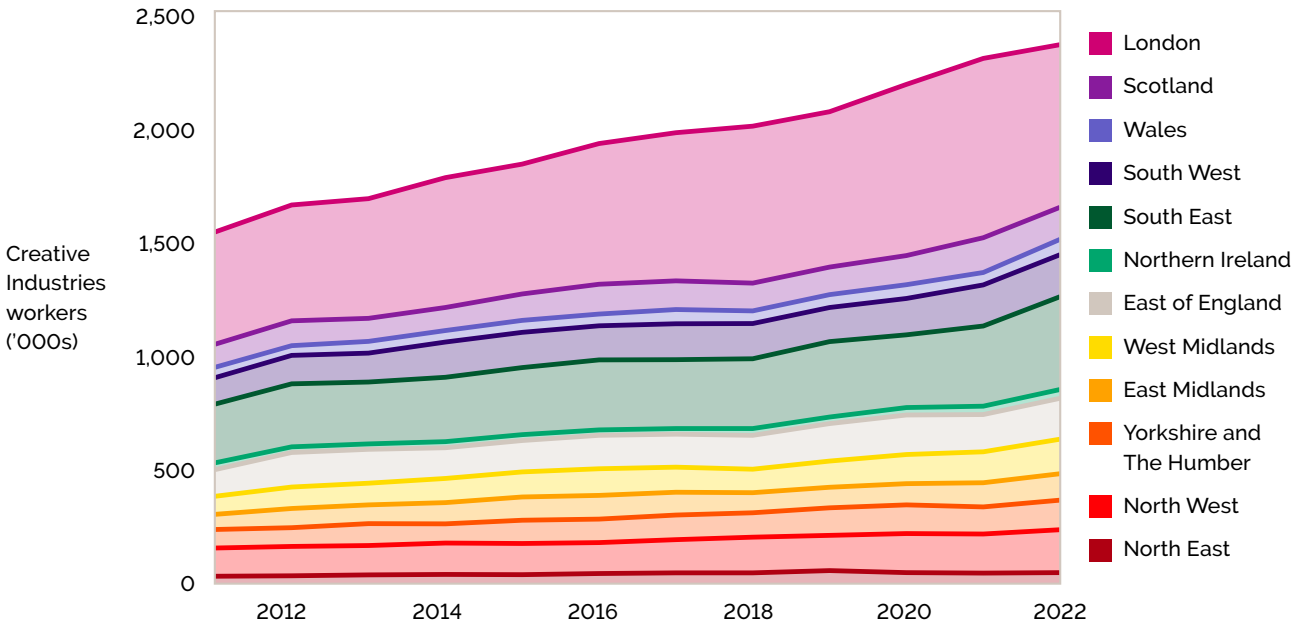
They found that following a period of decreasing regional inequality in the creative industries, a reversal occurred after the global financial crisis and recession of the late 2000s, with concentration starting to increase in London and the South East of England. Understanding the extent to which regional inequalities in the creative industries have persisted, widened or narrowed is vital, so, before moving forward with a more detailed geographical analysis, we start from a simple question: has the geography of the creative industries in the UK changed substantially in the past ten years? We answer this question using regional-level data, geocoded at the International Territorial Level, from DCMS[29].



Regional and devolved nations employment levels and dynamics

Looking at the UK's nations and regions, we see substantial evidence that the concentration of the UK's creative industries in London and the South East has persisted over time. Figure 1.1 shows the total employment levels by region for 2011-2022. It shows that the previous long-term trends in concentration begun in the late 2000s have if anything continued during the Covid-19 pandemic.

Figure 1.1 Total creative industries employment by region and devolved nations



Source: Authors' elaboration on DCMS sector economic estimates from *Annual Population Survey* and *Labour Force Survey*.

Table 1.1 below shows the number of workers in the UK's creative industries by region and devolved nation in 2022. The data available in the DCMS statistics allows us to disaggregate between workers who are employed in creative industries businesses and those who are self-employed. They suggest that approximately 28% of the creative industries workforce is self-employed. In other words, roughly speaking for every five creative industries workers who are employed by businesses, there are another two workers who are self-employed. Wales and the South West have the highest proportion of self-employed creative workers.

The table also shows the growth rate for the regions and devolved nations, as considered over the periods 2011-2019 (prior to the Covid-19 pandemic) and 2019-2022 (during the pandemic). In line with the findings of Gardiner and Sunley (2019), employment in London and the South East grew over the first period respectively at just above and below the national average, and it maintained a positive trend in both regions during the pandemic, meaning that the concentration of employment increased again up to 2022 (although Figure 1.1 shows a slight dip total employment for London between 2021 and 2022, which was partially compensated by an increase in the South East). One interesting piece of evidence that emerges from the data shows that the North East, which experienced the highest growth rate up to 2019 – albeit starting from a comparatively low level, meaning a relatively modest net increase in jobs – also had the steepest decline during the pandemic. The North East's share of all creative employment in the UK in 2011 was 1.9%, rose to 2.7% in 2019 and fell back to 2.0% in 2022.

Table 1.1 Number of workers and employment growth by region and devolved nation, 2011-2021

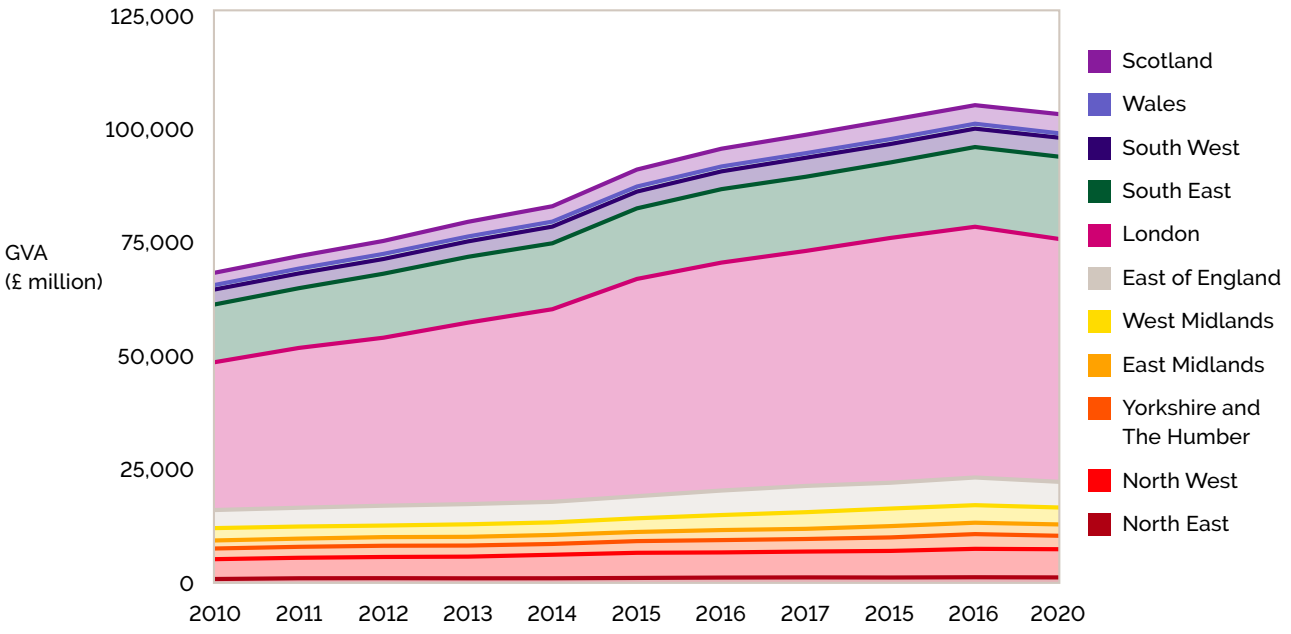
	2022 Number of Workers (thousands)				% Change 2011-2019			% Change 2019-2021		
	Employees in creative industry companies	Self-employed creative workers	Total employment (employees + self-employed)	% Workers self-employed	Employees	Self-employed	Total employed	Employees	Self-employed	Total
North East	33	14	47	30%	71%	100%	81%	-8%	-30%	-16%
North West	141	48	189	25%	18%	42%	25%	37%	-11%	22%
Yorkshire and The Humber	101	30	131	23%	49%	48%	49%	19%	-19%	7%
East Midlands	90	27	117	23%	38%	32%	36%	45%	-7%	29%
West Midlands	113	40	153	26%	51%	33%	45%	41%	11%	32%
East of England	132	49	181	27%	59%	14%	41%	14%	-2%	9%
London	508	211	719	29%	36%	44%	38%	7%	-2%	5%
South East	309	102	411	25%	23%	41%	28%	40%	-11%	23%
South West	119	67	186	36%	24%	35%	29%	34%	8%	23%
Wales	47	22	69	32%	18%	39%	24%	42%	-12%	19%
Scotland	92	50	142	35%	16%	31%	20%	15%	19%	16%
Northern Ireland	32	7	39	18%	5%	-13%	-3%	45%	0%	34%
Total	**1,717**	**667**	**2,384**	**28%**	**33%**	**38%**	**34%**	**23%**	**-3%**	**14%**

Source: Authors' elaboration on DCMS data from *Annual Population Survey and Labour Force Survey*[30].

The GVA challenge

The concentration of creative industries activities in London and the South East is further highlighted when GVA is considered. GVA is a key measure of the sector's overall contribution to the economy. When we look at Figure 1.2 below, the disproportionate importance of London and the South East again stands out, with their share of UK GVA rising from 65% (£44 billion) in 2010 to 68% (£71 billion) in 2019[31].

Figure 1.2 Creative industries GVA by region and devolved nation, 2010-2020



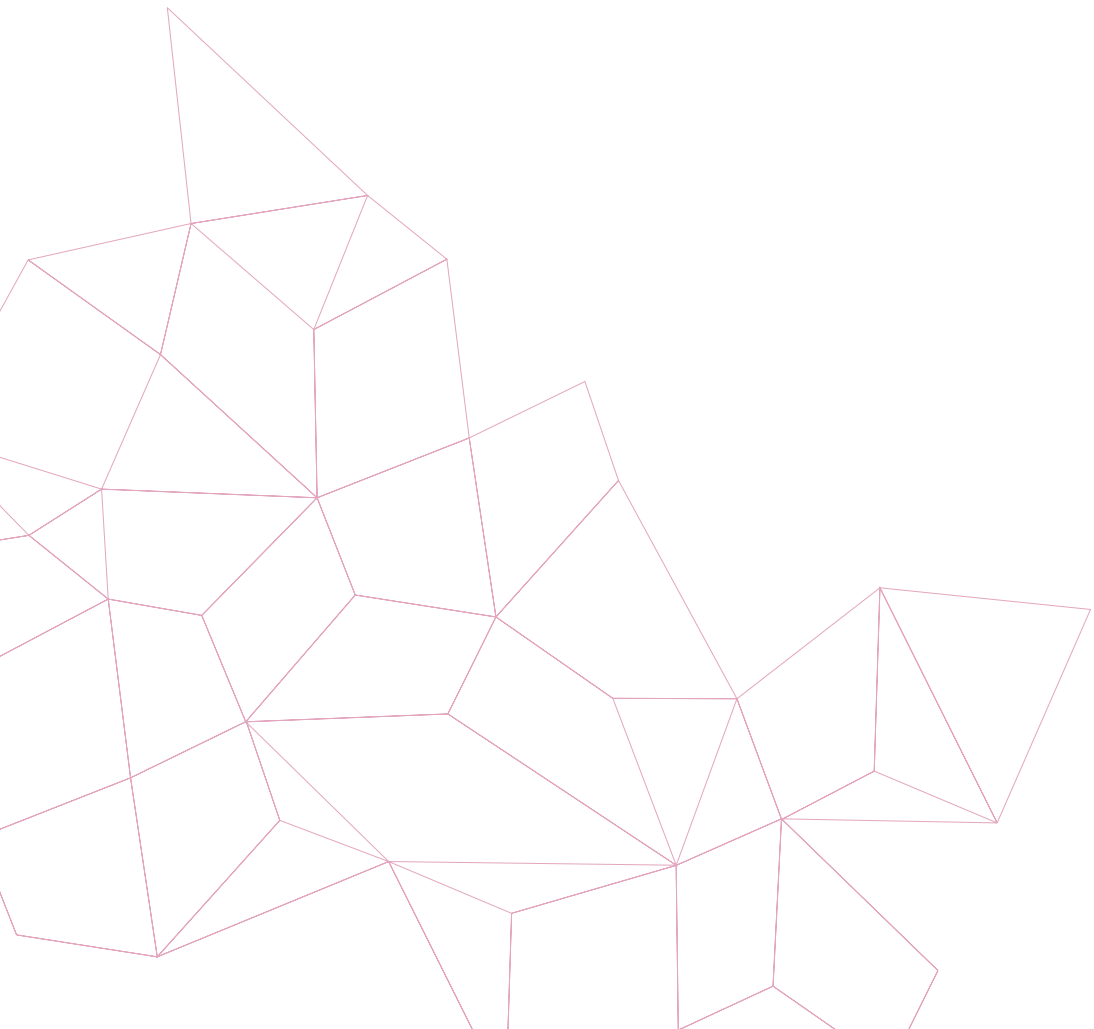
Source: Authors' elaboration on DCMS regional GVA estimates[32].

Considering the relative contribution of the creative industries to regional and devolved nation economies is also instructive, as seen below in Table 1.2, which presents the contribution of creative industries to regional and devolved nation GVA. For the sake of brevity, we show the figures for 2010, 2019 and 2020, the most recent year for which data is available. This allows us to see the trends prior to the Covid-19 pandemic as well as changes during the first phase of the pandemic. The table shows that, at a time when the % contribution of creative industries to UK GVA increased from 4.7% to 5.5%, their contribution to the local economy also increased in most regions. The largest increase was again in London, but the % contribution also rose in Scotland, the North East, the North West, the South East, East of England and Northern Ireland. In fact, Wales was the only devolved nation or region in which the creative industries' contribution to GVA fell as a percentage of total GVA over this period.

Table 1.2 Creative industries' contribution to regional and devolved nation GVA, 2010, 2019 and 2020

	2010	2019	2020
North East	1.5%	1.9%	1.9%
North West	3.1%	3.3%	3.4%
Yorkshire and The Humber	2.4%	2.5%	2.4%
East Midlands	2.4%	2.5%	2.4%
West Midlands	2.6%	2.7%	2.7%
East of England	3.3%	3.6%	3.5%
London	10.2%	11.5%	11.7%
South East	5.9%	5.9%	6.3%
South West	3.0%	2.7%	3.0%
Wales	2.0%	1.6%	1.5%
Scotland	2.4%	2.7%	3.0%
Northern Ireland	2.6%	2.9%	2.9%
All UK	**4.7%**	**5.3%**	**5.5%**

Source: Authors' elaboration on DCMS regional GVA estimates.



