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This article is based on research carried out in 2020 into the resilience of neighbourhoods in the Metropolitan Borough of Bolton and explores how the public health and economic impacts of the pandemic generated by Covid-19 have been amplified at the neighbourhood level by the severity of pre-existing issues of social and economic polarisation which characterise many of England’s older post-industrial urban areas. It argues for a National Framework for Recovery and Resilience and why “Levelling up” will not be enough

Paper 3: Discussion Note on The Future of Cities Post-Covid?

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This note sets out some initial thoughts in answer to the question: *‘How might the economic and social shock of COVID alter the future of cities?’* This is written from the perspective of the UK2070 agenda - namely, the immediate policy implications and priorities for the longer term levelling up of the economic performance and social conditions across the UK.

Paper 4: Homeworking - supporting organisational change in response to the COVID-19 pandemic:

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This paper looks at a number of the key considerations for businesses as they seek to navigate these challenges and indicates areas where Government can help to support the transition. The considerations we have put forward in this paper are written from our perspective as a business that understands every element of the working environment.

Paper 5: Measuring Spatial Inequality in the UK: What We Know and What We Should Know?

Professor Cecilia Wong, Tom Arnold, Professor Mark Baker, Dr. Caglar Koksak, Dr. Andreas Schulze Bäing & Dr. Helen Wei Zheng (The Spatial Policy & Analysis Laboratory at The Manchester Urban Institute, The University of Manchester)

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This paper examines different methods in analysing inequalities given the debate about indicators such as GDP per head, unemployment rate and employment rate. It shows the results of using different methods. Regardless of what method is used, what matters is that Britain is still ranked the 1st-7th most regionally unequal among the 34 OECD countries and the situation is growing worse.

Paper 6: UK 2070, Agenda 2030, the New Urban Agenda and the Sustainable Development Goals - what do our international commitments mean for reducing spatial inequalities in the UK?

Professor Trudi Elliott CBE MRTPI FAcSS (Henley Business School at The University of Reading)

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This paper explores how international agreements which all the UK nations have committed to might inform this thinking. It will also explore how the commission's work can support the UK deliver on them and measure progress.

Paper 1: Socio-economic inequality and geographic spread of the COVID-19 pandemic in England

Dr. Caitlin Robinson, Dr. Francisco Rowe, Nikos Patias and Professor Ian Wray, The Heseltine Institute for Public Policy, Practice and Place; and the Department of Geography and Planning, University of Liverpool

Summary

This paper looks at the geographical patterns of COVID-19 cases observed over the course of the pandemic in England in 2020. It reveals a strong relationship between COVID-19 cases and embedded forms of inequality in small geographical areas. These areas have been left exposed to the impact of COVID-19 by virtue of the type of low paid and unskilled works available, alongside low investment in public services and public spending cuts. Deprivation appears to be a key driver of the emerging spatial patterns.

We conclude that explicit policies are required as part of the Government's 'levelling up agenda' to tackle deprivation in the places worst affected by COVID-19; with much higher levels of social care, health and educational spending. These should all be seen as crucial investments in the 'foundational economy' in these areas; and as investments in wider national social and economic resilience. Pandemics threaten everybody and cannot be isolated behind regional or local lockdowns.

Key takeaway messages:

1. As the pandemic has progressed, high numbers of COVID-19 cases have concentrated in post-industrial communities characterised by historically and geographically embedded forms of inequality, especially in the North of England.
2. A range of structural inequalities can explain the uneven distribution of COVID-19 cases across upper tier local authorities in England.
3. By identifying some of the key factors related to inequality that underpin the spread of COVID-19, we highlight locally-specific priorities upon which policy could focus.

Introduction

COVID-19 has had profound consequences with over 1.77 million positive cases and 62,566 deaths recorded to date in the United Kingdom (as of 10th December 2020), and record rates of unemployment and economic decline during 2020. Yet, whilst labelled by some as a “greater leveller”, Richmond-Bishop¹ argues that “COVID-19 doesn’t discriminate but society does.” Initial evidence suggests that the impacts of COVID-19 are unevenly distributed - both socially and spatially - disproportionately impacting the most disadvantaged communities.^{2 3}

Whilst a [wide range of dashboards](#) have tracked the spread of COVID-19 cases across England, evidence of the relationship between cases and broader social, economic and demographic characteristics of areas is limited and has focused on the first wave of the pandemic (between March and June)⁴. Analysis of the changes in this relationship during the course of the pandemic is scarce. Empirical evidence to challenge misleading narratives about the responsible populations for the spread of the virus, or underpin locally-specific policies, funding and investment to support the worst affected communities by the pandemic is lacking. In response, this policy brief analyses the geography of the COVID-19 pandemic in England focusing on three questions:

- (1) **Spatial** - *Where are COVID-19 cases spatially concentrated?*
- (2) **Social** - *Which socio-demographic characteristics are most strongly associated with a high prevalence of COVID-19?*
- (3) **Socio-spatial** - *Which socio-demographic characteristics are most strongly associated with high COVID-19 cases across different parts of England?*

Methods and data

To address these questions, we explored changes over time (from March 2020 until November 2020) amongst 151 Upper-Tier Local Authorities in England. These are made up of a number of different types of geographical units: Metropolitan Districts (n = 36); London Boroughs (n = 32) plus the City of London (n = 1); Unitary Authorities (n = 55) plus the Isle of Scilly (n = 1); and County Councils (n = 26). In the reporting of COVID-19 cases Cornwall and the Isles of Scilly are combined into a single unit as are Hackney and the City of London, leaving a total of 149 Upper-Tier Local Authorities in our analysis.

Our analysis uses **daily new COVID-19 cases**, retrieved from the [government COVID-19 dashboard](#). We calculated the proportion of cases per 100,000 persons, using mean values for months and specific weeks during the pandemic. COVID-19 cases are combined with a range of [contextual variables](#) retrieved from the 2011 Census; the Indices of Multiple Deprivation (IMD) 2019 and Public Health England. The IMD is a well-known measure of relative deprivation for small areas in England, based on seven domains: Income; Employment; Education; Health; Crime; Barriers to Housing and Services; and Living Environment.

¹ Richmond-Bishop, I. (2020). COVID-19 doesn’t discriminate but society does. *The Equality Trust*. Available at: <https://www.equalitytrust.org.uk/blog/covid-19-doesn%E2%80%99t-discriminate-society-does-guest-blog>

² Haque, Z., Becares, L., and Treloar, N. (2020). Over- Exposed and Under-protected. The devastating impact of COVID-19 on Black and Minority Ethnic Communities in Great Britain. *Runnymede Trust*.

³ Harris, Richard (2020). Exploring the neighbourhood-level correlates of Covid- 19 deaths in London using a difference across spatial boundaries method. [Health & place, 66, 102446](#).

⁴ Ibid

We measured the strength of the relationship between new COVID-19 cases and a set of area-level socio-demographic variables. To this end, we used a quasi-poisson [geographically weighted regression model](#). This allows for the identification of areas reporting a relatively high number of cases, in relation to the average Upper-Tier Local Authorities in England at a given point in time. Rather than identifying causation, we seek to determine the set of contextual variables associated with a high incidence of new COVID-19 cases over time.

Results

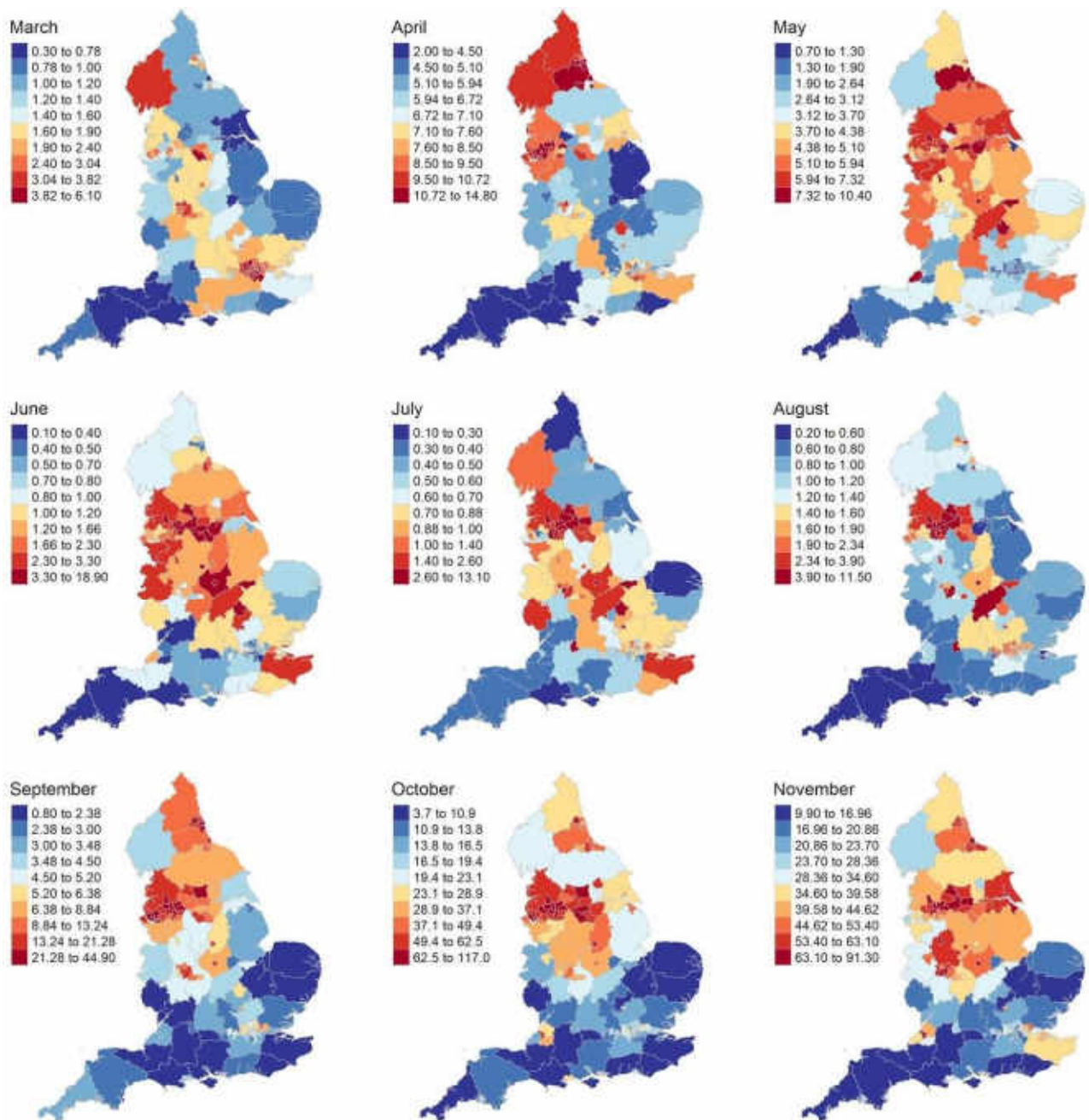
We aim to measure the relationship between a range of area-level social, economic and demographic variables and also new COVID-19 cases over time in England, particularly during the second wave of the pandemic. We seek to determine the extent to which pre-existing spatial socio-demographic inequalities have shaped the geographic spread of the pandemic; and, identify key local characteristics that might explain a high prevalence of COVID-19 cases. Results will provide policy-relevant evidence for local government agencies and national government, emphasising the greater urgency for tackling existing spatial socio-demographic inequalities; and, identifying local contextual factors which can augment the impact of the pandemic.