2 Recent trends in creative clusters: updated evidence on TTWA performance

Much of the original evidence about the distribution and growth of creative clusters came from the Nesta reports *The Geography of Creativity in the UK* in 2016 and *Creative Nation* in 2018. These reports were influential in identifying trends in growth of the creative industries across the UK, and the 'Nesta-47' became a de facto standard list of creative clusters, before being expanded to 55 in the aforementioned 2022 report commissioned by the DCMS to include several regions with growing creative sectors which had not met the criteria to be included in the previous studies[33].

One aim of the present report is to update some of the figures in the Nesta reports, particularly around business demographics and growth of creative industries in Travel to Work Areas (TTWAs) to provide an up-to-date picture. Using ONS data recently released to researchers at the behest of DCMS, we analyse data on turnover, employment, business counts and a proxy for labour productivity across all TTWAs during 2017-2021. We also explore the changes over that period in and around the Covid-19 pandemic.

It should be noted that, due to changes in the TTWA geographical boundaries applied by the ONS over time, the values reported in our analysis do not directly correspond with those in the original *Geography of Creativity in the UK* or *Creative Nation* reports, so caution should be exercised in comparing the numbers presented here with those in these reports. We hope that in due course statistics updated to these new geographical boundaries will be applied to historical statistics and made publicly available to enable us to identify longer-term trends.

Box 2.1 What are Travel to Work Areas?

For our cluster analysis, our focus is on what the ONS refers to as TTWAs, which are areas within which at least 75% of economically active residents in the area work, and at least 75% of those working in the area live. Under the 2011 definition of TTWAs, there are 228 discrete TTWAs in the UK, ranging in size from London, which is counted as one TTWA, to Whitby in Yorkshire, with a population of 13,213. TTWAs are a useful geographical tool as they are standardised and less like to change than, for instance, administrative geographies (such as local authorities and local enterprise partnerships). For our purposes, the primary limitation associated with the use of TTWAs is the assumption that an entire urban area (such as London, Manchester or Glasgow) is part of the same functional economic geography – with the largest cities all assumed to be one functional economic area – when in fact they almost certainly comprise lower-level functional economic geographies that are also relevant to the creative industries. One important note of caution with the use of TTWAs is that their names can occasionally be misleading. As TTWAs cover the whole of the UK, in some cases the area covered extends far beyond the town or city that gives the TTWA its name. For instance, the Crawley TTWA in Sussex and Surrey covers not only its namesake but also several other towns, including Redhill, Reigate, Leatherhead, Caterham, Horsham and Haywards Heath. Many TTWAs, particularly outside urban areas, are in similar situations. On this basis, caution should be taken about the clusters mentioned therein: if we refer to 'Crawley' in this piece, we refer to 'Crawley TTWA', not the town itself.

Figure 2.1 Map of DCMS-55 creative clusters[34, 35]

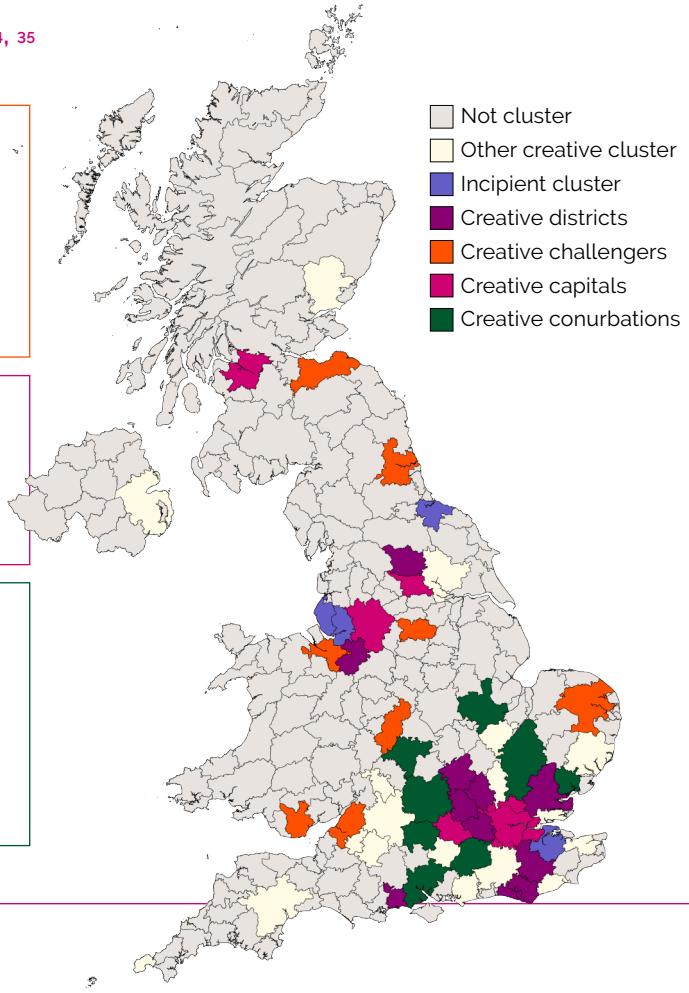
Incipient clusters
Medway
Liverpool
Middlesbrough and Stockton
Warrington and Wigan

Creative districts
Slough and Heathrow
Luton
Brighton
High Wycombe and Aylesbury
Milton Keynes
Crewe
Northampton
Bournemouth
Tunbridge Wells
Harrogate
Eastbourne
Chelmsford

Creative challengers
Birmingham
Edinburgh
Bristol
Newcastle
Chester
Sheffield
Cardiff
Norwich

Creative capitals
London
Manchester
Reading
Leeds
Glasgow

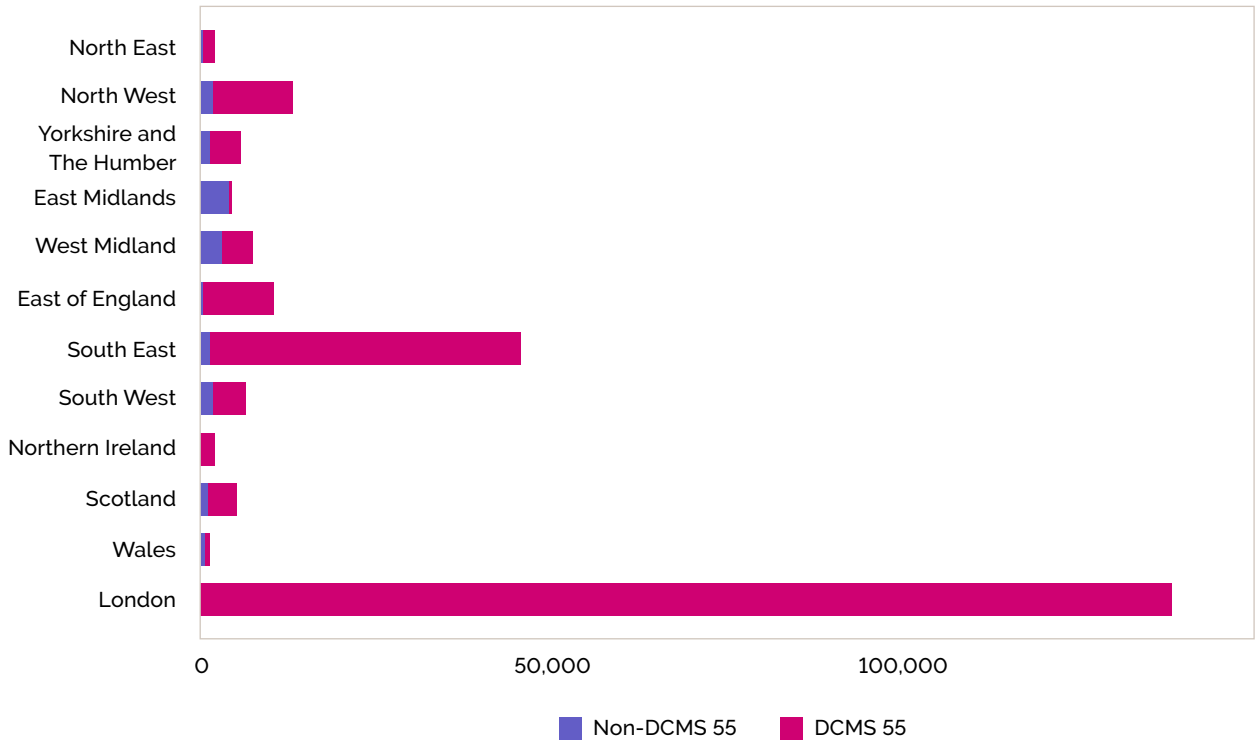
Creative conurbations
Oxford
Cambridge
Guildford and Aldershot
Colchester
Leamington Spa
Southampton
Newbury
Peterborough



Source: DCMS and Frontier Economics, 2022.

The relative importance of creative clusters is illustrated below in Figure 2.2, which illustrates the contribution of the DCMS-55 creative clusters to total creative industries' turnover in the UK's nations and regions. The figure shows data for 2021, but in fact the distribution changes very little across the 2017-2021 period, including before and after Covid-19[36]. The DCMS-55 clusters account for the majority of creative industries turnover in all of the UK's regions apart from the East Midlands. In that region, where Northampton is the only TTWA listed as a creative cluster by the DCMS, the cities of Nottingham, Leicester and Derby, which together account for 67% of all East Midlands turnover and 62% of creative employment, are not on the DCMS list. Inclusion in the list was based on specialisation in creative industries, but the presence of these TTWAs outside of the DCMS list demonstrates the extent to which even TTWAs without a particular specialisation can have meaningful creative industries activities.

Figure 2.2 Total creative industries turnover (in £ thousands) located in DCMS-55 creative clusters by devolved nation and region, in 2021



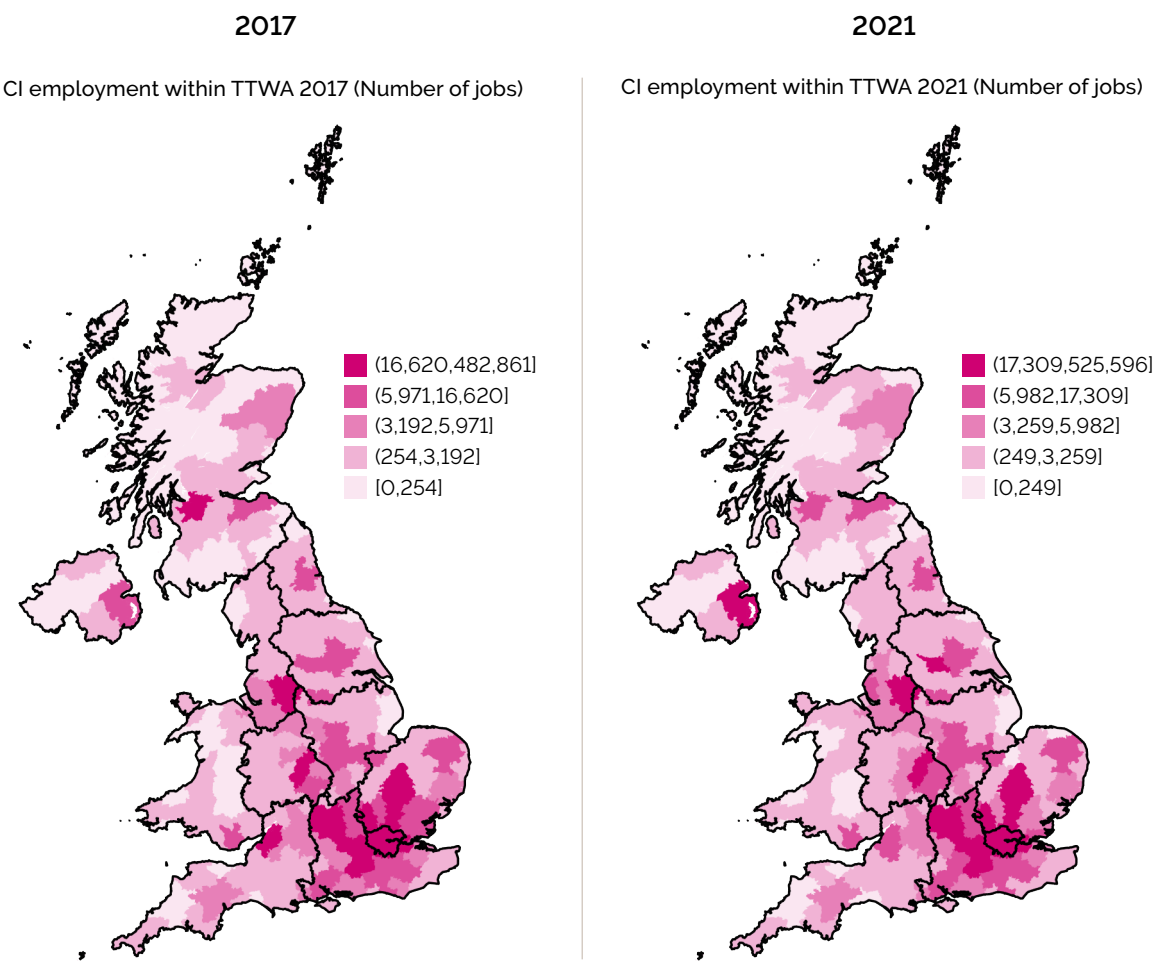
Source: Authors' elaboration based on ONS Business Structure Database data.

Spatial distribution of employment

Employment is an important measure of the overall magnitude of creative industries activity. Our measure includes all workers who are employees and self-employed workers with their own businesses who are registered for PAYE[37].

Figure 2.3 below maps the distribution of employment (in terms of number of employees) in quartiles in 2017 and 2021.