The changing spatial distribution of COVID-19 cases

During March 2020, as the pandemic unfolded, relatively high numbers of cases **concentrated in Greater London** and the West Midlands Combined Authority, areas characterised by global interconnectivity and urban density (*Figure 1*). Urban Upper-Tier Local Authorities in Greater London recorded some of the highest COVID-19 cases in March (*Table 1A & B*), although figures were lower than subsequent months partly owing to lower testing capacity during the first wave of the pandemic (e.g. Southwark with 6.09 cases per 100,000 persons).

Subsequently (from April 2020 until November 2020) the geography of COVID-19 cases has shifted to **concentrate in post-industrial areas to the North of England** (e.g. Liverpool City Region; Greater Manchester; Tees Valley and North of Tyne). In relation to the first wave, Harris⁵ argues that the geographical distribution of cases was not a north-south divide - a rudimentary divide that has long typified understanding of inequality in England - but rather an “urban deprivation versus rural divide.” Yet, arguably, the north-south divide has become increasingly stark, especially during the second wave of the pandemic in September and October. In October, seven of the ten top Upper-Tier Local Authorities according to COVID-19 cases were in the North West of England, although Nottingham recorded the highest rate with 117.0 COVID-19 cases per 100,000 persons. By November, some of the highest rates of COVID-19 began to be recorded in Upper-Tier Local Authorities across the Midlands (e.g. Dudley and Stoke-on-Trent).

⁵ Harris, Richard (2020). Exploring the neighbourhood-level correlates of Covid- 19 deaths in London using a difference across spatial boundaries method. *Health & place*, 66, [102446](#).



Legend: Rate of COVID-19 cases
calculated per 100,000 persons.

Figure 1. Relative distribution of average daily COVID-19 cases (per 100,000 persons) per month across Upper-Tier Local Authorities in England.

Reading Figure 1: The map shows the relative rate of confirmed COVID-19 cases to understand the severity across Upper-Tier Local Authorities. Areas ranked in the 10% of Local Authorities with the highest number of COVID-19 cases per 100,000 persons, compared to the rest of England, are shaded in red; while those areas ranked in the lowest 10% are shaded in blue.

Table 1A. Top ten Upper-Tier Local Authorities according to average daily COVID-19 cases per 100,000 persons.

March	April	May	September	October	November
Southwark 6.09	Gateshead 14.8	Peterborough 10.45	Liverpool 34.15	Nottingham 117.0	K.-u-Hull 91.3
Brent 6.08	Sunderland 14.72	Leicester 9.64	Manchester 33.33	Knowsley 87.4	Oldham 80.9
Lambeth 5.86	St. Helens 14.20	Bradford 9.31	Bolton 32.87	Blackburn 84.5	Blackburn 75.4
Harrow 5.33	S Tyneside 13.32	Tameside 8.91	Knowsley 32.47	Liverpool 84.2	Kirklees 72.2
Barnet 5.01	Knowsley 13.14	Doncaster 8.83	Newcastle-u-T. 27.87	Salford 83.6	Rochdale 70.9
Westminster 4.95	Middlesbrough 13.21	Hull 8.58	Bury 24.41	Manchester 83.2	NE Lincs 70.8
Wandsworth 4.83	Warrington 12.49	Blackpool 8.45	Halton 24.39	Oldham 81.2	Bradford 70.0
Kensington 4.70	Wigan 12.21	Bedford 8.38	St. Helens 23.60	Newcastle 77.9	Dudley 68.2
Croydon 4.57	Darlington 11.30	Barnsley 8.38	S Tyneside 23.58	Wigan 77.1	Stoke-on-Trent 67.2
Sheffield 4.47	County Durham 11.28	Blackburn 8.20	Salford 23.50	Rochdale 76.1	Sandwell 66.3

Table 1B. Bottom ten Upper-Tier Local Authorities according to average daily COVID-19 cases per 100,000 persons.

March	April	May	September	October	November
Hartlepool 0.70	Bournemouth 4.21	Hackney 1.19	Norfolk 2.16	Cambs. 9.4	Bracknell Forest 15.9
N Somerset 0.68	Islington 3.91	Wandsworth 1.72	E Sussex 2.06	Wiltshire 9.1	W Sussex 15.6
Devon 0.67	Bath 3.79	Hammersmith 1.06	Hampshire 2.05	W Berks 9.1	Devon 15.5
Bournemouth 0.66	Wiltshire 3.57	Islington 1.02	Heref. 2.05	W Sussex 8.9	Cambs. 15.4
NE Lincs 0.64	Somerset 3.40	Westminster 1.01	Kent 2.02	Heref. 8.8	W Berks 15.3
York 0.61	Devon 3.14	Camden 1.00	Medway 1.90	Suffolk 8.0	E Sussex 14.7
Rutland 0.52	Cornwall 3.12	Tower Hamlets 0.96	Somerset 1.82	Somerset 7.7	Dorset 13.0
Somerset 0.46	Dorset 3.09	Kensington 0.94	Suffolk 1.63	E Sussex 7.0	Suffolk 11.4
IoW 0.44	NE Lincs 2.35	Torbay 0.91	Dorset 1.51	Cornwall 5.4	Cornwall 10.3
Hull 0.26	Rutland 1.96	NE Lincs 0.67	IoW 1.06	IoW 3.7	IoW 9.9

Social inequalities in COVID-19 cases

Figure 2 provides a graphical representation of Pearson's correlation coefficient correlation matrix illustrating changes in the strength and direction (i.e. sign) of the relationship between average daily COVID-19 cases and a range of social, economic and demographic variables for four time periods:

- (1) the start of Wave 1 (week commencing 16th March);
- (2) the peak of Wave 1 (week commencing 6th April);
- (3) the start of Wave 2 (week commencing 5th October); and
- (4) the peak of Wave 2 (week commencing 9th November).

At the start of Wave 1, cases concentrated in areas characterised by a **high population density, and high proportion of private renting, overcrowding, public transport use and ethnic minority populations**. Meanwhile, strong negative relationships are identifiable with variables of older persons, unpaid caring and poor health. As the pandemic progresses, increasingly strong positive relationships emerge between **high numbers of COVID-19 cases and poor health, unpaid care, multiple deprivation, inequality in life expectancy, and routine occupations**. Meanwhile, a strong negative relationship emerges with the ability to work from home. Whilst high rates of COVID-19 cases amongst student populations at the start of Wave 2 - the beginning of term - attracted significant attention, we identified an insignificant relationship with COVID-19 cases by the peak of Wave 2.

It is important to emphasise that a lack of relationship between COVID-19 cases and a social variable may obscure a high prevalence of COVID-19 cases in specific subgroups within a population, especially where populations are relatively spatially concentrated (e.g. ethnic minorities, private renters).¹ High numbers of COVID-19 cases amongst subgroups are often better represented by alternative variables - for example, ethnic minority populations disproportionately live in some of the most deprived neighbourhoods in England.^{2 3}

Figure 3 provides further insight into how the relationship between COVID-19 cases and multiple deprivation - the variable with the strongest relationship with cases during the pandemic's second wave - has evolved over time. During the initial stages of Wave 1 of the pandemic in mid-March (when lockdown restrictions were first implemented) areas with the highest proportion of neighbourhoods in the most deprived decile had some of the lowest incidence of COVID-19 cases relative to the rest of England. However, by mid-April, cases in the most deprived parts of the country rapidly increased, second only to the most deprived decile, and remained relatively high until May. Between June and September, cases were relatively low irrespective of the level of deprivation. Yet, during the second wave the number of COVID-19 cases again increased with the level of deprivation. **By mid-October approximately 3.7 times the number of COVID-19 cases are recorded in Upper-Tier Local Authorities classified in the 10% most deprived, compared to those ranked in the 10% least deprived.** These trends appear to partially reflect the evolving patterns of COVID-19 cases amongst people experiencing long-term ill health issues, with Upper-Tier Local Authorities home to large shares of populations with poor long-term health recording some of the largest number of COVID-19 cases (Figure 3).

¹ Haque, Z., Becares, L., and Treloar, N. (2020). Over-Exposed and Under-protected. The devastating impact of COVID-19 on Black and Minority Ethnic Communities in Great Britain. *Runnymede Trust*.