Figure 2.3 Spatial distribution of employment in the creative industries in the UK, 2017 and 2021



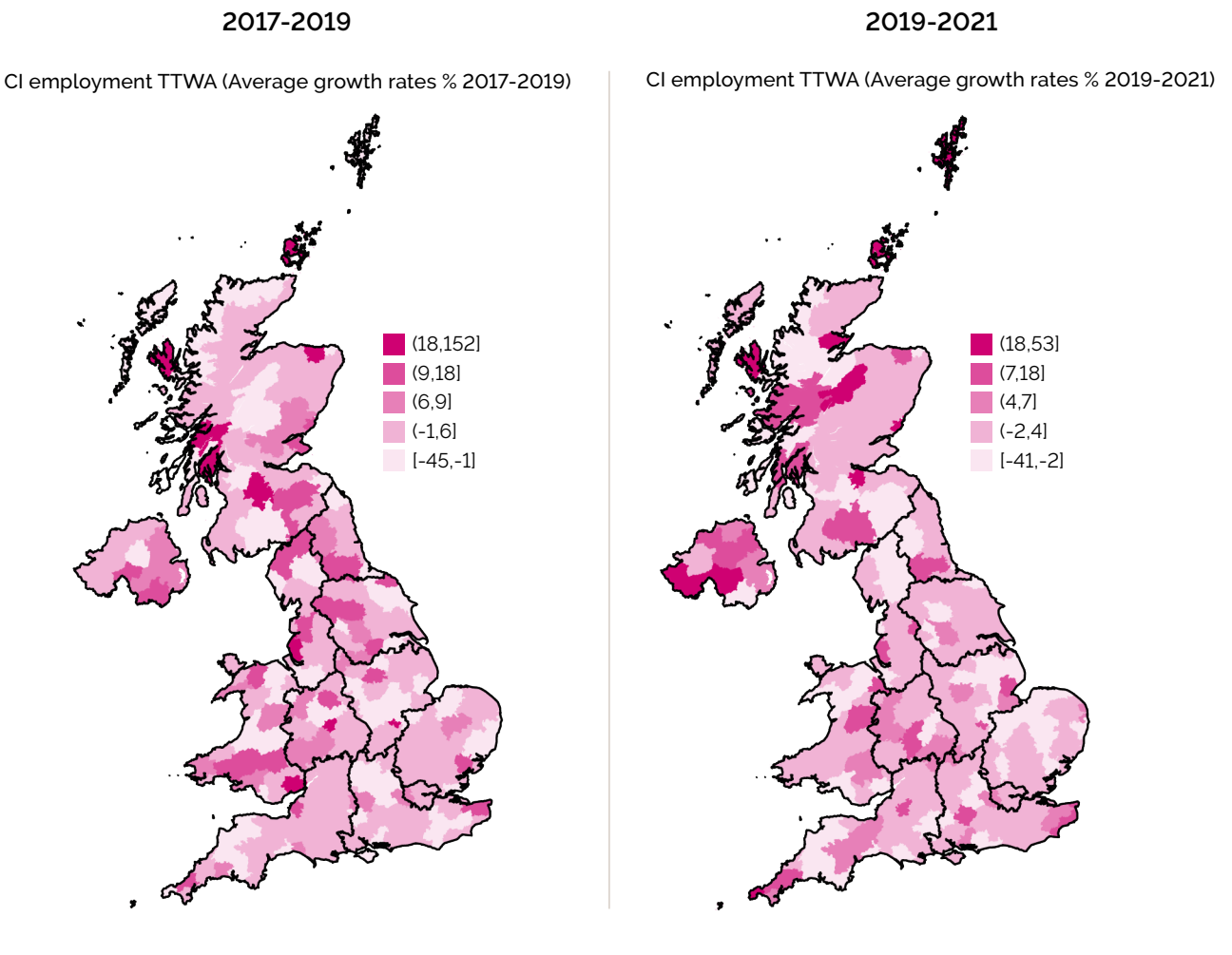
Source: Authors' elaboration based on ONS Business Structure Database data.

Note: Looking at the table key from bottom to top, the first three categories are quartiles: 25%, 50% and 75%. The top categories are the top quartile disaggregated as follows: 85% and 95%. The disaggregation of the top quartile is aimed at displaying the influence of the outliers in the spatial distribution.

Generally speaking, there does not appear to be substantial change in the distribution of activities. The general shape of the top quartile (the darkest colours) remains generally consistent, with a few minor changes (notably Belfast moving into the top quartile). It is also clear that there is concentration in London, the South East and the East of England, with other patches of concentration in the Midlands, to the North of England and up to Scotland.

The growth rates of employment in the pre-Covid-19 2017-2019 period and the period from 2019-2021 are shown in Figure 2.4 below. Across 2017-2019, the fastest growing TTWAs were generally outside of the South-East of England, from Wales, up through to the North of England and into Scotland, with fast growth also experienced in the areas around Belfast. In the 2019-2021 period, the picture was broadly the same, but the fastest growth was seen in the Scottish Highlands and Islands, and in Northern Ireland. A note of caution is appropriate here because these high growth rates, particularly in rural TTWAs like the Shetland Islands, may be artefacts of low initial levels of employment.

Figure 2.4 Spatial distribution of employment growth in the creative industries in UK, 2017 and 2021



Source: Authors' elaboration based on ONS Business Structure Database data.

Table 2.1 compares the median employment growth rates in the 2017-19 and 2019-2021 periods in the DCMS-55 creative clusters with other areas by devolved nation and region. The data shows that while growth was faster in the DCMS-55 creative clusters in the 2017-2019 period than elsewhere, from 2019 to 2021[38] – during the period of the pandemic – the median growth rates were virtually identical. In 2017-2019, for most devolved nations and regions, growth within the creative clusters was faster than outside, but this was not uniformly the case in 2019-2021. Some of this is partially explained by growth in TTWAs where the initial levels of employment were modest, a phenomenon which produces outlier values, which we address by using medians in this table instead of means. A case in point is Northern Ireland: during 2019-2021 Dungannon experienced a growth rate of 30% when its creative industries employment rose from 166 to 216, compared with Belfast, where employment in its creative industries rose from 16,957 to 17,757, a 4.7% increase, over the same period.

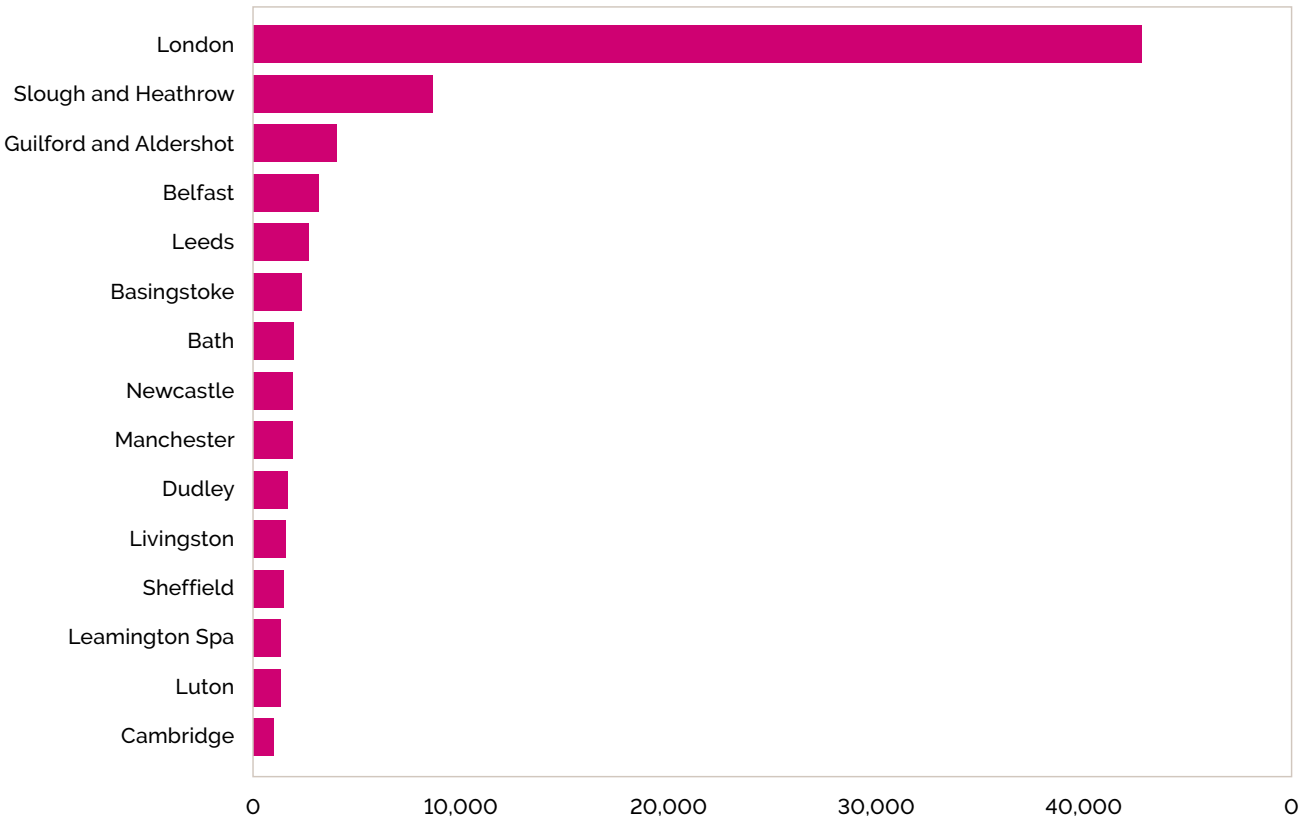
Table 2.1 Median % employment growth, DCMS-55 vs outside DCMS-55 by devolved nation and region, 2017-2019 vs 2019-2021

	Median Employment Growth (%)			
	DCMS-55 clusters		Outside DCMS-55 clusters	
Devolved Nation/Region	2017-2019	2019-2021	2017-2019	2019-2021
North East	-4.2	5.3	0	9.0
North West	-1.4	4.1	2.5	4.0
South East	2.5	1.2	-3.6	2.8
South West	1.5	3.7	2.4	-3.3
East of England	0.1	-4.4	0.0	-6.1
London	7.3	0.1	n/a	n/a
East Midlands	5.5	-2.5	1.8	-1.1
Scotland	9.4	-2.3	3.3	-4.0
Wales	5.3	3.9	7.1	-3.8
West Midlands	8.7	-0.1	6.8	9.0
Northern Ireland	13.9	4.7	7.2	17.2
Yorkshire and The Humber	10.5	-0.1	-1.2	-0.1
UK Total (Median)	**3.4**	**0.1**	**2.7**	**0.1**

Source: Authors' elaboration on DCMS regional GVA estimates.

Figure 2.5 plots the net numbers of jobs created in London and elsewhere over the 2017-2021 period. It shows that London created the most creative industries jobs, with 42,000 new jobs, followed by Slough and Heathrow and Guildford and Aldershot. Interestingly, those TTWAs with the next highest number of net jobs created fall nearly all outside the South East of England, with Belfast adding over 3,100 jobs in the 2017-2021 period. The large cities of the North of England are also represented, with Leeds, Newcastle, Manchester, Dudley and Sheffield between them adding over 9,000 jobs in this period.

Figure 2.5 Net number of jobs created in the top 15 TTWAs, 2017-2021



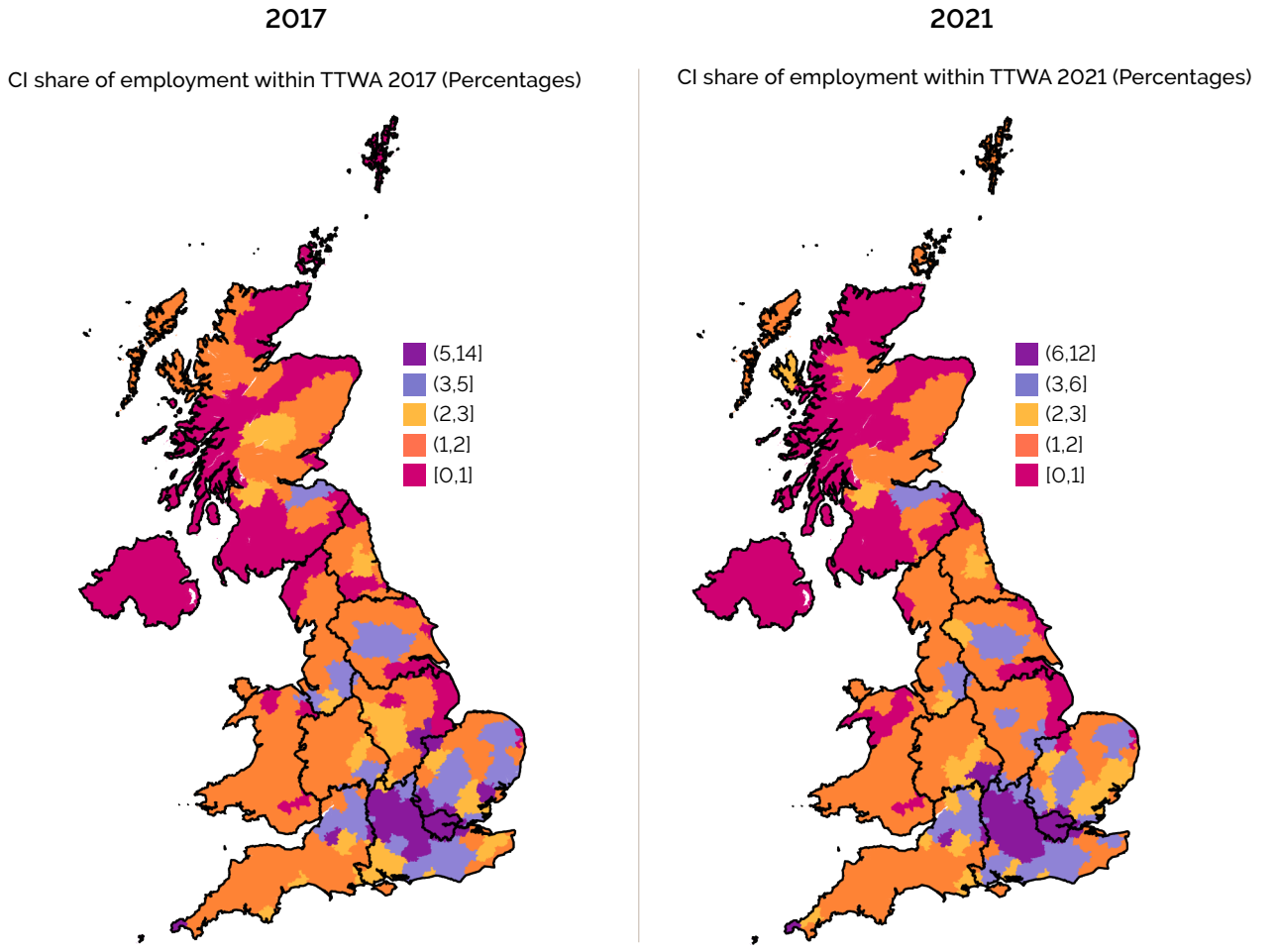
Source: Authors' elaboration based on data from the ONS Business Structure Database.

Contribution of creative industries to local economies

Another way of considering the economic impact of the creative industries is to look at their percentage contribution to jobs in local areas. ONS Business Register Employment Survey (BRES) data suggests that creative industries employment made up 4.2% of all business employment in the UK in 2015, rising to 4.5% in 2019 and staying at that level in 2021.