² Daras, K., Alexiou, A., Rose, T. C., Buchan, I., Taylor-Robinson, D., and Barr, B. (2020). How does Vulnerability to COVID-19 Vary between Communities in England? Developing a Small Area Vulnerability Index (SAVI). *SSRN*. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3650050

³ Jivrak, S., and Khan, O. (2013). Ethnicity and Deprivation in England: How likely are ethnic minorities to live in deprived neighbourhoods? *Centre of Dynamics of Ethnicity (CoDE)*. Available at: [https://hummedia.manchester.ac.uk/institutes/code/briefingsupdated/ethnicity-and-deprivation-in-england-how-likely-are-ethnic-minorities-to-live-in-deprived-neighbourhoods%20\(1\).pdf](https://hummedia.manchester.ac.uk/institutes/code/briefingsupdated/ethnicity-and-deprivation-in-england-how-likely-are-ethnic-minorities-to-live-in-deprived-neighbourhoods%20(1).pdf)

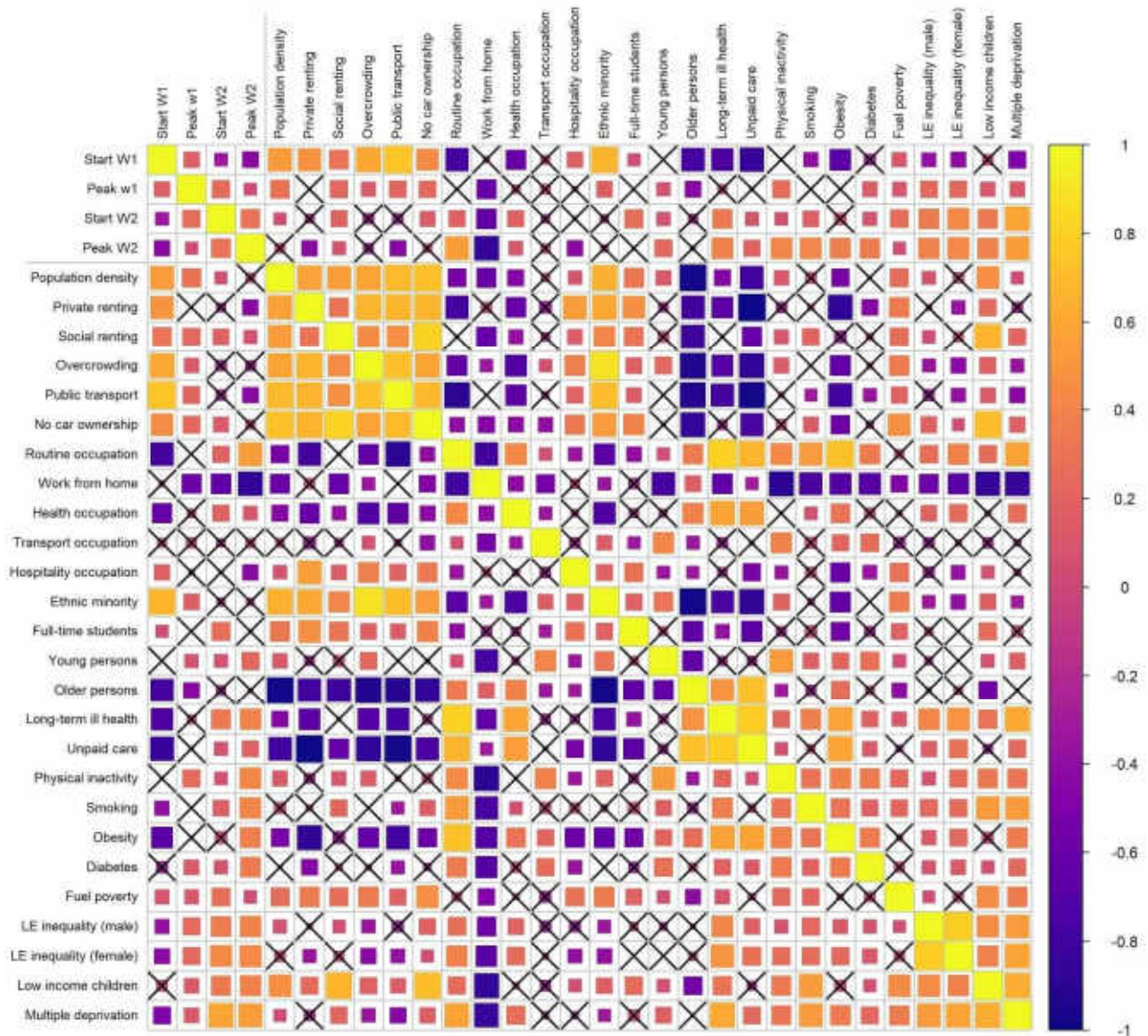


Figure 2: Correlation matrix showing relationship between mean daily COVID-19 cases for each stage of the pandemic and a range of social, economic and demographic characteristics.

Reading Figure 2: In the correlation matrix, the size of the square reflects the strength of the relationship between two variables. The colour of the square is indicative of the type of relationship, positive (yellow) or negative (blue). The black crosses indicate that a relationship is not statistically significant.

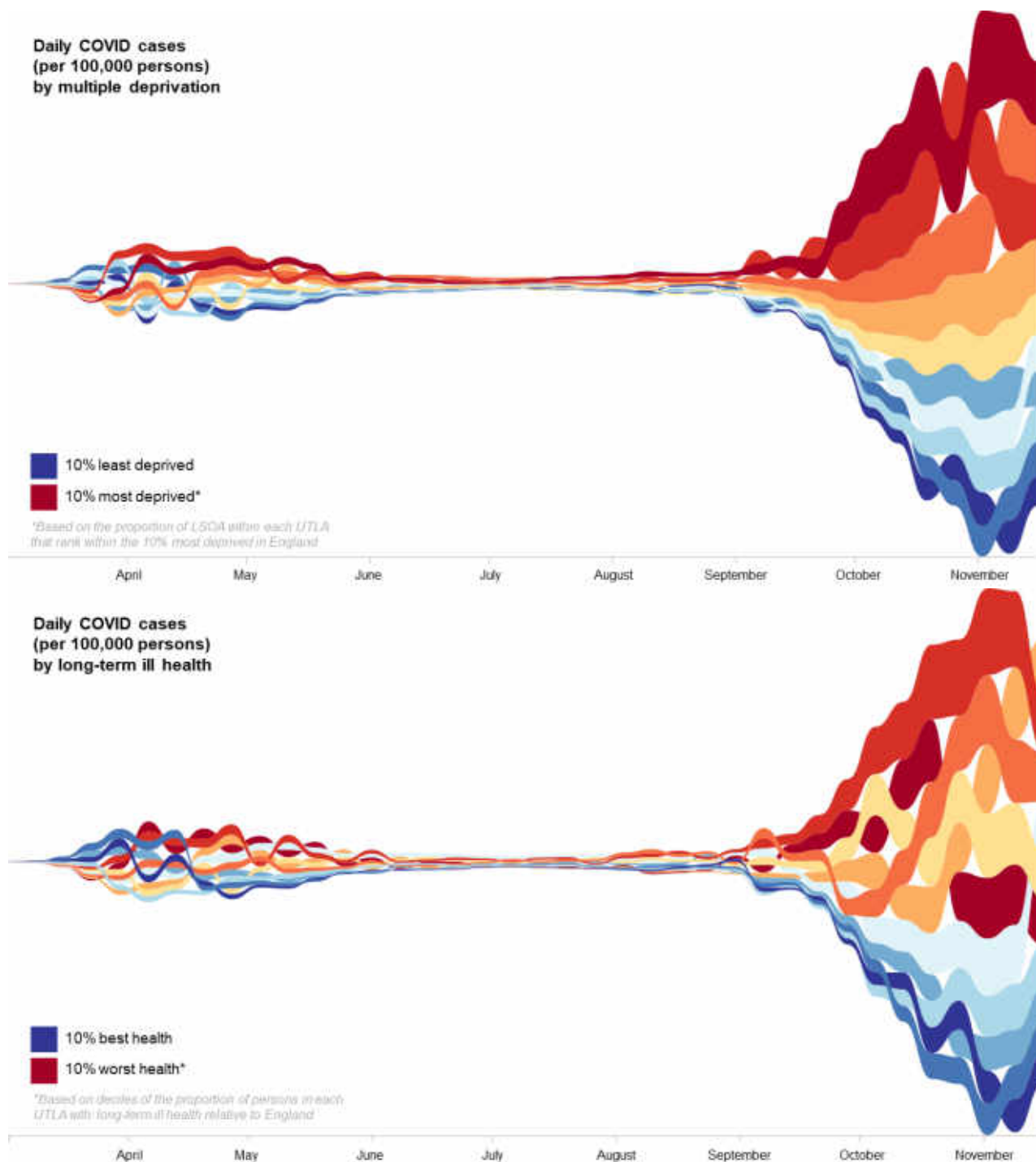


Figure 3: Daily COVID-19 cases (per 100,000 persons) by deprivation deciles (above) and long-term ill health deciles (below).

Reading Figure 3: The bump chart shows how the number of COVID-19 cases in each deprivation decile changes over time. The graph is sorted according to the relative ranking of each decile - i.e. when a deprivation decile appears at the top of the chart it has the most COVID-19 cases. Multiple deprivation is based on the proportion of Lower-Level Super Output Areas (LSOAs) in each Upper-Tier Local Authorities that rank within the most deprived in England. The chart is made using [RawGraphs](#).

Socio-spatial inequalities in COVID-19 cases

In the previous section, we identified socio-demographic variables closely related to average COVID-19 cases in each wave of the pandemic. This provides an understanding of the evolution of these relationships at the national scale. To explore how these associations vary across Upper-Tier Local Authorities, we fit geographically weighted regression models for each of our four time periods. A description of our model specification is available [here](#).

What do the model results tell us? By mapping coefficient estimates (*Figure 4*) we can identify some of the key inequalities that likely underpin the spread of COVID-19 in specific parts of the country. ***At the start of Wave 1, COVID-19 cases are positively associated with a high proportion of ethnic minority groups and the ability to work from home***, especially in northern regions. By the peak of Wave 1 (and similarly at the peak of Wave 2) both positive and negative coefficient estimates across all variables - and the spatial patterns associated - are less stark. This is likely as peaks in cases tend to occur when the virus has already spread across the country. Comparatively, ***by the start of Wave 2, long-term illness, students and multiple deprivation assume increasing importance in the prevalence of COVID-19 cases, beyond London and the South East regions***. In the Liverpool Combined Authority, strong negative coefficient estimates indicate that a high proportion of people are employed in sectors where it is not possible to work from home, potentially driving high COVID-19 cases in the region.

Conclusions and policy recommendations

We have scrutinised the relationship between COVID-19 cases and a range of geographic factors over the course of the pandemic in England. As the pandemic has progressed, high numbers of COVID-19 cases have concentrated in formerly industrial communities. These are characterised by historically and geographically embedded forms of inequality, especially in the Midlands and the North of England. Underinvestment, austerity and public spending cuts have left these communities disproportionately exposed to the impacts of COVID-19.

A range of structural spatial inequalities are associated with a higher incidence of COVID-19 cases across England. Our analysis identifies key factors related to inequality that underpin the spread of COVID-19 across different regions. There is strong evidence of relationships between COVID-19 cases and deprivation and inequality.

We showed evidence that systematic structural differences across areas are the key to explaining the spatial spread of COVID-19 in England. Deprivation appears as a key driver of the spatial patterns of COVID-19, along with the capability to work from home, thus sheltering individuals from exposure to the virus in the workplace or whilst using public transport to travel to work. These two factors are themselves related. In the simplest terms, people in better paid jobs tend to live in relatively affluent places and often do 'knowledge based' work which can effectively be done from home, using a computer and an internet connection. People on lower incomes tend to live in less congenial and more deprived places and often do work that cannot be done from home, since it involves direct physical effort (such as driving a vehicle or working in a factory) or direct physical interaction with others (such as care work). Thus, we argue that strict lockdowns are likely to have widened inequalities in two ways: first, by increasing the relative exposure risk of people in low-income jobs to COVID-19; and second by increasing their relative risk of becoming ill.

It follows that spatially-explicit policies and funding mechanisms are necessary to address these inequalities, which have widened during the pandemic. These should be developed and led in partnership with local actors and communities. Areas with high levels of deprivation should be better insulated from COVID-19 with high levels of social care, health and educational spend. This will mean reversing the austerity agenda which has hit deprived places hardest, especially in relation to local authorities and the funding of public health and social care.

Because many of these deprived communities are in the Midlands and the North of England, we argue that social and public health policy should take central place in the government's 'levelling up' agenda. To build the new policies we may need to consider wholly new institutional mechanisms to work, over the long term, alongside the education sector, the NHS and local government.

New policies would help to change the emphasis of 'levelling up' in poorer communities - away from sole or heavy reliance on capital investment and infrastructure, and towards complementary investment in what is sometimes described as the 'foundational economy' - including child care; proper child nutrition; health and education, including adult education. In addition to the direct benefits brought to these communities, this would help to increase our national resilience to the threats of future pandemics and public health crises. Pandemics do not simply threaten the poor and the deprived. They cannot be indefinitely isolated behind regional or local lockdowns as we have experienced in the UK. They threaten national society, our economy, our education, and our health.

Author biographies

Dr. Caitlin Robinson is a Lecturer in Urban Analytics in the Geographic Data Science Laboratory (GDSL) and Department of Geography and Planning at University of Liverpool. As a quantitative human geographer, her research explores the causes and consequences of spatial inequality, with a particular interest in energy and infrastructure.

Dr. Francisco Rowe is a Senior Lecturer in Quantitative Human Geography at the Department of Geography and Planning and lead of GDSL within the University of Liverpool. His areas of expertise are human mobility, migration, spatial inequality and computational social science.

Nikos Patias is a doctoral researcher at GDSL and Department of Geography and Planning at the University of Liverpool. His research focuses on urban structure and spatial inequalities.

Professor Ian Wray is a Visiting Professor and Fellow in the Heseltine Institute for Public Policy, Practice and Place, University of Liverpool, and a member of the UK2070 Commission on regional inequalities.

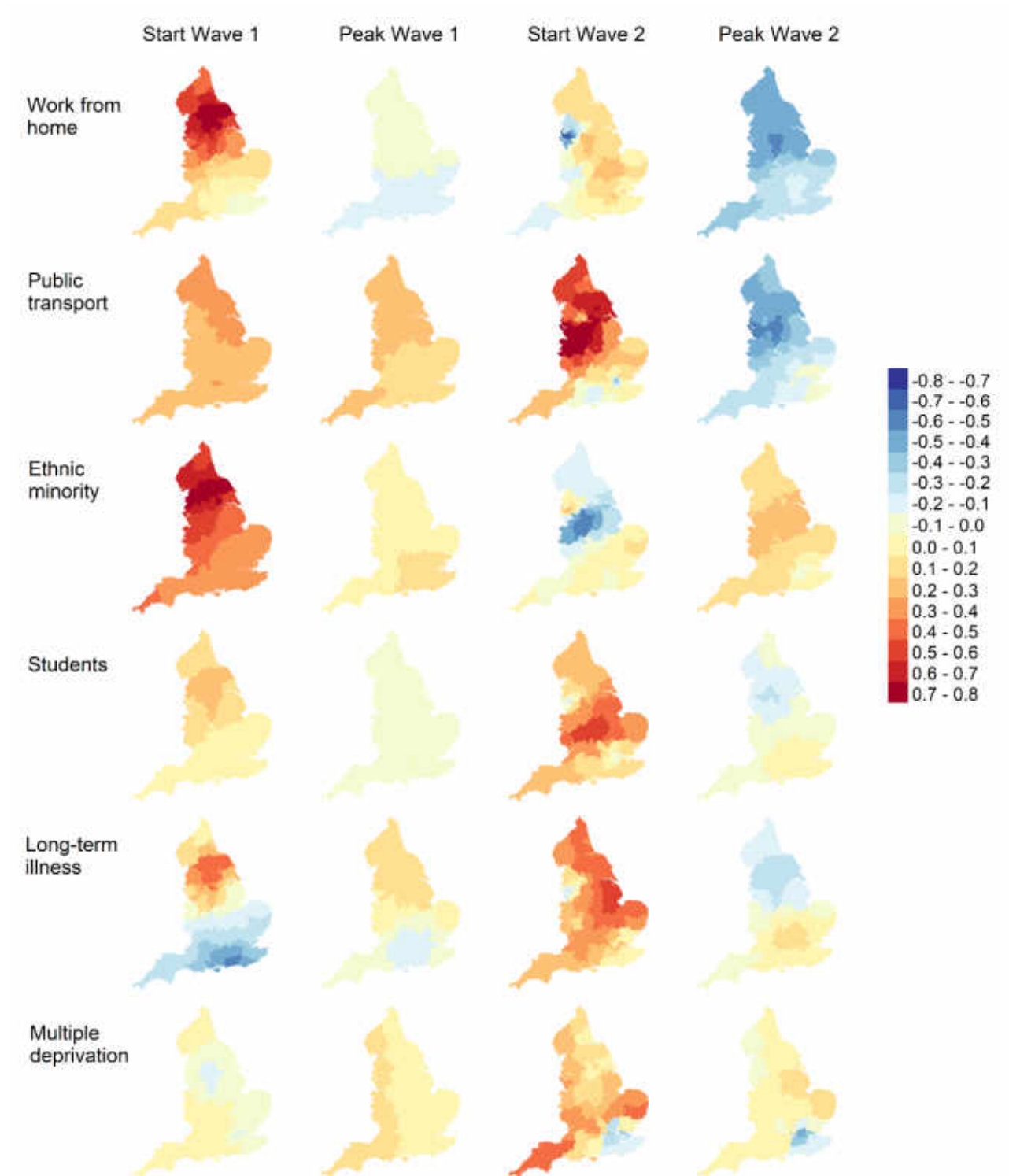


Figure 4: Selected coefficient estimates for quasi-poisson geographically weighted regression models across Wave 1 and Wave 2 of the pandemic.

Reading Figure 4: Coefficient estimates tell us how the relationship between the dependent variable and each explanatory variable varies across England, and by how much.

Paper 2: Planning for Recovery and a more Resilient Future: Learning the Lessons Lesson to “Build Back Better” and Reduce Place Based Disparities

Brendan Nevin (Director of North Housing Consulting and a Visiting Fellow at the Centre for Regional Economic and Social Research at Sheffield Hallam University), Ian Ankers (Executive Director of Business Development at Bolton at Home) and Adam Carey (Associate Director at North Housing Consulting)

This article is based on research carried out in 2020 into the resilience of neighbourhoods in the Metropolitan Borough of Bolton and explores how the public health and economic impacts of the pandemic generated by Covid-19 have been amplified at the neighbourhood level by the severity of pre-existing issues of social and economic disadvantage which characterise many of England's older post-industrial urban areas. In doing so it illustrates the importance of using evidence-based approaches to targeting investment and support to distressed communities in the post emergency phase of the current crisis. It also points to the need for radical and creative thinking nationally to address recovery and long-term resilience issues in disadvantaged areas when we emerge into a post pandemic world. The methodology for this Bolton case study was heavily influenced by early national research reports which tracked the socio-economic impact of the public health crisis, including those conducted by ONS and the Medical Academy of Science. This national research has evidenced that the impact of the pandemic has discriminated against communities which house the most disadvantaged communities and those neighbourhoods which have been impacted historically by the systemic failure of housing and labour markets.

It is therefore important to understand the past to develop effective forward strategies. Recent reports by the Institute of Fiscal Studies and the UK 2070 Commission have added to the large body of historic literature and reviews of the performance of UK towns and cities over the last two decades which have regularly produced stark findings. The research has consistently demonstrated that towns and cities which are mainly located outside London and the south of England have struggled to deal with the legacy of, and transition from, the industrial revolution to a service led economy. Since 1945 government policy had tended to recognise that the nation's industrial towns, and some cities, have been vulnerable to change and that their evident social and economic difficulties have needed redistributive support to reduce disparities in the quality of life between different places. However, despite successive waves of regeneration initiatives in the period 1945-2010 many areas and communities became progressively more disconnected from growth; social mobility slowed and improvements in health and education fell behind the nation as whole. Even in the relatively successful London and the South East regions, significant numbers of neighbourhoods and communities have struggled to access good quality affordable housing a factor which has produced relatively high levels of child poverty in these locations. It is upon this spatially unequal urban and economic footprint that the pandemic has taken its highest human toll and as a result it has ruthlessly amplified the underlying lack of resilience and the impact of concentrated disadvantage in Britain's poorest places wherever they are located.