When we map the share of creative industries employees in total employment at the TTWA level, as shown in Figure 2.6 below, we see that there is no substantial change between 2017 and 2021 (the earliest and latest years for which data is available). In a trend similar to the national and regional distribution of employment and GVA discussed in the introduction and context section, the areas where creative industries contribute the highest share of overall employment are found in the South East of England. There are, however, regions across the North of England and Scotland where there are high concentrations of creative industries activity.

Figure 2.6 Spatial distribution of the creative industries' share of employment across the UK, 2017 and 2021



Source: Authors elaboration based on data from ONS Business Register and Employment Survey.

Note: The first three categories are quartiles: 25%, 50% and 75%. The top categories are the top quarter disaggregated as follows: 85% and 95%. The disaggregation of the top quartile is aimed at displaying the influence of the outliers in the spatial distribution.

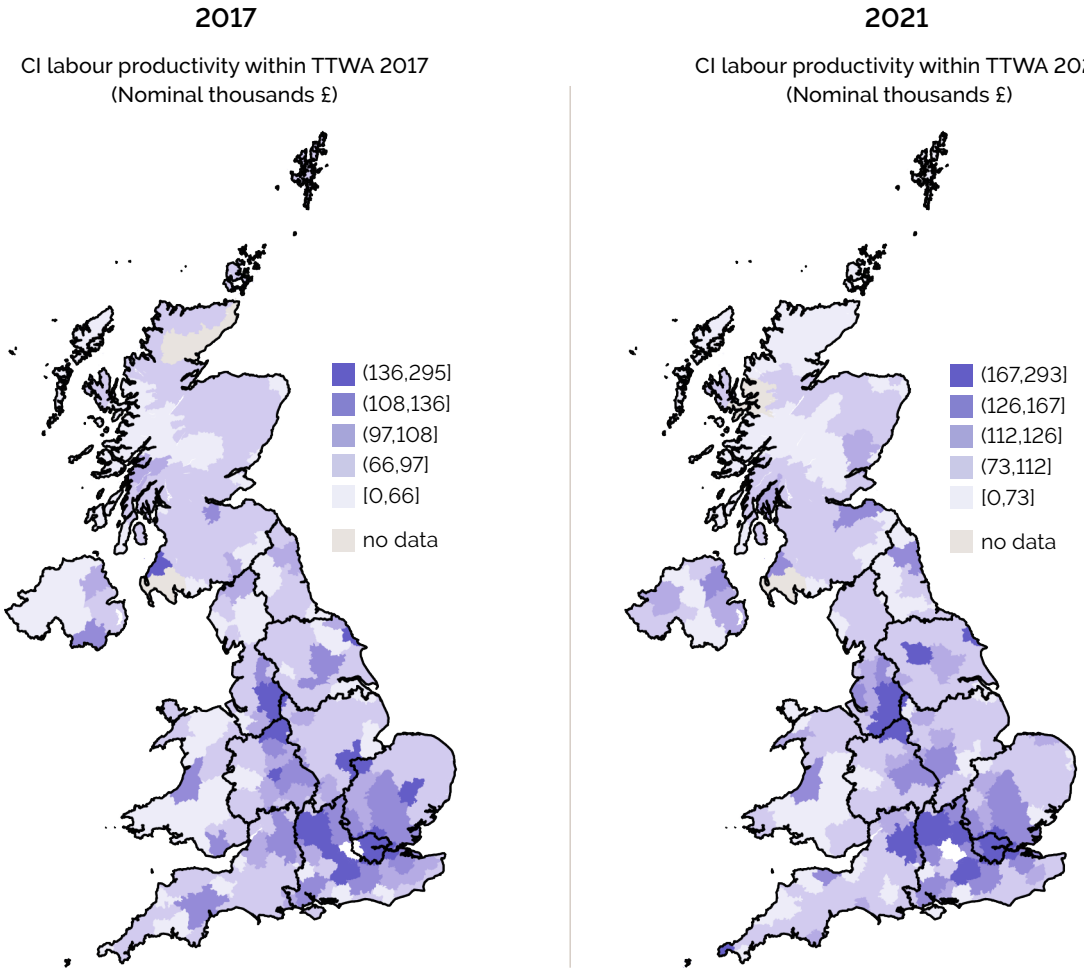
Labour productivity

Labour productivity – value added per hour worked – is an important economic indicator because higher labour productivity is associated with higher living standards in the long term[39]. In the absence of readily available data on GVA and hours worked in the creative industries at a local level, we use creative industries' turnover divided by the overall number of employees as a proxy. This is only a proxy, because not all of sales revenue represents value added, and also the number of employees[40] does not account for freelancers, which we know are a major component of the creative industries workforce.

Specifically, we use the Business Structure Database data used in the preceding section to calculate turnover per employee in an area. Generally, it is known that the larger a company is, the higher its labour productivity tends to be[41], so we would expect higher productivity to be associated with areas with concentrations of large employers.

Figure 2.7 maps the geographical distribution of this proxy for labour productivity. We can see a few clear differences from the patterns seen in the previous section. In addition to the grouping of high-productivity TTWAs in the South East of England, there appear to be a grouping of higher productivity TTWAs in the West Midlands and across the North of England.

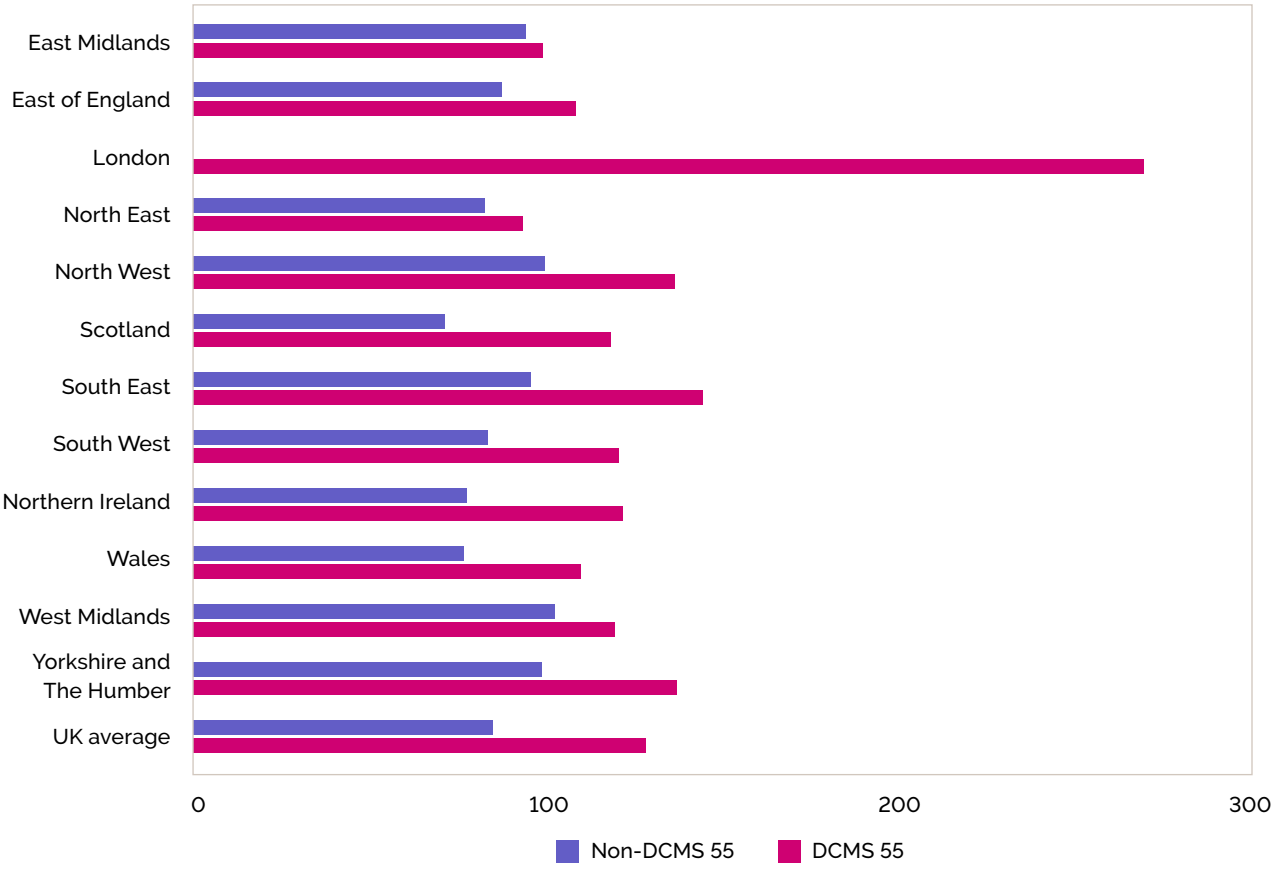
Figure 2.7 Spatial distribution of labour productivity (turnover per employee) of the creative industries, 2017 and 2021



Source: Authors' elaboration based on data from ONS Business Structure Database.

In Figure 2.8, we consider how this proxy for labour productivity differs by devolved nation and region between the DCMS-55 clusters and the other TTWAs. It is notable that in all cases productivity is higher in the DCMS-55, markedly so in some. One possible explanation, recently suggested by Bakhshi and Dorsett (2023), is that knowledge spillovers are generated by job mobility which they show is in general higher in creative clusters[42].

Figure 2.8 Labour productivity in DCMS-55 clusters and outside DCMS-55, 2021

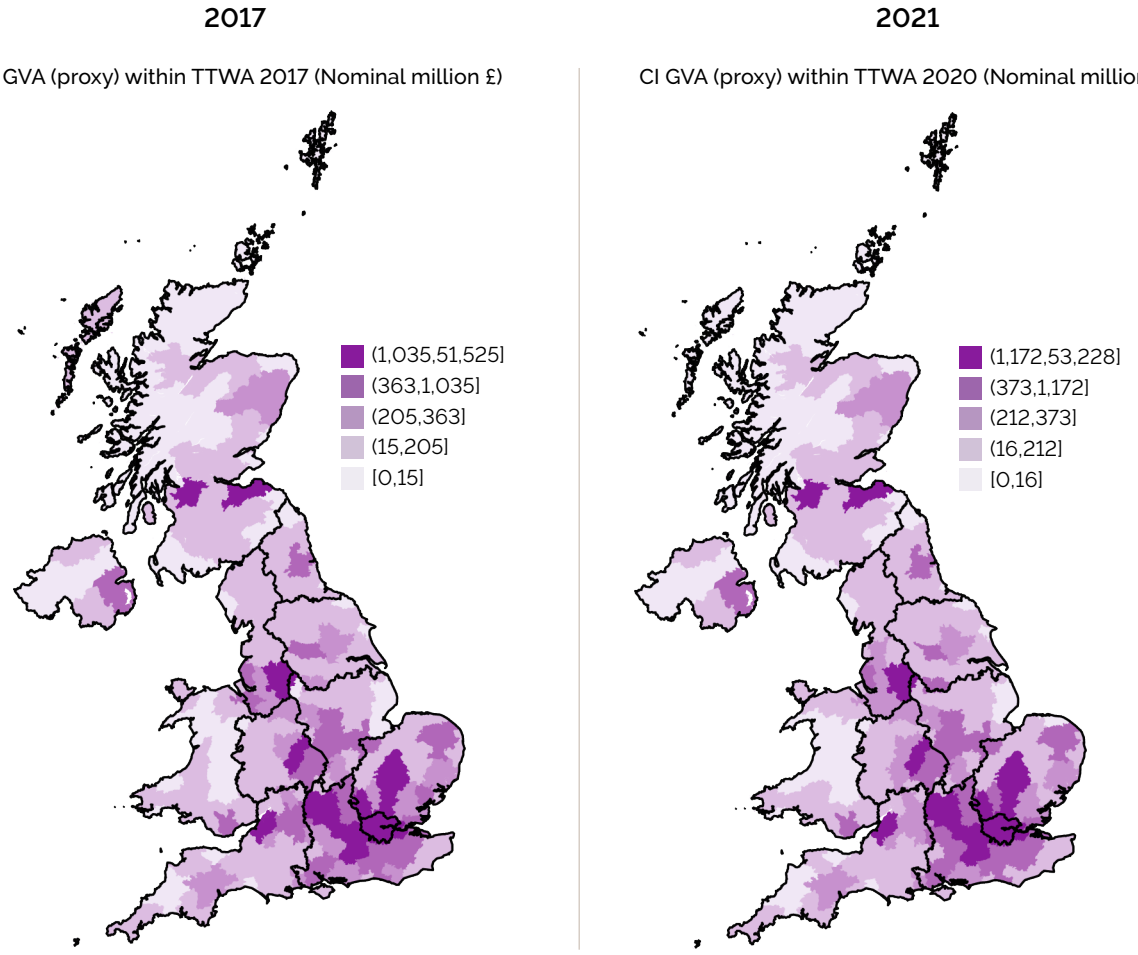


Source: Authors' elaboration based on data from ONS Business Structure Database.

Experimental GVA

Finally in this section, we consider GVA. Data limitations mean that it is difficult to estimate gross value added for the creative industries at local levels, but DCMS does publish GVA figures at the regional level, based on the ONS regional GVA tables. One approach to addressing the gap in GVA estimates at the higher resolution TTWA level is to use an approximating technique previously adopted in the 2016 and 2018 Nesta reports. This procedure first involves dividing a region's GVA figure by its total employment to give a figure for GVA per employee (at the regional level). In the second step, the figure from the first step is multiplied by total employment in each TTWA in that region. This technique has obvious limitations, as discussed in the Nesta reports, not least that labour productivity is likely to vary greatly between different parts of a region. Figure 2.9 shows the spatial distribution of this indicative metric from 2017 and 2020 (the latest year for which the DCMS creative industries GVA estimates at regional level are available). Compared with the previous maps for employment and our proxy measure of labour productivity, GVA appears to be particularly high in Glasgow, Edinburgh, Belfast and Bristol.

Figure 2.9 Spatial distribution of GVA (proxy) of the creative industries, 2017 and 2020



Source: Authors' elaboration based on DCMS and ONS Business Structure Database data.

Note: The first three categories are quartiles: 25%, 50% and 75%. The top categories are the top quartile disaggregated as follows: 85% and 95%. The disaggregation of the top quartile is aimed at displaying the influence of the outliers in the spatial distribution.