The article firstly gives some context to Bolton as a place and how it is in many ways similar to other deprived post-industrial urban centres particularly in the North West and Yorkshire which have a very deprived urban core and a more affluent hinterland. It then proceeds to examine the public health and economic impacts of the pandemic by utilising a Community and Neighbourhood Risk and Vulnerability index. This provides an assessment of the scale of the recovery and resilience issues which need to be addressed in the short, medium and long term. Finally, the paper reviews the governments emerging approach to “levelling up” and concludes it will not be sufficient to address either the short- and medium-term recovery issues or the longer-term resilience challenges which have been exposed by the crisis.

Bolton in Context

To understand the dynamics of disadvantage in a Borough like Bolton with its 278,000 population, it is necessary to take account of the fact that the local authority was created in 1974 through an amalgamation of the old industrial towns of Bolton and Farnworth, and a number of small surrounding settlements, suburbs and semi-rural locations. It is therefore, historically a place with a diverse history of social and economic development, and its administrative reconfiguration, concealed at a local authority level, considerable concentrations of deprivation in an area such as the old industrial town of Bolton which experienced the closure of around 200 mills and 30 dye works in the 20th Century. The impact of this deindustrialisation and its replacement with a low value, low productivity economy showed that on the eve of the pandemic, 52% of the population of the older core of the town of Bolton lived in neighbourhoods which are in the poorest 10% nationally according to the Governments 2019 Index of Multiple Deprivation (see Figure 1). This “over bounding” of local authority boundaries in older industrial towns was common across the north of England during the 1974 local government reorganisation and as a result it is important to explore the dynamics of change from the bottom up when addressing a crisis such as the one generated by the pandemic.

The Borough entered the pandemic with relatively new patterns of economic growth emerging in semi-rural and low-density locations adjacent to the major transport infrastructure to the west and south of the district. This largely market driven process has been developing throughout the 21st Century and the lack of renewal resources to address decline and market failure in the older urban areas were giving rise to concerns about long term issues of polarisation and cohesion within the Borough.

Recognising the crisis which was enveloping the locality at an early stage of the pandemic, Bolton at Home, a Registered Housing Provider with more than 17,000 social rented dwellings in the Borough, commissioned an impact analysis of the pandemic, building up a picture of changing social and economic conditions from the neighbourhood level to get a view about emerging priorities for social and economic investment across the geography. The aim was to assemble information in real time which could help the organisation to adjust to the shock and plan for the recovery using a standard disaster management framework. This covers the Emergency, Repair, Recovery and Resilience phases which follow the aftermath of a natural disaster. The design of the research process was informed by national factors which epidemiologists had identified as being associated with concentrations of Covid infection and quantifying and mapping those characteristics locally to develop a Community and Neighbourhood Risk Domain¹. High scores on this composite index are consistent with a lack of resilience in labour markets, housing supply and care for the aged which can be addressed by targeted investment programmes and changes to public policy following the emergency².

¹ It is important to be clear that this mapping only identifies neighbourhood characteristics which are associated with Covid concentrations. It is not a predictive model and randomly distributed characteristics such as the location of hospitals and care homes can alter *actual* outcomes for example.

² The Indicators therefore which were included in the domain included: The poor public health outcomes experienced by BAME communities during the pandemic; Pre-existing poor health was captured through the health component of the IMD; Age profile was identified via ONS; Housing indicators were derived from blending ONS and Census data to provide an up-to-date estimate of neighbourhood condition. All this data was gathered at Local Super Output Area which have an average population of 1,500. The results were then modelled nationally with each individual area given an individual score and ranked within the 34,753 areas on the data set.

The Community and Neighbourhood Risk Domain

Research by public health agencies and the Office of National Statistics have identified that in addition to specific personal health characteristics such as underlying long-term health conditions, Covid risk factors include issues such as gender, age, deprivation, population density, and ethnicity.³ Residential sorting effects and varying neighbourhood function within urban areas tend to cluster these characteristics at a locality level. Occupational and workplace factor risks have a more limited *direct* relationship to neighbourhood conditions. However, the residential sorting effects mentioned above often result in spatial concentrations of residents who work in low-paid and customer-facing employment. This can create a vulnerability to infection being circulated in neighbourhoods with an abundance of poor-quality housing causing a higher rate of reproduction because of disrepair, dampness, and overcrowded housing.

Given the findings of national studies, the data which we included in this community and neighbourhood domain were: Those 65+ age (2018); BAME (2011) population, and the ranking for the overall Index of Multiple Deprivation (IMD) 2019 score for each Lower Super Output Area (LSOA). The score derived from the IMD domain which measures education, skills and training was added separately as a proxy for the ability to work from home or shield, as high deprivation scores on this domain are related to occupations which disproportionately rule out the ability to work from home.

Although there are clear links to settlement size and population density and Covid infection rates nationally in urban areas, this of itself does not easily translate to neighbourhood analysis attempting to identify vulnerability. So, for example, there are high density neighbourhoods in Bolton which have low levels of disadvantage and low infection rates. But there are no clusters of highly deprived, high density areas which do not have high infection rates. To take this into account a local housing indicator was developed based on overcrowding, increasing rates of occupation post 2011, and poor-quality older housing and it was included in the community and neighbourhood risk index which is also weighted with the key socio-economic variables listed above. This approach is consistent with the national epidemiological literature. The housing indicator builds on the data on overcrowding from the 2011 Census and adds changing household occupancy to 2018 combining this with a measurement of low value older housing to form a single stock measure to capture housing vulnerability.⁴

Weighting the Community and Neighbourhood Risk and Vulnerability Index

The Community and Neighbourhood Risk and Vulnerability Index is comprised of the following indicators.

Table 1: Community and Neighbourhood Indicators

Community and Neighbourhood Risk
65+ age
BAME
IMD overall
IMD education, skills and training
Vulnerable housing stock

³ Public Health England, *Disparities in the risk and outcomes of COVID-19* (London: PHE, 2020), 20; and 'Oxford dashboard highlights potential future COVID-19 virus hotspots' [showcase website], <https://covid19.demographicsscience.ox.ac.uk/demrisk> accessed 22 July 2020.

⁴ A household with at least one bedroom too few for the number and composition of people living in the household is considered overcrowded by the bedroom standard. We can trace changing population and stock totals since 2011 and so in the absence of updated overcrowding data, occupancy refers to the change in the ratio of population to dwelling. For low value older housing, stock housing built before 1900 rated in the lowest two Council Tax bands (A-B) as a proportion of local housing in 2019. Each of the three indicators is ranked nationally, given equal weight and combined as a rank of ranks.

The index score for each measure is ranked by decile from the 32,844 English LSOAs. The index gives a weighting of 2 to the first decile and a weighting of 1 to the second decile. The index aggregates these 2 and 1 scores. We have disregarded scores which fall outside of the top two deciles at the national scale. This is because we are seeking to identify and prioritise areas for fast-track interventions to improve *Resilience* in the medium term and beyond to address factors which have contributed to poor public health outcomes during the pandemic. The mapping revealed that these are largely the same places which have also fared badly in the resulting economic collapse and will need immediate support in the *Recovery* phase.

Significant Findings in Phase 1 of the Pandemic: Community and Neighbourhood Risk

The national data base which ranks the community and neighbourhood risks shows that 1.3% of English dwellings were located in LSOAs which scored a total of 7 or 8 out of a possible score of 10 on the measurement of risk and vulnerability. However, in Bolton this figure was 7.3% of the total housing stock. This highlighted an enhanced risk factor locally compared to measuring by IMD alone where only 0.7% of dwellings were located in the poorest 1% of neighbourhoods. Moving along the scale of risk, the domain was used to identify places with a score of at least 6 which identified 13.9% of dwellings in Bolton but only 2.9% nationally (See Figure 2). Bolton at Home stock was even more over-represented in neighbourhoods with evident resilience issues with more than a quarter of its homes located in neighbourhoods with a score of 6 or more, this showing how tenure has become an important indication of disadvantage. A convergence with outcomes more closely associated with the Boroughs performance on the IMD is evident only when the score is dropped to 4 which contains 14.1% of English dwellings and 28.8% in Bolton, figures which broadly replicate the ratio of locations in the poorest 10% in Bolton compared to England as a whole (25.3% and 10% respectively). There is, therefore, a significant difference in neighbourhood risk and vulnerability to the pandemic between Bolton and England as a whole, this resulting from the area's chronic deprivation in its ex-industrial core and concentrations of poor-quality housing.

A final point to highlight is the relationship between what has *happened* compared to the theoretical map of risk and vulnerability. The Community and Neighbourhood Risk and Vulnerability Domain for Bolton is mapped in Figure 2. Its close association with the map of Covid infections in the first wave to September is evident in Figure 3, where the red identifies neighbourhoods with more than 2.5 times the national infection rates, and dark and light pink registers infections above the average by a factor of 2 and 1.5, respectively. Eighty five percent of Bolton at Home stock is in neighbourhood's classified red or pink. Appendix 1 highlights some methodological issues to note when considering this analysis.

A further challenging outcome was highlighted by the development of a separate Covid economic impact analysis in Bolton. Significantly the same neighbourhoods appear when intensity of risk and public health and economic impact are measured. So those neighbourhoods with the most serious public health outcomes also tend to have suffered the most from the economic shock and its impact and unequal distribution is detailed below.

The Local Economic Impact of the Pandemic

The economic shock following the arrival of the pandemic emerged at speed with the claimant count for out of work benefits increasing at more than three times the annual rate of increase of the 1980s recession between February and December 2020. The pandemic induced recession has impacted upon every community in the Borough, but the most severe impacts have been focused upon areas which were already severely deprived as is clear from the following:

- The Claimant Count of those looking for work increased from 4.7% in February to 8.5% in December. However, by December the unemployment rate in central Bolton was 17.4% with a rate of 20.7% for men. By way of contrast the rates for suburban West Houghton were 5% and 6% respectively.
- The young have been especially hard hit with unemployment increasing from 6.9% to 12.9% over the same period. The impact of this shift is also distributed unequally with several

neighbourhoods experiencing a rate of youth unemployment in the range of 18% - 22.6%. In two locations of concentrated social housing the rate had exceeded 30% by the end of the year.

- The rate of Universal Credit claims increased by 84.6% in 2020 and this increase was widely spread across already deprived areas this reflecting in part the fact that private renting and social housing now often coexist at significant levels within low-income neighbourhoods where people in a recession are more likely to need help with housing costs.

A National Framework for Recovery and Resilience: Why “Levelling up” will not be enough

The economic shock which has emerged from the public health crisis stemming from the pandemic has produced a decline in economic activity of historic proportions. The Chancellor confirmed that the economy was expected to decline by more than 11%, the largest annual contraction in 300 years. The public sector deficit which has emerged is likely to be £400bn or 19% of GDP in 2020/21. This deficit reflects the extent of financial support required in the emergency phase which was needed to stave off economic collapse. In this context the Fiscal event on November 25th 2020 provided the first iteration of the investment framework which will propel the UK into the repair, recovery and resilience building phases which must follow the emergency as we slowly emerge into the post pandemic world hopefully over the next year.

The Fiscal event confirmed that the Government intends to deploy the largest public sector capital investment programme since the 1970s. In the four years to 2024/25, £429.6bn is available to spend on infrastructure, land, and the environment. Transport and the zero-carbon agenda are big winners in the resource allocation process with the latter being the first large down payment in a generational shift in investment priorities. Aligned with this increase in the volume of investment there were also spatial policy shifts which signalled a shift in investment within England towards the Midlands and the North, after two decades of relative decline.

Investing in the “Levelling Up” agenda is significant because it explicitly recognises that addressing spatial inequality is now a major policy priority and it could be a powerful tool to stimulate recovery in the most impoverished parts of England. It is also important because it *implies* a standards-based framework will be developed which gives meaning to the term and develops a policy which *could* drive forward improvements in the resilience of areas which have experienced endemic infection levels over the first and second waves of the pandemic.

There are three key component parts of the Levelling Up agenda which are designed to narrow the stark divisions between regions, town and cities in England. The first is the National Infrastructure Strategy which sets out how the capital programme will be directed. The Prime Minister in his forward strikes a reassuring tone for the most deprived locales:

“.. in the period covered by this strategy, we will significantly shift spending to the regions and nations of the UK. On our major A roads and motorways, two-thirds of our upgrades are outside south-eastern England, including duelling the A303 to the south-west and completing the first trans-Pennine dual carriageway in fifty years”.⁵

Secondly the programme contains a bespoke “Levelling Up” fund. Which has cross departmental support and can be used flexibly to achieve local objectives. This £4bn fund is for capital expenditure only. And is targeted at investment in small scale infrastructure projects in the next four years in “neglected” areas in England. The third contribution to achieving more equal social and economic outcomes was the review of the governments Green Book. Many organisations in the North and Midlands have long contended that the Green Book which sets out an appraisal methodology for capital projects, favours investment in high value (largely southern) areas of England because the financial benefits of investment are skewed by land value uplift. This also

⁵ HM Treasury (2020) *National Infrastructure Strategy: Fairer, faster, greener*; HMSO November 2020

works against areas which face expensive reclamation challenges where the land may have a negative value.

The Treasury have largely dismissed this critique but consider the over-reliance on financial benefits and costs to be the result of inadequate specification of outcomes and their relationship to government policy objectives in the business case which frames the appraisal. The policy priority now given to levelling up, it is argued, should help release investment in more disadvantaged low value areas if the business case and outcomes are aligned with this government priority. The problem with this approach currently is that the Levelling Up programme does not have any clearly defined policy priorities, KPIs or measurable objectives to input into the Green Book Business case. It is currently an ill-defined policy without a transparent strategic framework.

While the headlines in relation to redistribution look reassuring there are several issues which emerge when closer scrutiny is applied to the emerging framework. The Prime Minister highlights that two thirds of *new* road schemes are to be located outside the South East. However, these areas contain 67% of the English population, so presumably levelling up is related to the number of projects being proportional to population in this case. However, new schemes do not necessarily translate proportionately into investment. They can be large or small. Furthermore, the point made avoids referring to existing spending commitments which are substantial. There is good reason to believe that this Parliament will oversee another disproportionate investment in the south of England. This is because massive and multifaceted 30-year development programmes in the Thames Estuary and the Oxford/Cambridge/Milton Keynes ARC have already been developed by, and incorporated into, the machinery of Government. The North has no such concepts at delivery stage or the capacity to develop them as result of austerity and previous government policies which provided no incentive to invest in the development and delivery of large schemes in the most disadvantaged locations.

What is striking about the November 2020 Fiscal event is that the statement and subsequent proposals gave no sense of urgency in addressing the aftermath of an international public health disaster. This disaster in the UK has been exacerbated by inequality and a historic lack of standards driving the development of public policy, which in turn has diminished the resilience of the poorest communities and places. Rather than rethink and reflect on how we have arrived at such poor local health and economic outcomes in the UK, the response to disaster is being addressed through a series of largely silo based interventions designed in Whitehall before the pandemic arrived.

Preparing for Recovery: The Urgent Need for New Thinking and Support for Flexible and Devolved Funding Packages

Areas which have been disproportionately impacted by the pandemic and its economic consequences will have accumulated significant additional social, health, economic and education pressures as a result of the disaster and these will produce after- shocks to public services, the local economy and disadvantaged people and neighbourhoods. Collectively we should expect significant additional demands to emerge for mental health support, employment and training, crime and disorder, and assistance for pupils who have fallen behind in attainment. Flexible funding is needed to support these localities with priorities being determined on the ground by local leaders and communities: This should be supported by a Capacity Development Fund to allow local anchor institutions to develop the skills and delivery vehicles that can work up large scale multi-faceted schemes and programmes and address the wide ranging social and economic weaknesses which Covid has exposed. This should also be complimented by an empowerment fund which can facilitate participation by all communities in the formulation and delivery of local responses to the consequences of the pandemic and medium- and long-term proposals to build a more resilient local economy and place. Without these capacity building resources it is hard to envisage how long-term recovery and resilience programmes will be developed and sustained.

The economies of post-industrial urban areas such as Bolton were in desperate need of a long-term plan for renewal before the pandemic exposed its lack of labour market resilience, and addressing this issue along with the need to improve housing conditions has become even more pressing in its aftermath. Over time interventions promoting resilience will need to be supported by a national investment framework which is standards driven, but a response is needed right now which can provide a bridge from the disaster to long term recovery. A flexible and devolved pandemic recovery funding programme is needed which can target resources and respond flexibly to the priorities of local communities. In some places that could be emergency food provision, a focus on youth unemployment and the revival of the town centres, other areas may have different priorities. Central Government have no way of knowing how to best address the very local issues which need to be addressed as a priority over the coming months and years. However, if they build new long-term partnerships with local decision makers, they will also build the capacity needed to engage with national programmes which can ultimately achieve the objective of Levelling Up in a meaningful way.