In this section we have presented an overview of the state of the UK's creative industries at the TTWA level using a number of economic indicators. We have shown that, while the distribution of creative industries activity has remained essentially unchanged over the period, with persisting heavy concentration in the DCMS-55 creative clusters, there has been growth across the whole of the UK. Within that, although the DCMS-55 clusters grew faster than the rest of the country prior to the Covid-19 pandemic, growth was on average broadly consistent across clusters and non-clusters, at least in the first phase of the pandemic.

While this section has updated previous published analysis on creative clusters at the TTWA level, it is not clear whether growth and economic activities are evenly distributed within TTWAs or are instead more heavily concentrated in specific locations. To address this, the next section focuses on a narrower geography – the creative microcluster.

Box 2.2 Headquarters bias and rapid growth and falls: The case of Colchester's 5,000 disappearing jobs

One should be cautious of particularly sharp increases and declines in employment and turnover, as these may not necessarily represent 'true' job losses or gains. There are various reasons for this, but one issue relates to 'headquarters' bias. A company may have multiple operations around the UK but depending on the company's legal structure, it may only appear in official statistics in the place where it is legally registered. One impact of this is that a change in a company's legal structure may have serious knock-on effects. An example of this effect may be seen in Colchester, which appears in our statistics to have been the second-worst performing TTWA in the UK in the assessed period, with a net loss of over 5,000 jobs. A closer examination shows that Colchester went from having over 5,000 publishing jobs in 2017 to none in 2021. What is happening here?

If you ask someone in Colchester about catastrophic job losses, this will come as a surprise. In fact, it appears the job losses are entirely on paper. For example, the Walstead Group, a major publishing company that produces print advertising and is registered in Colchester, restructured their operations in 2020. In the process, it changed its SIC code from one in the creative industries to one in another industry. In one move, thousands of jobs disappeared from the official creative industries statistics, but they did not disappear in real life – the Walstead Group website still claims the company employs 3,700 people.

This effect does not only apply to declines. Substantial increases in employment can also be subject to this effect. In our data, Basingstoke is disproportionate in how much it has grown, with an increase of nearly 3,000 jobs over the 2017-2020 period. Looking closely at the data, we note that employment in the publishing sector in Basingstoke went from negligible in 2017 to over 2,000 workers in 2020. Here again, to the best of our knowledge, this appears to relate to company registration changes – the publisher Pan Macmillan, long an employer in the area, moved its registered office to the Basingstoke area, where it has long had its distribution centre. The activities on the ground have not necessarily changed, but the registration has, so all Pan Macmillan's employees – including those in London – are now classified as being based in Basingstoke.

This shows the importance of keeping a careful eye on figures – big and small gains – and the need to look deeper, beyond the headline figures, particularly in the case of dramatic increases and declines in any metric. This is a topic we hope to continue to address in the future.

3 The state of creative microclusters

We painted a picture in the previous section of the geography of the UK's creative industries at the Travel to Work Area (TTWA) level. As we highlighted in the introduction and context section, our aim is to compare different levels of geographies for the creative industries so that we can shed light on where growth opportunities may arise. While the TTWA data is insightful, its coverage of relatively large geographical areas potentially conflates multiple economic areas, and, for policymakers at local levels, it may not help in identifying local areas of growth potential. At the same time, restricting the focus to TTWAs risks missing out on opportunities to support growth which may require a local focus or coordinated action across creative clusters.

Our previous Creative PEC report *Creative Radar* (Siepel et al., 2020) identified clusters at a hyperlocal level – microclusters – defined at street, neighbourhood and town levels[43]. That research found that companies located in microclusters appear to enjoy many of the benefits of proximity to other businesses that would otherwise be enjoyed by companies in larger clusters, including easier access to customers, suppliers, freelancers and knowledge. In this way, a microcluster in Plymouth, say, may bestow upon its creative companies similar locational benefits to those that companies in Bristol enjoy.

Another core question about microclusters relates to their role in growth. Siepel et al. (2020) reported that companies in microclusters located outside of creative clusters were more likely than even those based in clusters to have grown in the year to 2020, and they were more likely to want to grow further in the future. At the time, we referred to microclusters as 'small engines of growth'[44].

Although Creative PEC's research has generally drawn upon survey and case studies to understand creative microclusters, there has not been extensive research drawing upon official data to understand the magnitude of the microcluster phenomenon or its relative contribution to creative clusters and to the UK economy as a whole.

To this end, in this section we focus on four questions:

- What factors are associated with the location of creative microclusters?
- What is the growth performance of creative microclusters, and did this change during the Covid-19 pandemic?
- How does the growth of creative microclusters differ within and outside the DCMS-55 clusters, and what is the contribution of creative microclusters to job creation?
- How have companies in microclusters fared in the aftermath of the Covid-19 pandemic?

Box 3.1 What is a Middle Super Output Area?

Our microcluster analysis is conducted using data at the Middle Super Output Area (MSOA) or Intermediate Zone level. An MSOA is a geography defined by the ONS as areas of England and Wales with approximately 7,500 residents. MSOAs are useful as a means of identifying micro-geographies in that they are sufficiently small while being large enough to be covered by official business statistics (while smaller geographies are not). MSOAs do not completely map upon TTWAs but, for our analysis, where MSOAs sit across two TTWA regions, the region that contains the greater share of the MSOA is assigned to hold the MSOA.

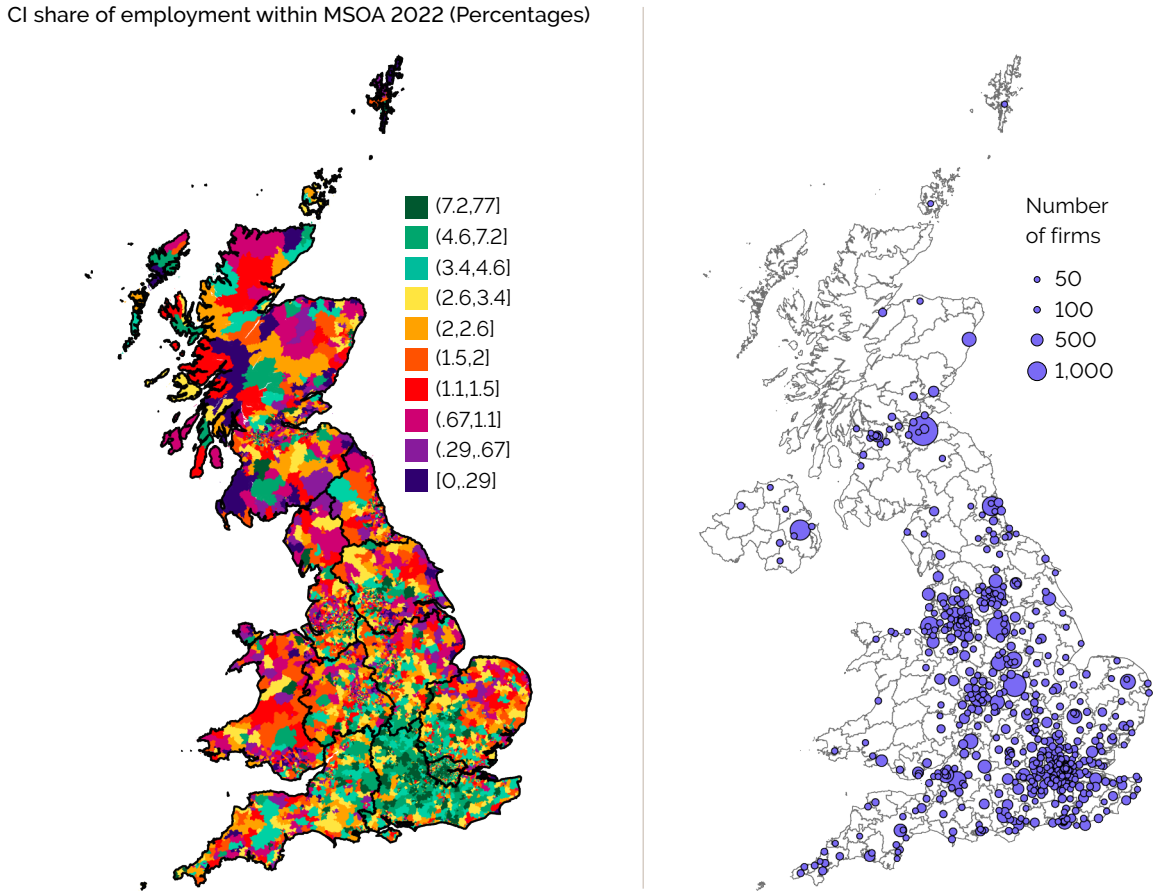
Where MSOAs sit across two TTWAs and the share is very similar, we assign the MSOA to the TTWA with its central point nearer to the central point of the MSOA. While MSOAs are the terminology used for England and Wales, in Scotland the equivalent geographies are called Intermediate Zones. Our analysis refers to MSOAs throughout the report for brevity but analysis of Scotland is based on Intermediate Zones. The equivalent units used in Northern Ireland are called Super Data Zones, but unfortunately detailed economic data is not available at this level and therefore Northern Ireland is not included in this section of the report.

In this report, we use the map of creative microclusters from Creative PEC's 2020 *Creative Radar* report. In that report[45], we suggested that there were 709 distinct creative microclusters across the UK. We identified these using a novel web scraped data approach, which used addresses pulled from companies' websites rather than company registration addresses as the basis for geolocating businesses. Company websites were chosen as the source because they were viewed as being more accurate at capturing companies' 'on-the-ground' activities and as some non-business organisations, such as charities and voluntary arts organisations, that contribute to clusters are not generally well captured in business statistics. We applied a clustering algorithm to identify places that had 50 or more creative businesses or organisations in close proximity[46].

We then overlaid the *Creative Radar* map with the 2011 MSOAs, a standardised geography identified by the ONS for England and Wales based on household census data, to identify small local geographies in areas of approximately 2,000-6,000 households and approximately 5,000-15,000 residents. For Scotland, we considered Intermediate Zones (IZs), which are areas with 2,500-6,000 residents.

In this and the following section (on creative corridors), we must acknowledge a substantial data limitation: the data that we use for our analysis, which is based on MSOA- and IZ-level employment figures, is not available for Northern Ireland. The publicly available data we use does not allow us to consider Northern Ireland's microclusters (or creative corridors). This is an important gap that we hope to address in future work. The lack of comparable data for Northern Ireland is disappointing, especially given the trends reported in section 3, with Belfast showing one of the highest levels of net job creation in the UK, and other areas of Northern Ireland showing some of the highest levels of job growth over the period considered.

Figure 3.1 Employment share by MSOA (left) and creative microclusters (right)



Source: Authors' elaboration based on ONS Business Register Employment Survey (left) and scraped web data (right).

Note: The colour classification on the left map is in deciles.

3.1 Where microclusters occur and why: what is the evidence?

While our previous *Creative Radar* research identified and mapped microclusters[47], the factors associated with the presence of microclusters remained somewhat less clear. Since then, in Velez Ospina et al. (2023), we have explored in greater depth the determinants of creative microclustering. The key findings of that analysis are reproduced below[48].

Cultural infrastructure and organisations

Interest has been growing in the specific role played by cultural infrastructure and cultural organisations in creative clusters. Recent policy documents, such as DCMS's and Creative Industries Council's Creative Industries Sector Vision and the Department for Levelling Up, Housing and Communities' Investment Zone[49] documentation, have referred to the role of innovation 'ecosystems', using language from creative ecology theory[50]. This idea draws upon the importance of the entire range of actors in an area – not only businesses but also workers, networks, organisations and infrastructure – as part of what makes creative clusters successful. The use of such language within policymaking is important for shaping our understanding of what clusters and their wider ecosystems need to develop and thrive.

Cultural infrastructure refers to museums, public galleries, libraries, archives and heritage sites, which, following Bakhshi, Lee and Mateos-Garcia (2012), we identified using a data set[51] of cultural assets and organisations sourced from an events database maintained by the cultural intermediary organisation, Culture24. Velez Ospina et al. (2023) found that creative microclusters are likely to emerge in close proximity to these types of cultural and heritage assets. That finding is strongly supported in both urban and rural areas.

We classified cultural organisations as those that organise exhibitions, festivals, cultural groups and meetings. Using the Culture 24 data again, we established that the presence of these organisations is associated with creative microclustering, but only in the case of urban microclusters.

Deprivation and unemployment

There is considerable interest in the role that creative industries might play in regenerating deprived areas[52]. One major potential inhibiting factor associated with the creative industries relates to gentrification – the phenomenon whereby more deprived areas attract (creative) businesses and well-educated residents who then drive property prices up, driving out the artists and creatives that are arguably the life and soul of creative clusters. Recent Creative PEC research by Kitsos et al. (2023) however found only a minor influence, on average, of creative industries businesses and workers on residential gentrification in neighbourhoods in England and Wales from 2001-2011[53].

The analysis in Velez Ospina et al. (2023) provides a mixed picture relating to the gentrification phenomenon. It finds that creative microclusters are less likely to occur in areas with higher levels of unemployment.

However, when we looked at the Index of Multiple Deprivation (a measure that combines various measures of deprivation), we found that microclusters are slightly more likely to occur in more deprived urban areas. In contrast, in rural areas, microclusters are more likely to be affluent. This suggests that the pull of lower-cost areas for creative industry companies is likely to be an urban phenomenon, whereas, in rural areas, higher incomes and the presence of cultural assets may provide a suitable customer base for these businesses and organisations.

Proximity to universities

Universities are an important source of skills and expertise for the creative industries, and thanks to initiatives like the Arts and Humanities Research Council and UK Research and Innovation's Creative Industries Clusters Programme, they are increasingly regarded as a nexus of innovation and collaboration. We find, however, that creative microclusters are generally less likely to be in the immediate proximity of universities. This surprising finding may be partially explained by the unit of analysis we use to study microclusters: MSOAs are a relatively small geographical area, particularly in more densely populated urban areas, so microclusters can be near to universities without being in the same, or adjacent, MSOAs. In rural settings, the finding is perhaps less surprising, as when institutions are in rural settings, they may be immediately surrounded not by commercial spaces but land that is used for other purposes.

Broadband speed

In recent years, major investments have been made in the UK to improve the quality and speed of internet availability, both in rural and urban areas. Surprisingly, however, we find little association between broadband speed in an area and the presence of microclusters. On the contrary, we find a small but robust negative effect of broadband speed and the presence of microclusters in urban areas. This finding is unexpected, but we might speculate that other locational factors, such as those discussed above, may be greater attractions for businesses than faster broadband speed.

Relatedness and related variety

How easy is it for regions to develop new specialisations? The academic literature on relatedness and related variety suggests that it is easier for regions to develop new specialisations in industries where they have pre-existing specialisations in related industries. This is particularly relevant in the case of the creative industries as the local conditions necessary for the emergence of creative clusters is an important issue for local policymakers (Lee, 2020)[54].