Figure 1: Local Deprivation 2019: Overall Ranking

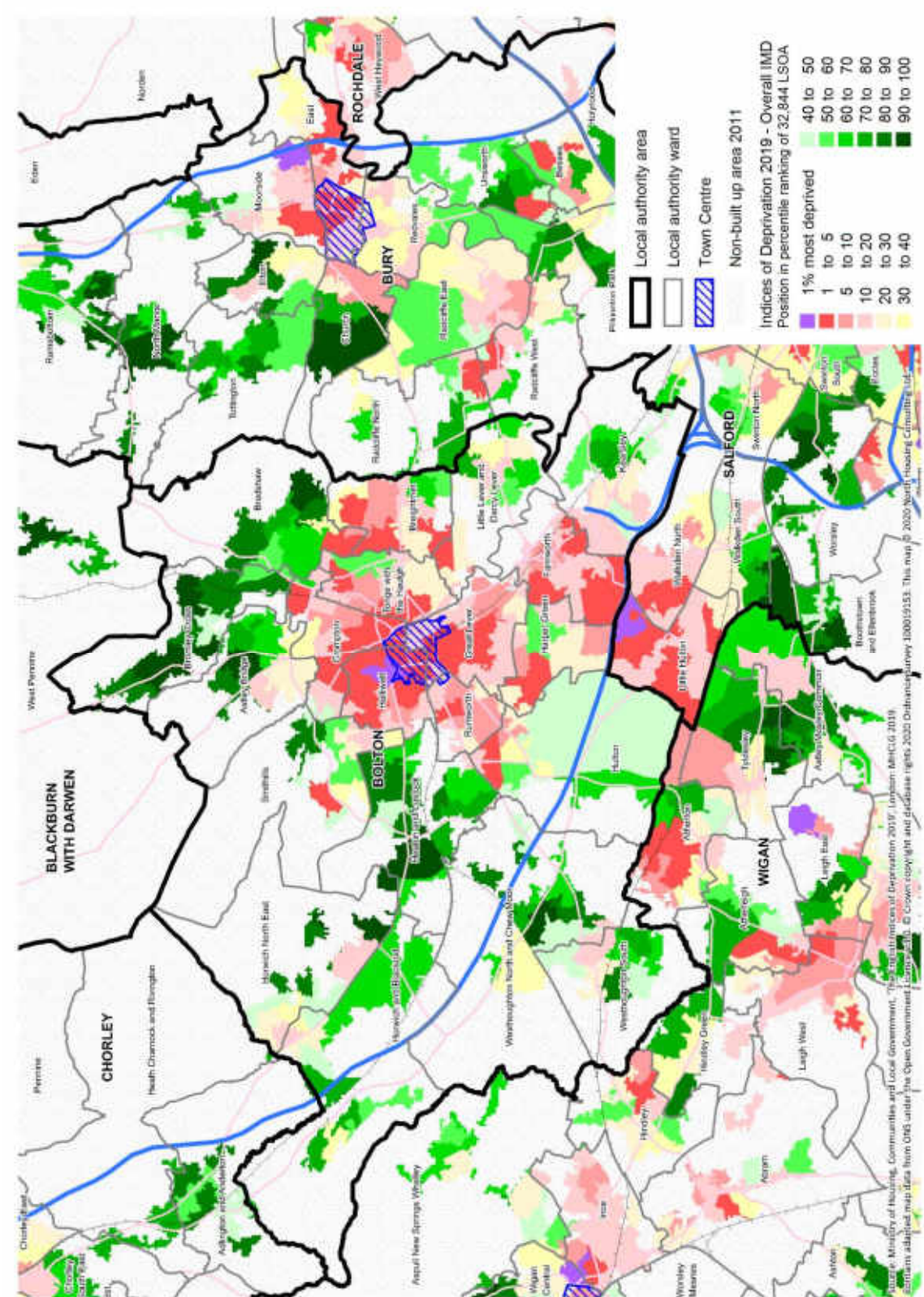


Figure 2: Place Vulnerability: Community and Neighbourhood Risk Domain

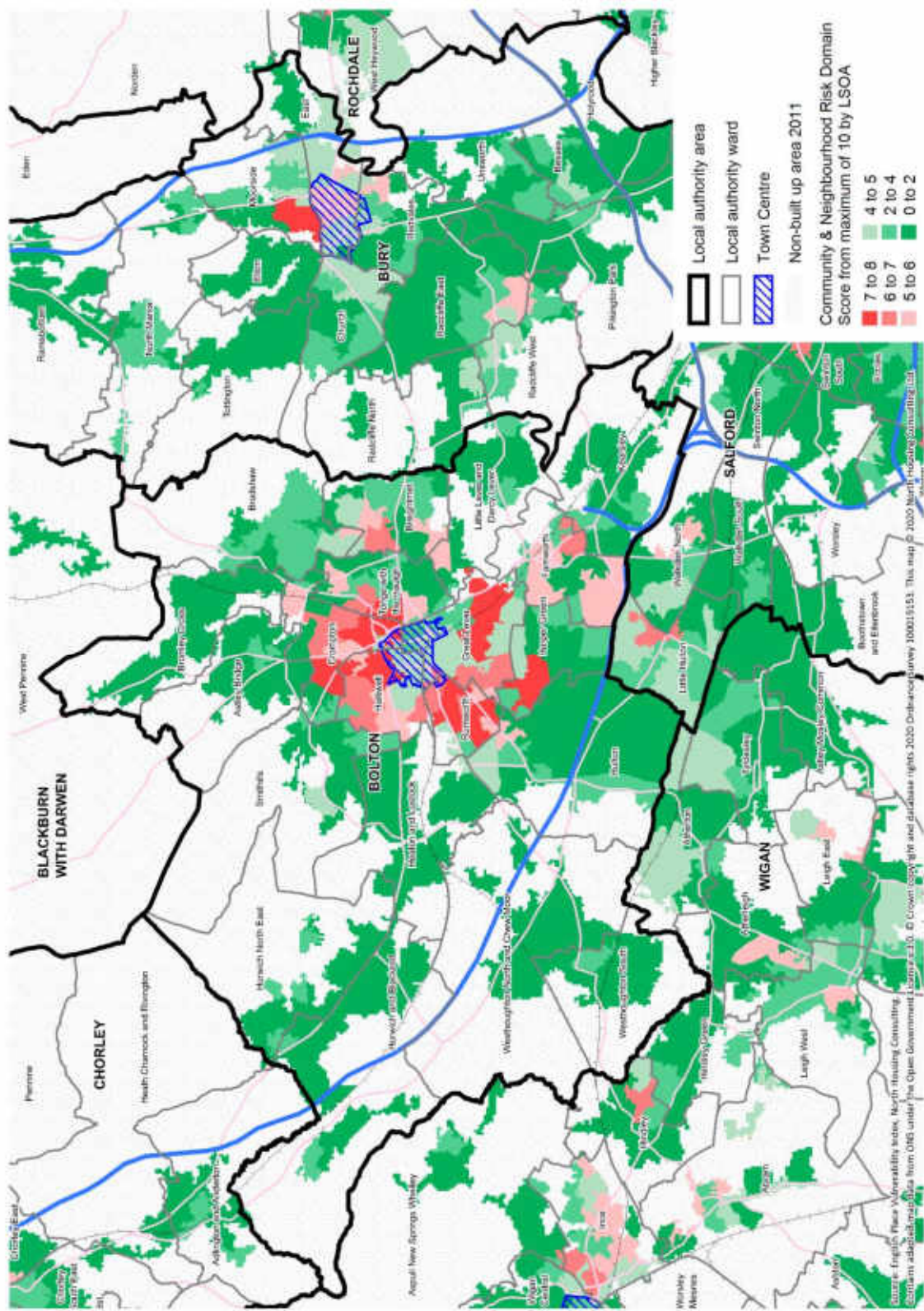
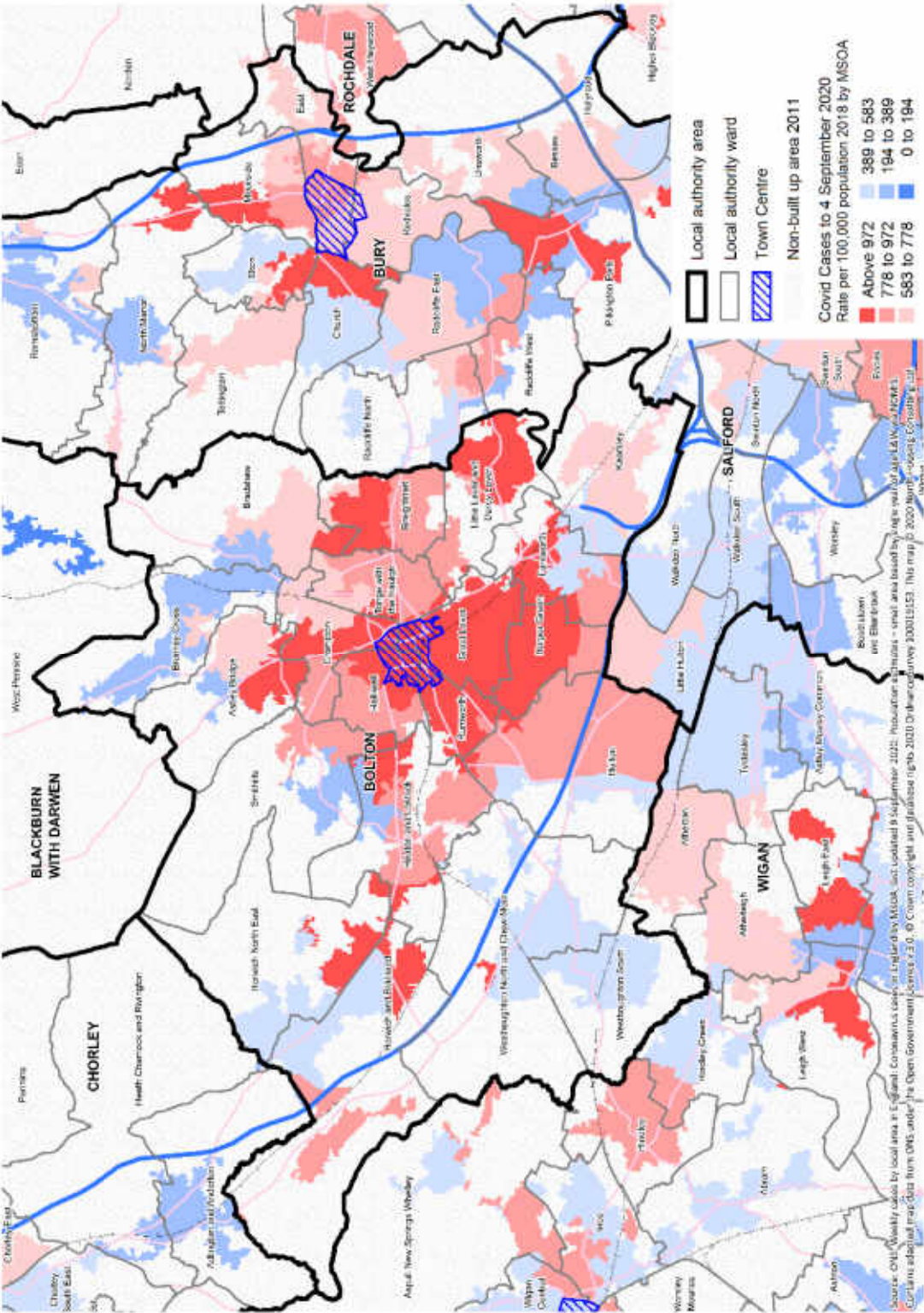


Figure 3: Covid COVID Case Rate by LSOA in Bolton: March- September 2020



Appendix 1

Covid Cases: Interpreting the Maps of Vulnerability and the impact of the Pandemic: Some Methodological Issues

The areas shown in red on the map (See Figure 3) are where Covid cases rate in September 2020 are at least 2.5 times the English average of 389 as a local significance threshold. At this point this was infections above 972 per 100,000 population (2018 population base). The darker pink is twice the English average, the lighter pink is 1.5 times. The other areas are below the national average.

Note that nationally MSOAs located in the first decile have infection rates which range from 10.3 to 1.9 times the English average; MSOAs in the second decile range from 1.9 to 1.1 times the English average. So, all areas mapped in red are perhaps not surprisingly, in the first national decile for infection rates.

Note also that the Vulnerability Index uses LSOA-level data for 32,844 localities in England. Covid data is released at MSA level (clusters of LSOA, some 6,791 in England). Care is needed comparing LSOA place data with MSA Covid data for two principal reasons. Firstly, mapping Covid at local level offers lines of enquiry, not causal links. Covid has a random, dynamic and is multifaceted phenomenon where associations can nevertheless be observed with risk factors at neighbourhood level. Secondly, because MSAs have on average 7,800 residents' while LSOAs have average populations of 1,500 sometimes it is difficult to assert the association between vulnerability indicators and health outcomes. This is because an MSA can match one or more deprived LSOAs with one or more less deprived locations. In these circumstances the actual incidence of Covid and its association with national risk factors can only really be determined by street level data which is not available to researchers outside of specialist public health professions. This is not hugely problematic for this project because Bolton in common with many (if not most) of the deprived urban areas of the North and the Midlands has large swathes of its urban form in the poorest LSOAs nationally, and these often form monolithic blocks which are easily matched with MSAs.