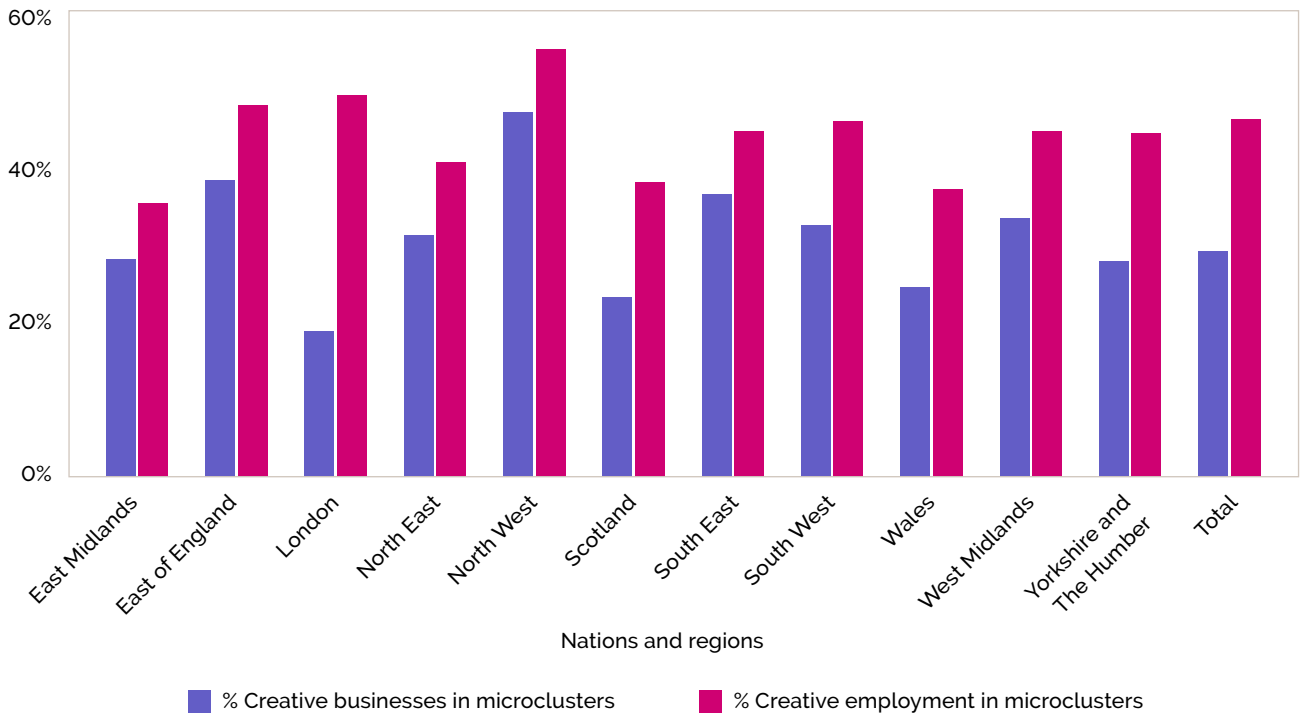
The literature on relatedness distinguishes between related variety (where different sectors may have relatively similar characteristics – an example being colocation between IT and software businesses, management consultants and financial services businesses, which are different sectors but relatively similar in terms of skill sets and knowledge bases) and unrelated variety (where different sectors are not related – an example being if an area had automobile manufacturing, film production and agricultural businesses in the same area). We find that creative microclusters are associated with both related and unrelated diversification, with the effect being stronger for related diversification. This therefore suggests that, in general, the presence of sectors similar to creative industries is more likely to be associated with the presence of creative microclusters.

3.2 The economic contribution of microclusters

Mapping microclusters onto MSOAs/IZs allows us to link our microcluster analysis to official statistics. In doing so, we can estimate the economic contribution of microclusters. We suggest that in 2022, 46% of all UK creative industries employment (our measure of which, as mentioned, captures employees and only those self-employed workers registered for PAYE) fell within the 709 creative microclusters. That was despite only 29% of all creative businesses being in microclusters.

Figure 3.2 below shows the share of employment in microclusters compared with the share of business counts, disaggregated by region. In each nation and region of the UK, the share of creative industries employment located in microclusters is higher than the comparative share of business count, indicating the disproportionate contribution of larger creative industry companies in microclusters to local employment. The greatest disparity between share of employment and businesses in microclusters is in London, where many of the largest creative industries businesses in the UK are located, and where only 18% of businesses are in microclusters but account for 48% of employment. There is a similar pattern in Scotland. In the East Midlands, 28% of businesses are found in microclusters, which represent 36% of all employment, indicating a lower average company size than microclusters in other regions.

Figure 3.2 % of business population vs % creative employment in microclusters, 2022



Source: Authors' elaboration based on data from ONS Business Register and Employment Survey.

Employment growth in and outside microclusters

From the above, we have seen that microclusters contribute the lion's share of creative employment and play host on average to larger companies. Based on this we might expect growth to be higher in microclusters. The evidence suggests this is indeed the case, as can be seen in Figure 3.3, which shows that microclusters in the DCMS-55 clusters grew the fastest across both the 2017-2019 and 2019-2021 periods.

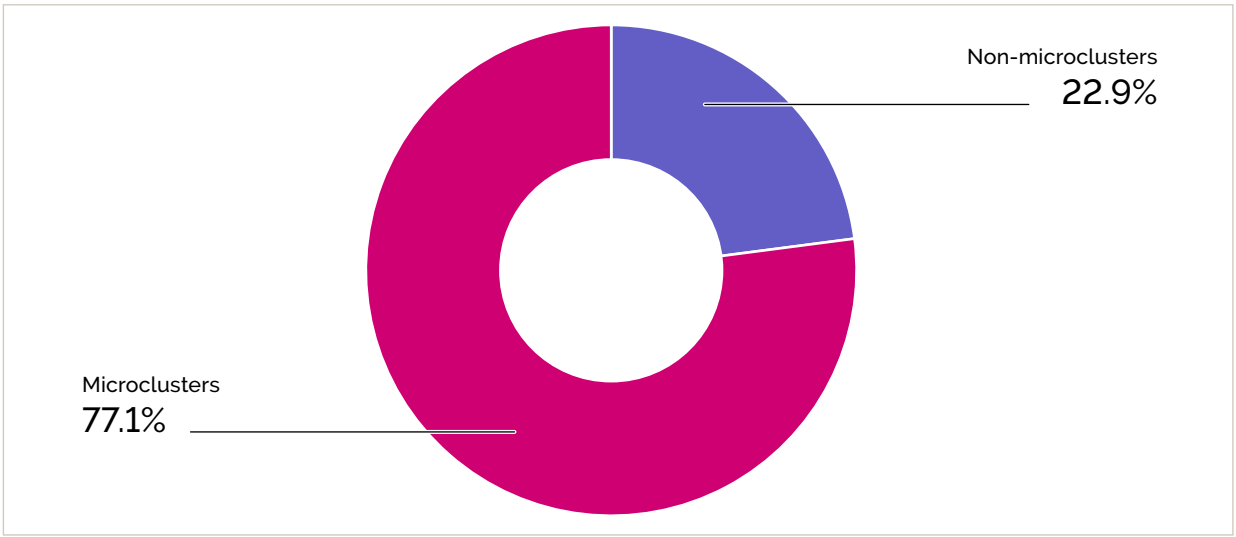
In the 2017-2019 period, average employment growth in microclusters outside of the DCMS-55 was similar to that in areas within the DCMS-55 that were not in microclusters. In the 2019-2021 period, microclusters outside of the DCMS-55 clusters grew more rapidly than areas within the DCMS-55 clusters that were not in microclusters, which experienced a decline in employment on average.

Figure 3.3 Mean employment growth rate 2017-2019 and 2019-2021 at MSOA level for microclusters and DCMS-55 regions

Source: Authors' elaboration based on ONS Business Register and Employment Survey data.

Multivariate econometric analysis, regressing employment growth against microcluster status, controlling for region and previous employment levels, confirms that microclusters, both within and outside the DCMS-55 clusters, are associated with higher levels of growth, both before and after the Covid-19 pandemic. In terms of net job creation (calculated as net change in employment in an MSOA/IZ during 2019-2022), we find that 77% of net job creation took place in microclusters[55].

Figure 3.4 Net new jobs created in microclusters vs non-microclusters, 2019-2022



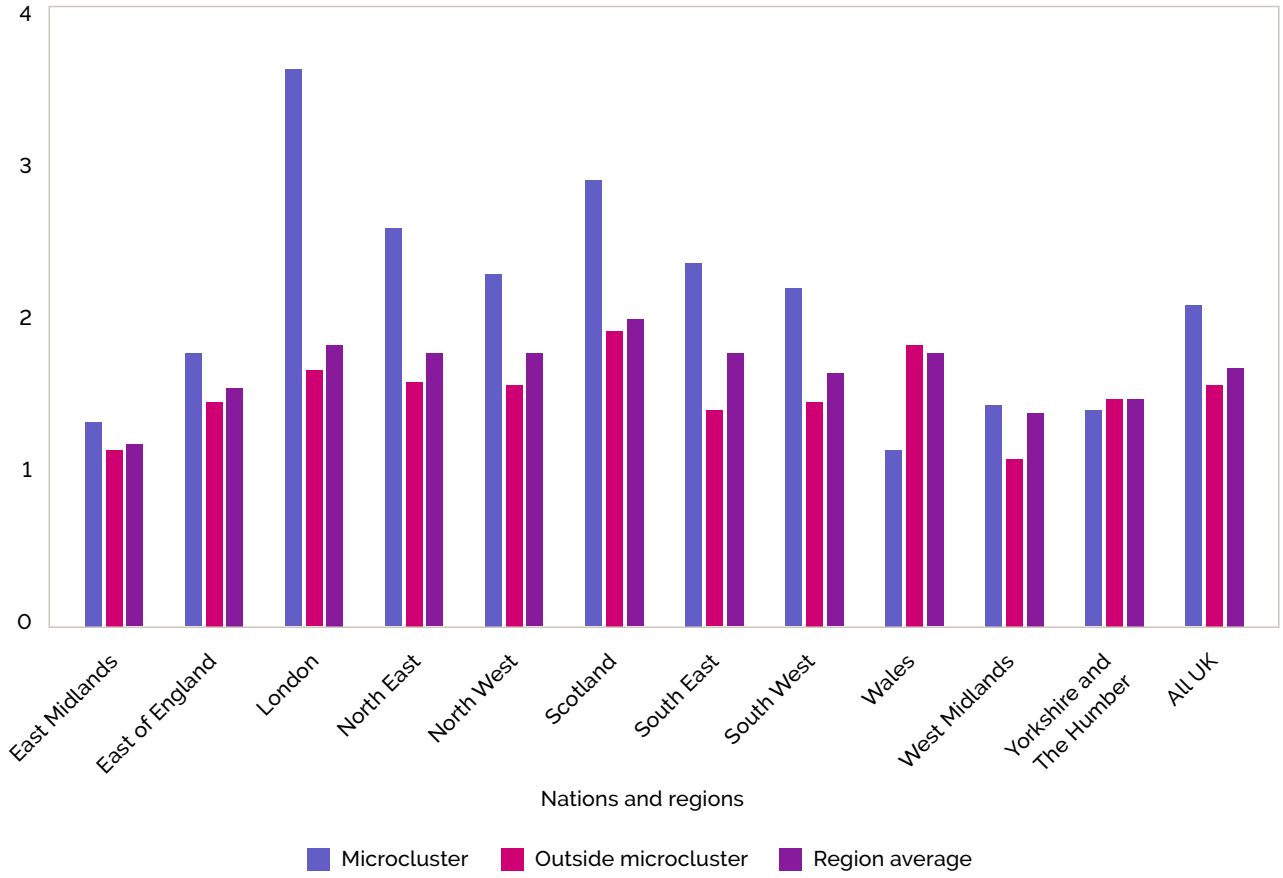
Source: Authors' elaboration based on ONS Business Register and Employment Survey data.

Given that the DCMS-55 creative clusters are not evenly distributed across the UK, we can look at the regions and nations of the UK to explore the differences in microcluster growth.

We see from Figure 3.5 below that the higher levels of microcluster growth are consistent across most regions and devolved nations.

While the disparity between microclusters and other areas is highest in London, in a number of regions and devolved nations (the North East, the North West, Scotland, the South East and the South West) the growth rate for microclusters is significantly higher[56].

Figure 3.5 Employment growth rate by region and devolved nation 2017-2021



Source: Authors' elaboration based on ONS Business Register and Employment Survey data.

Box 3.2 Microclusters from the ground up: Insights from the third *Creative Radar* survey

The majority of our analysis in this report thus far has looked at insights that can be gleaned from official and other statistics. However, other analysis can be useful in helping us to understand what is happening in creative microclusters beyond the official figures. One way that we can do this is through the Creative PEC's *Creative Radar* survey. The first *Creative Radar* report, published in 2020, used a survey to capture a snapshot of 976 creative businesses just before the first Covid-19 lockdown came into effect. The second report, published in 2021, resurveyed 417 of the original companies to see how they had coped with the effects of the pandemic. A third survey was conducted in 2022, with 262 companies interviewed that had been surveyed in the previous two waves. We can glean some key insights about the state of creative microclusters from this data.

Microclusters and growth: In the first *Creative Radar* survey, one key finding was that companies in creative microclusters outside the (then) 47 largest clusters were more likely to have grown in the pre-Covid-19 period, and they were more likely to want to grow in the future. The third Radar survey finds that these companies are now scaling back their operations: the companies in microclusters that had grown previously and expressed a desire to grow more are now more likely to have downscaled their activities and to be planning to downscale further. Generally, these companies were not particularly negatively affected by the Covid-19 pandemic, according to their responses to the 2021 survey, but those responses suggest that more challenging trading conditions are impacting potential growth. This is particularly the case for the companies that reported access to finance as a barrier in 2020; these companies still view access to finance as a barrier, but the access to finance question looms larger in a chillier economic climate.

Microclusters and R&D: Our analysis shows that companies in creative microclusters were less likely than companies outside creative microclusters to have invested further in R&D. This was the case across all microclusters but was particularly true for companies in the larger microclusters. Given the figures discussed above, this is a concerning trend if R&D investments are falling.

4 Exploring the potential for creative corridors across the UK

While creative clusters and microclusters are becoming more established in our understanding of the UK's creative industries and their geography, as discussed in the introduction, the notion of creative corridors and superclusters is more tentative. The possibility of joining relatively dispersed discrete areas up into a 'corridor' that has the innovation power of a supercluster, as seen in the case of the Toronto-Waterloo corridor in Canada, is intuitive. In key areas like access to finance and skills, where adjacent creative clusters may be competing for constrained resources or facing similar barriers, it may make sense for them to coordinate their development strategies. Linking creative corridors would then have the potential to generate new agglomeration economies beyond what any one cluster might be able to achieve on its own.

However, there are also reasons for thinking there may be a good many challenges in realising the ambition of creative corridors. The idea of developing a Northern Creative Corridor[57], for example, echoes the UK Government's initiative to grow a 'Northern Powerhouse'[58]. One major concern with the latter raised by analysts has been the imprecise geographical focus of the initiative's architects and, particularly, the challenge of identifying the right area across which the benefits of the Northern Powerhouse would emerge.

In this section, we present the preliminary findings of experimental analysis to address which parts of the UK may have the potential to grow creative corridors. We then focus, as a case study, on the idea of a Northern Creative Corridor, as recently proposed by a coalition of mayoral combined authorities in the North of England and creative industries leaders at the UK, national and regional levels[59].

Identifying current and potential creative corridors

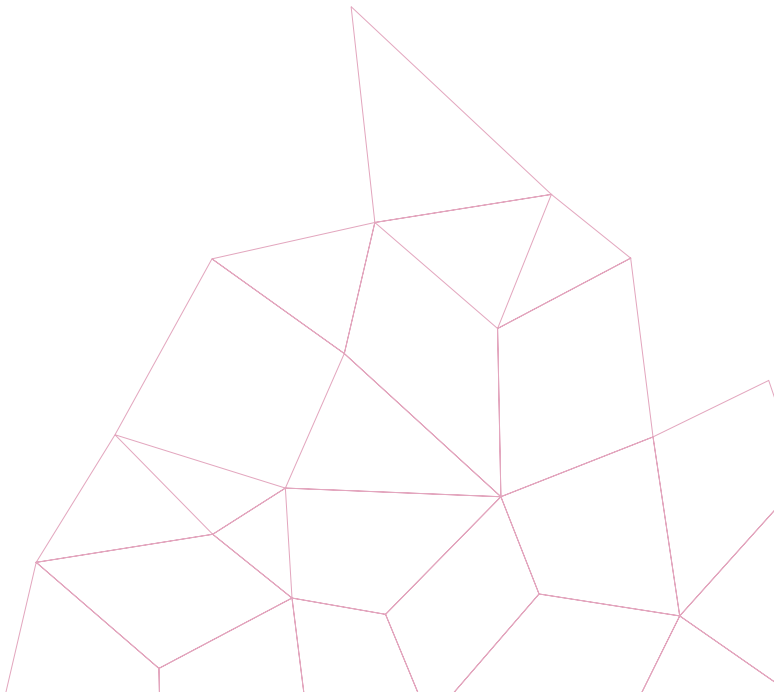
Intuitively, the identification of corridors should start from the identification of areas where clusters or microclusters of creative workers and businesses currently exist but where linkages could be made to strengthen further their competitive strengths. Some of the initial literature on economic corridors relates to transport corridors, where regions are joined by transport infrastructure such as roads, but these linkages are not limited to physical infrastructure.

In this report, we undertake an analysis based on exploratory spatial data analysis tools, specifically local indicators of spatial association (LISA), to identify spatial concentrations of high or low creative industries activity. This approach uses the Middle Layer Super Output Area (MSOA) / Intermediate Zone (IZ) level as the unit of analysis, as in the previous section on microclusters, but also identifies statistically significant spatial correlations across different MSOAs/IZs, hence identifying places where creative industries activities are particularly strong or weak in relation to their neighbours[60].

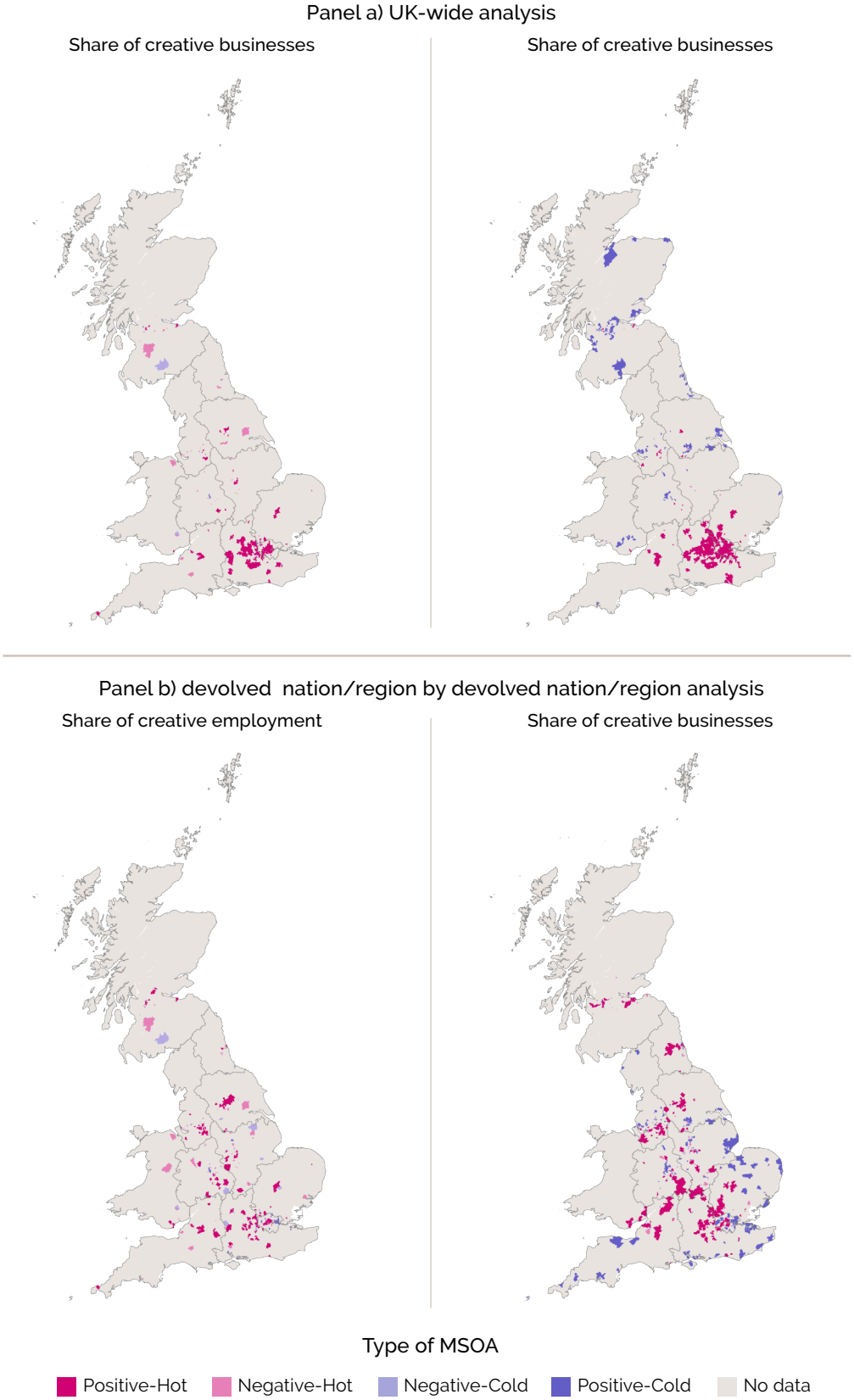
For the local shares of creative industries employees and creative businesses, Figure 4.1 maps areas where creative activity in one MSOA is significantly spatially correlated with that of its neighbouring MSOA(s)/IZ(s). Red hotspots and blue cold spots represent areas with high or low creative industries intensity surrounded by other areas with high or low creative industries intensity. The LISA analysis also returns regions with high or low values of creative industries intensity which stand in isolation, meaning they are not surrounded by other high or low regions. These isolated areas are denoted with light red and light blue.

Specifically, panel a) of Figure 4.1 presents the LISA analysis performed over UK-wide data where, for both creative industries employment and business shares, London and the South East have the highest number of hotspots – what we could call a creative supercluster. Few hotspots are visible outside this area. In panel b), to better identify the emerging concentrations of creative activity around the UK, we recalculate the LISA indicators region/devolved nation by region/devolved nation, thereby mitigating the influence of the London and South East supercluster on the analysis. This second analysis allows the identification of hotspots and isolated places that are spread across the UK.

How can we use these maps to explore potential creative corridors? In short, we are looking for places where the identified hotspots (and isolated MSOAs) are in proximity and could reap supercluster benefits if the right linkages were put in place.



4.1 Map of creative hotspots based on share of creative industries employment 2022 and share of creative businesses



Source: Authors' elaboration based on ONS Business Register and Employment Survey data.

Upon visual inspection, the maps tentatively suggest the following potential corridors might be explored in future analysis:

Northern Corridor(s)

A band of areas with high levels of creative industries activity across the North, running from Chester and Liverpool, through Manchester and over to Leeds and Sheffield. From Leeds, there is also a potential link to Newcastle and Tyneside, which also has high concentrations of creative activity. Between these are further towns and cities with creative industries activity such as Teeside, Gateshead, Durham and Darlington.

Edinburgh-Glasgow-Dundee Corridor

As the two largest cities in Scotland, Edinburgh and Glasgow already make up the lion's share of the nation's creative industries activity. Their proximity and size raise the question as to whether further benefits may potentially be realised by deepening the links between their creative clusters and extending such links towards Dundee, where we also know there are creative microclusters and significant creative industries investment.

Cardiff-Newport-Bristol-Bath-Gloucester/Cheltenham Corridor

We also find a number of clusters in cities located roughly along the M4 motorway. Each of these areas has strengths (such as screen sectors in Cardiff and design in Bath), and the area has received substantial public investment through the Creative Industries Clusters Programme (Clwstwr in Cardiff and Bristol + Bath Creative R&D), the Creative Industries Cluster Hubs project in Newport, and the Strength in Places fund (MyWorld and Media Cymru). The results of the LISA analysis raise the possibility that further opportunities for coordination may exist[61].

West Midlands Corridor

There are also hotspots in Birmingham, Coventry, Gloucester and Cheltenham, extending to Northampton. These areas, mostly (except for Northampton) in the West Midlands, may also show potential for further growth through strategic collaboration. Arguably this potential is recognised by funders, such as Innovate UK through its Launchpad programme supporting businesses in the immersive sector in Coventry and Warwickshire[62].

East Midlands and Sheffield Corridor

We also find hotspots in Leicester, Derby, Nottingham and up to Sheffield, though our analysis in section 2 shows that creative industries employment in this potential corridor is lower than in other regions identified here.

Cambridge Corridor

On a smaller scale, we find a clear, discrete grouping of hotspots around Cambridge, Bedford and Huntingdon.

London and the M25

London and the South East have already been identified as a creative supercluster. Unsurprisingly, the findings of the LISA analysis are consistent with this. Given the massive size of London and the South East, however, it is plausible that there are corridors in their own right within the region, such as that emerging around the Thames Estuary Production Corridor[63].

Case study: The strengths and potential for a Northern Creative Corridor. Evidence from Creative Radar

An early assessment of the potential for a creative corridor could start with a review of existing strengths and capacity in the clusters that make it up.

For example, how do businesses in the potential creative corridor in the North of England compare with those in an existing supercluster, such as that in London? We illustrate this with a preliminary exploration using secondary data, sourced from the Creative PEC's *Creative Radar* surveys. Starting with the location of customers, Table 4.1 compares businesses in the North of England with those in London according to the location of their customers.

Table 2.1 Median % employment growth, DCMS-55 vs outside DCMS-55 by devolved nation and region, 2017-2019 vs 2019-2021

		% Turnover from		
	London (n = 153)	Northern England (n = 208)	UK average (excluding London and the North)	
20-minute walk from office	11%	8%	10%	9%
Rest of city/town	42%	19%	21%	23%
All local city/town (20 minutes + rest of city)	40%	24%	27%	29%
Region	16%	24%	24%	23%
Rest of UK	14%	36%	32%	31%
Overseas: Europe	8%	6%	6%	6%
Overseas: Rest of world	8%	7%	7%	7%

Source: *Creative Radar* Wave 1[64], n = 976.

The table shows that businesses in London derive a substantial share of their turnover from other trade to London, and they are less likely to sell to the other parts of the UK. In contrast, creative businesses based in the North of England are much more likely to sell to the rest of the UK, and they are no more likely to have customers elsewhere in their region. This may be important, as it may show the potential for deepening North-to-North creative supply chains[65].

We can also learn from comparing Northern businesses to London businesses in terms of how they take advantage of their location. In the original *Creative Radar* survey, we asked businesses to assess whether a number of local factors benefitted them. The results confirmed that London's creative companies benefitted from all of the factors one would tend to associate with London: namely, access to skills, access to customers, proximity

to companies in both similar and different sectors, lifestyle and amenities. Interestingly, we found that firms in Northern microclusters[66] identified very similar factors, which we did not see for firms located in South Eastern or South Western microclusters.

Another finding is that Northern microcluster businesses are substantially more likely to view universities as highly important to their activities. This contrasts with businesses elsewhere in the UK, including London. The precise mechanism (for instance, as providers of workforce, as customers, as collaborators or as providers of business support) by which universities provide this perceived benefit is unclear. But it begs the question as to whether universities might have a particularly important role to play in developing a Northern Creative Corridor.

Innovation and knowledge

Another potentially important dimension of creative corridors is innovation and knowledge flows. This is because the literature strongly supports the idea that knowledge transcends geographical boundaries – that there are potential knowledge spillovers from one creative cluster to another which coordination actions may help to internalise. One way of doing this may be to encourage cooperation on innovation activity. Once again, the *Creative Radar* data may help us to understand the opportunity.

When comparing Northern creative businesses to those based in London, it turns out that London's creative businesses are, on average, much more likely to report sourcing new ideas from other London businesses than from businesses anywhere else in the UK. In contrast, Northern businesses appear more likely to get their ideas from the rest of the UK – with regard to ideas from local sources, they are similar to the national average. This is auspicious from the perspective of building a creative corridor in the North, as it indicates an openness to ideas on the part of its creative industry companies which is conducive to greater regional coordination.

One important way that companies acquire new knowledge is through using freelancers. It is notable that London businesses, as well as Northern businesses that are in microclusters, are substantially more likely to report using freelancers as important sources of new knowledge and skills. The data suggests that reliance on freelancers in Northern microclusters is particularly high. On this basis, freelancers must be considered a vital part of the knowledge base for Northern creative businesses, and they may provide a useful target for policy interventions.

Barriers to growth

We can also consider the extent to which the barriers facing businesses in the North of England differ from those facing businesses in the London and the South East – the counterpart to the local factors that benefit them. The most notable of these in the *Creative Radar* survey data turns out to be that businesses in the North, and particularly those located in microclusters, are more likely to view access to finance as a barrier to growth. This is particularly the case for businesses with growth aspirations. This view is held considerably more strongly in the North than in the rest of England, particularly London and the South East. Companies in the North are also more likely to cite infrastructure (such as broadband and transport) as a growth barrier. At the same time, companies in the North of England are less likely to report skills shortages in areas like technology, creative and managerial skills.

5 Summary, policy implications and recommendations for a research agenda

This report gives an overview of the state of the UK's creative industries geographies by providing the most recent data available for several economic indicators at the creative clusters and microcluster levels. It then presents the preliminary findings from experimental analysis pointing to broad geographical areas in the UK where the potential for developing creative corridors can be usefully considered.

We demonstrate that while creative clusters continue to play a central role in the UK's creative industries growth story, supporting their continued prioritisation in major investment programmes like the Creative Industries Clusters Programme, smaller creative microclusters and, potentially, pan-regional creative corridors also have an important role to play in opening up opportunities for policy intervention at different levels. In a context of increasingly devolved powers and renewed focus on local decision-making, there are opportunities to support local creative industries growth through targeted support for creative microclusters which tailor interventions to local sub-sector strengths, needs and opportunities. At the same time, several of the potential areas for creative corridors suggested by our experimental analysis span administrative boundaries at local, mayoral combined authority or national levels. Pursuing a more joined-up and pan-regional approach to supporting these different clusters may create opportunities for growth that are mutually beneficial to the areas encompassed, and they may be missed if the interests of clusters or microclusters are pursued in isolation at the individual level.

Our key findings are as follows:

- Notwithstanding the challenges of the Covid-19 pandemic, the creative industries have grown in many parts of the UK, but significant regional inequalities persist. In particular, the creative industries remain heavily concentrated in London and the South-East of England, which between them account for 69% of all UK creative industries gross value added. Below the level of nations and regions, employment is highly concentrated within the 55 creative clusters identified by the DCMS (2022), further highlighting the spatial inequalities across the UK nations and regions.
- The DCMS-55 clusters grew faster than other parts of the UK before the Covid-19 pandemic, but this was not the case, on average, during the pandemic. However, they continue to make outsized contributions to the UK's creative industries.
- Creative microclusters are the growth hotspots of the UK's creative industries. The 709 creative microclusters previously identified in Creative PEC's *Creative Radar* research account for 46% of all employment in the UK's creative industries. They have also grown more rapidly than the creative industries in the rest of the UK, including during the Covid-19 pandemic. This is especially the case for microclusters located within the DCMS-55.
- However, companies in microclusters located outside of creative clusters appear to have been hit harder by the Covid-19 pandemic. Whereas prior to the pandemic, our *Creative Radar* survey data suggested that companies in microclusters outside the creative clusters were more likely to have experienced and to have anticipated further growth, that was no longer the case following the Covid-19 pandemic and the economic disruption that accompanied it.
- Preliminary findings from experimental geospatial analysis points to up to seven broad geographic areas in the UK where they may be cause for exploring the potential for creative corridors.

Policy implications

Our analysis points to the possible opportunities for joined-up policymaking across government levels and administrative boundaries, and it highlights the potential for devolved powers at national and local levels to play significant roles in supporting the growth of creative clusters and microclusters across the UK through targeted interventions.

There are numerous ways that policymakers can share their knowledge, support wider collaboration and provide opportunities for sharing learning and best practice across creative clusters and microclusters. At a national and cross-regional level, policymakers should consider the governance models needed to enable alignment of creative industries support across administrative boundaries. For example, policymakers should consider the role they can play in supporting the development of pan-regional networks and fostering cross-regional linkages between clusters of all scales by building on existing business support and creative R&D investment models to promote mutual knowledge exchange, develop relationships and stimulate new supply chains.

The mayoral combined authority devolution deals in England also provide an opportunity for developing locally responsive skills, infrastructure and financial support for a region's clusters and microclusters. While this report provides an overview of the UK's creative industries geographies, combined authorities should consider mapping their creative clusters and microclusters in more depth to better understand their comparative strengths. For example, a particular creative sub sector may be thriving in their area, or there may be unique infrastructure that makes the area appealing. In regions, including in the North of England, the role of universities as anchor institutions might also be further unlocked through greater investment in knowledge exchange and joined-up activity in areas like skills, training and access to facilities.

Areas for future research

This report is the first in a series of Creative PEC State of the Nations publications on the UK's creative industries. Over the next five years, we aim to improve the quantity and quality of data available to address key questions relating to the geography of the UK's creative industries, including those Creative PEC is gathering from stakeholders through our ongoing consultation activities. Areas we plan to explore in future publications include: understanding the linkages between creative clusters and the rest of the economy; improving the methodology for measuring the contribution of freelancers in creative clusters and microclusters; enriching the evidence base on the key elements and determinants of creative clustering and how these are changing over time, and deep dives into particular clusters to gain a more in-depth understanding of the challenges and opportunities they present.

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35. Reproduced under Creative Commons licence from DCMS and Frontier Economics (2022)
36. For example, the total share of all creative industries employment in this data remains consistent at 38-39% for London across the 2017 period, consistent at 46-47% for the other DCMS-54 clusters and at 14% for the TTWAs outside the DCMS-55. Figures for turnover are similarly distributed.
37. Although it is possible to use data from the Labour Force Survey or Annual Population Survey to generate estimates of freelancers at a regional or national level, both of these data sources have a problem with sample size when considered at the granular TTWA level, as the number of respondents is not sufficient across the 228 TTWAs to generate solid estimates.
38. We use 2019-2021 as our preferred period for measuring the impact of Covid for two reasons: first, it allows us to observe the change in level from the pre-Covid period (that is, 2019). Second, given the way the data is collected (specifically through a snapshot of the government's Inter-Departmental Business Register typically taken in October each year), it is unclear that the 2020 data fully reflects the impact of Covid-19. The data from 2021 is certain to capture the impact of Covid-19 for the entire population.

39. https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/articles/howproductiveisyourbusiness/2018-07-06#:~:text=Labour%20productivity%20is%20the%20measure,standards%20in%20the%20long%20term

40. For this measure we use turnover divided by the total number of employees (that is, people who are employed by a creative industries business), rather than employment (which includes employees as well as self-employed people who are registered for PAYE taxation). This is because the self-employed workers counted in employment figures are generally not registered for VAT, and so their turnover is not included in the headline turnover statistics. Therefore, using the figure for employees makes the measure directly comparable.

41. See, for instance, Leung et al. (2008), who compare services companies to manufacturing companies and find company size to be associated with higher levels of labour productivity and total factor productivity in all cases. Leung, D., Meh, C., Terajima, Y. (2008) Firm size and productivity. Bank of Canada working paper 2008-45 https://doi.org/10.34989/swp-2008-45

42. Bakhshi, H. and Dorsett, R. (2023) Job Mobility in and Around the Creative Economy, ESCoE Discussion Paper 2023-18. Available from: https://www.escoe.ac.uk/publications/job-mobility-in-and-around-the-creative economy/

43. Siepel et al. (2020) Creative Radar: Mapping the UK's creative microclusters https://pec.ac.uk/research-reports/creative-radar

44. https://pec.ac.uk/blog/small-engines-of-growth-understanding-creative-microclusters

45. ibid.

46. We choose to work with the 2020 list of creative microclusters for several reasons. First and foremost, the definition is established and is directly comparable with the previous work. Second, we would not expect new microclusters to appear or existing ones to disappear in a short period of time. Third, we have examined web scraped data from 2022 and find that over the Covid-19 period many businesses have removed their addresses from their websites (for instance if they started working remotely and no longer kept public offices), thus making a direct comparison between the 2020 and 2022 data difficult.

47. https://www.arcgis.com/apps/View/index.html?appid=007e1de4a01a46b196ad2ccaed20eb3b&extent=-20.3307,49.5899,17.1766,59.5069

48. See Velez Ospina, J. A., Siepel, J., Hill, I., & Rowe, F. (2023). Determinants of rural creative microclustering: Evidence from web-scraped data for England. Papers in Regional Science, 1–41. https://doi.org/10.1111/pirs.12754. This paper is an extension, with substantially updated analysis, of a project funded by the National Innovation Centre for the Rural Economy and Creative PEC, originally published by Creative PEC as: See Velez Ospina, J. A., Siepel, J., Hill, I., & Rowe, F. (2022). Mapping and examining the determinants of England's rural creative microclusters. Creative Industries Policy and Evidence Centre and NICRE https://pec.ac.uk/research-reports/rural-creative-microclusters

49. https://www.gov.uk/government/publications/investment-zones

50. See, for instance, Gross, J. D., & Wilson, N. C. (2019). Creating the Environment: The Cultural Eco-Systems of Creative People and Places. Creative People and Places. https://kclpure.kcl.ac.uk/ws/portalfiles/portal/113962091/Gross_Wilson._2019_Creating_the_Environment_FINAL_WEB.pdf

51. https://www.culture24.org.uk/

52. See Communian, R. and Mould, O. (2014) Creative industries, flagship cultural projects and regeneration, City, Culture and Society 5(2), 65-74 https://doi.org/10.1016/j.ccs.2014.05.004; and Hutton, T. (2016) Cities and the Cultural Economy. London: Routledge.

53. Kitsos, T., Nathan, M., Gutierez Posada, D. (2023) Creative Destruction? Creative firms, workers and residential gentrification. Creative Industries Policy and Evidence Centre https://pec.ac.uk/discussion-papers/creative-destruction

54. See Lee, N. (2020) Relatedness between creative industries and the wider economy: A primer. Creative Industries Policy and Evidence Centre https://pec.ac.uk/discussion-papers/relatedness-between-creative-industries-and-wider-economy

55. To create this figure, we cleaned the data by dropping observations that were likely to be the result of a headquarters effects, as discussed in section 2. We did this by eliminating from our figures sharp increases or decreases of 1,000 or more jobs where the change appeared suddenly over the course of one year.

56. The high non-microcluster result for Wales should be interpreted with caution as there is a one-year increase in activity in one location in 2021.
57. See https://www.thersa.org/press/releases/2023/11/grand-coalition-formed-to-create-a-northern-creative-corridor
58. See, for instance, Lee (2017) Powerhouse of cards? Understanding the 'Northern Powerhouse', Regional Studies, 51:3, 478-489, DOI: 10.1080/00343404.2016.1196289
59. See this piece by West Yorkshire mayor Tracy Brabin and Andy Haldane of the RSA https://www.yorkshirepost.co.uk/news/opinion/columnists/culture-should-be-at-the-core-of-west-yorkshires-economic-plans-tracy-brabin-and-andy-haldane-3768603
60. This analysis has particularly benefitted from a collaboration (ongoing at the time of this report) with Giorgio Fazio and Alejandro Ramirez-Guerra on the identification of regional clusters and corridors across the UK.
61. Some evidence about the possibility of such a corridor is being gathered, and we are grateful to Mark Leaver for sharing information and insights.
62. https://iuk.ktn-uk.org/opportunities/launchpad-immersive-creative-coventry-warwickshire/
63. Giles, L. and Carey, H. (2021) Growth through Skills: Lessons from the Thames Estuary Production Corridor. Creative PEC available from: https://pec.ac.uk/discussion-papers/growth-through-skills-lessons-from-the-thames-estuary-production-corridor
64. In this table and the subsequent analysis, in line with the previous Creative Radar surveys, the results are not weighted. This is due to pragmatic and conceptual concerns about the ability to take the data, which was structured to allow comparisons between regions and creative sub-sectors and appropriately apply weightings. More details on this decision, and the structure of the data, may be found in the original Creative Radar report.
65. A similar point is made in analysis of the Bath-Bristol-Newport-Cardiff Corridor in a forthcoming paper by Leaver et al.
66. Of the first Creative Radar survey's total sample of 976, 208 respondents were in the North, and 94 of those were in microclusters.

Data availability statement

The following datasets were used in the production of this report:

DCMS employment statistics:
Figure 1.1, Table 1.1 :

The underlying data are available from the DCMS Sector National Estimates at https://www.gov.uk/government/statistics/economic-estimates-employment-in-dcms-sectors-and-digital-sector-january-2022-to-december-2022. These data are derived from the Annual Population Survey. For more details, see: https://www.gov.uk/government/statistics/dcms-and-the-digital-sector-economic-estimates-regional-gva/dcms-economic-estimates-regional-gva-technical-and-quality-assurance-report

DCMS regional Gross Value Added statistics:
Figure 1.2, Table 1.2:

The underlying data are available from the DCMS Sector National Estimates at https://www.gov.uk/government/statistics/dcms-and-the-digital-sector-economic-estimates-regional-gva. These data were derived from the ONS Regional GVA Tables and the Annual Business Survey. For full details see: https://www.gov.uk/government/statistics/dcms-and-the-digital-sector-economic-estimates-regional-gva/dcms-economic-estimates-regional-gva-technical-and-quality-assurance-report

Business Structure Database:
Creative, cultural and digital industries: Figures 2.2, 2.3, 2.4, 2.5 2.6, 2.7, 2.8, 2.9, Table 2.1:

The data behind these results are available from the Office of National Statistics at https://www.ons.gov.uk/businessindustryandtrade/business/activitysizeandlocation/adhocs/15046creativeculturalanddigitalindustries reference number 15046. These data were derived from the Business Structure Database, which is not publicly available.

Business Register and Employment Survey:
Figure 3.1 (left), 3.2, 3.3, 3.4, 3.5, 4.1:

The data behind these results are available from Nomis at https://www.nomisweb.co.uk/sources/bres These data were derived from the Business Register and Employment Survey. The data available at Nomis are deidentified and publicly available.

Creative microcluster data:
Figure 3.1 (right), 3.2, 3.3, 3.4:

The data that support the findings of this study are available on request from the corresponding author, Josh Siepel (j.siepel@sussex.ac.uk). The data are not currently publicly available but will be made available in due course.

Creative Radar data:
Box 3.1, Table 4.1, Chapter 4:

The data behind the findings of this study are available on request from the corresponding author, Dr Josh Siepel (j.siepel@sussex.ac.uk). The participants of this study did not give written consent for their data to be shared publicly.

Creative Industries Policy and Evidence Centre

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creative-pec
@CreativePEC

Newcastle University, 2 The Helix, Newcastle Upon Tyne, NE4 5TG

The Royal Society of Arts, 8 John Adam Street, London, WC2N 6EZ