This phase of the study mapped data for cases to 4 September 2020, which corresponds with the first wave of the pandemic infections. The infection data is known to be only a partial capture. It is therefore imperfect as it misses many asymptomatic cases for example, but conversely it does tend to pick up the most serious infections which require medical intervention or where symptoms are sufficient to generate a referral for test. Therefore, the Covid mapping essentially reflects the scale and location of more severe cases rather than providing an accurate measurement of total cases. We have not measured infections beyond the September 4th cut off, as after this date the spatial concentrations of infections were considerably impacted by public policy decisions relating to decisions to open Universities and a tiered system of restrictions which were applied on a geographic and temporary basis. These Public Sector interventions made national comparisons of neighbourhood structure and performance at a given point in time highly problematic in the autumn and winter months.

Paper 3: Discussion Note on The Future of Cities Post-Covid?

Professor Vincent Goodstadt (The University of Manchester) and Professor Ian Wray (University of Liverpool: Heseltine Institute)

Context

This note sets out some initial thoughts for discussion in answer to the question: *'How might the economic and social shock of COVID alter the future of cities?'* This is written from the perspective of the UK2070 agenda - namely, the immediate policy implications and priorities for the longer term levelling up of the economic performance and social conditions across the UK.

It also needs to be recognised that most (80%+) of the UK live in city-regions and this will remain so and potential for change is limited because of locked-in demand. Cities have therefore been central to the narrative government policy, for example, in terms of economic agglomeration benefits, innovation and the bridging of the *productivity gap*, as well as tackling deprivation and delivering the zero-carbon agenda.

The COVID shock has accelerated trends that were in the pipeline. However, the centrality of cities (as central places) will always be a competitive advantage. Therefore, even though traditional office and retail commercial operations have been most affected the new more dispersed, less intense or virtual patterns of activity that are emerging may well be to the advantage of cities, given the concerns were emerging about the overconcentration of commerce in terms of congestion, loss of greenspace and property costs. Decentralisation could well end up reducing the undue pressure on cities and create head-room for growth for new entrants that were unable to compete e.g. high order social and community functions which need / benefit from this centrality and ability to interface.

The immediate policy implications, as suggested in the following notes, relate to two key aspects of the changing role and function of the UK's major cities:

- Regional: The need for a new balance between them and the UK's secondary and third tier towns / cities; and
- Locally: The internal restructuring the central areas of cities to enhance their competitiveness, inclusiveness and carbon footprint.

This is not a new question!

The current situation is not unique in the history of the UK's towns and cities. They have suffered severe shocks before. Annex 1 to this note sets out a longer essay by Professor Ian Wray, on this subject which draws out the following lessons of history, in summary:

- Cities are remarkably resilient and it takes more than a pandemic to 'fell' them;
- High growth can and does appear in smaller places, provided they are well connected to a wider city region and have assets;
- When cities take a knock, they can restructure their urban fabric, but this takes time and needs public sector support (prime examples are the UK Urban Development Corporations in places like London and Manchester);
- There is already a natural tendency to polycentric form of urban development, more so in Europe than the UK;
- Reshaping cities on this wider city region footprint needs regional, city wide and long-term thinking;
- In the 1970s regional plans, new town development corporations delivered high growth suburbia, high housing output and harmonious agreement between partners;

- In the 1980s and early 1990s Urban Development Corporations (later Regional Development Agencies) restructured decaying parts of our cities;
- A substantial urban restructuring can now be anticipated, driven by trends accelerated by the pandemic like WFH, reshaping transit flows and functions, potentially towards a more polycentric structure;
- A falling away of some urban functions will make space for others, overloaded transport infrastructure will be relieved, redundant buildings can be cleared and cities made greener (there is a much experience of this in Germany and in Britain); and
- But making it all work again always requires effective plans, tied to effective programmes and long-term implementation. At present the UK, especially England, is short of all this.

What was the Future of Cities Pre-Covid?

The future of cities was already under debate pre-Covid. The most significant study on this in the UK was the government's [Foresight Project](#) - the Future of Cities. Its conclusions in summary were as follows, in terms of the common challenges they face to some degree:

- **Leveraging available data on city processes** to increase the efficiency of public service delivery governments.
- **Changing demographics** which are determining the size of cities change in the future
- **Ageing population.** Given the increasing proportion of older people living in urban areas, the need to provide attractive living and working environments for an ageing population.
- **Divergent economic performances** across UK cities, the need to define which sectors might increase employment opportunities outside the greater south-east and what supporting infrastructure could be required.
- **High-skilled labour mobility and productivity** are interlinked so cities must attract and retain an appropriate mix of skills beyond the provision of employment opportunities.
- **Integrating systems to make cities liveable** is important in view of the increasing correlations between cities' well-being, liveability and economic performance and the impact of different patterns of spatial development enhance the liveability of UK cities.
- **Managing risks to city environments and resource supply** within and beyond city boundaries is of growing importance to reduce resource dependencies and carbon footprints.
- **Increasing housing pressures** on city spaces and making successful places in the longer term in the planning and development to help meet housing demands as cities grow.
- **Differential connectivity levels between and within cities** be enhanced to impact on city employment levels.
- **Changing ideas about decision-making and accountability related to devolution** has implications for civic participation and raise questions about how people can be better represented in cities and city-regions.

More recent Post-Covid discussions end up with a very similar list of the challenges that are faced. Cities remain key to the narrative that has informed recent policy to date:

- In terms of the economy, the UK's potential as a global mega-region is held back by the need to tackle the overdependence on London and relatively low productivity of the UK's next tier of cities;
- In terms of society, the concentration of deprivation and poor quality of life in the main cities is unacceptable;
- In terms of the environmental agenda, the cities are key to a just transition to zero-carbon given their share because of their potential to reduce carbon footprints through densification and mass transit and the reduction in the consumption of natural resources.

It also needs to be recognised that face-to-face contact will still be critical to most of the activities that lie behind the importance of the major urban centres as the heart of the transport systems, centres of commercial transactions for individuals and business and cultural congress which is critical to the creativity required for innovation, productivity and economic growth. It also needs to be recognised that face-to-face contact These needs remain. City centres and CBDs must be renewed and thrive as the heart of communities and economic activity in the *new norms* created by Covid-19.

So, what will be different about the *new norms* created by COVID-19?

There is a wide range of emerging thought on the post-COVID future for cities. Annex B lists just a few examples of international and UK commentaries. Given the width of their considerations and uncertainties, the following notes summarise what might be termed the current 'wisdom of the crowd' (albeit socially distanced), separating out what are the short pandemic impacts on cities from those which are structural, long term, and problematic.

The COVID shock has however accelerated trends that were in the pipeline, and already starting to re-shape the form and structures of cities and we expect to have longer-term impacts on the future of cities:

- Shorter and Local Supply Chains - to maximise the potential of domestic supply chains by improved labour markets and intercity connectivity to maximise the UK as a single global economic zone / megaregion of 60m+ population;
- Moderated urban densities - to revalue the importance of the green urban infrastructure and reducing pressure on transit networks by home-working;
- Shift in On-line Commerce - unless there is a real shift towards the '*frugal economy*', consumer expenditure levels will be restored. expenditure will be restored to change the balance away from trading retail floorspace towards a significantly expanded supply of large-scale and well-connected smart warehousing complexes;
- Growth of Online Education - to capitalise on the international HE reputation of the UK with the benefit of ameliorating the growing pressure on UK universities to accommodate and increasing global demand for a UK qualification;
- The potential of big-data and AI - to enhance urban management.

Overshadowing these trajectories is the '*Covid-debit*' which will only be paid off by urban economic growth and not fiscal instruments. Resources will be tight, but this creates an even greater imperative for a clearer national framework for levelling up economic performance and social conditions, which cities are in the forefront of need and action. At present, central government is distracted from providing this leadership by the day-to-day burden of service-

provision that would be better managed locally. Centralised departmental policy-making has not been and cannot be sensitive to the depth, chemistry and complexities of inequalities in each major city and conurbation, however well intentioned. A fresh approach to urban policy is required based on a new national urban partnership within which central and local government provide collective leadership.

What are the implications for Urban Policy & Cities post-Covid?

The implications of these trajectories for cities depends of the form and structure of city networks

- Most (80%+) of the UK live major urban areas, and this will remain so.
- Urban City Structure in the UK varies from centralised city regions to dispersed urban networks - this will affect the potential for a rebalanced urban form to emerge.
- This in particular is important with the different sizes of city regions (e.g. London (12m) Manchester (4m) Tees Valley (<1m)).
- The potential for change in the form and structure is about 20% over the next 20 years (a generation) because of locked-in demand.
- The ageing demographic structure will not only affect demand on services, but also the size of the local labour market, total population and local income and tax bases.
- All of the UK's urban regions need re-engineering - long term brownfield land, incomplete transit networks, overdeveloped central areas, vulnerable infrastructure (e.g. water supply) and inadequate greenspace network.

The immediate policy implications are considered to be related to two key aspects arising from the impact of the pandemic on the role and function of the UK's major cities and both regional and local.

Regionally, the need to reinforce the economic power and development pressures across urban networks through a better balance and connectivity with the functional economic regions of the UK, namely, the linked networks of primary cities and their associated secondary and third tier towns / cities. This may involve a re-purposing of major centres and re-balancing of the urban networks of which they are part (e.g. will Wembley and Slough lose or grow their office roles).

However, the key action required is to enhance inter-urban connectivity. The labour markets are constrained by the major regional skills gap and the fact that the UK's transport system is not joined-up impacting on the labour market, for example, the access to skills. Based on work for the UK2070 Commission there is a pressing need to fill gaps in connectivity within all cities with populations over 175,000. A national initiative for Levelling Up the Labour Market giving priority funding to the most poorly served areas to future-skill the workforce to achieve the national average, and to create high quality reliable zero-carbon transit systems for all cities and towns with populations over 175,000 by 2045.

Locally, the priority is to accelerate the internal restructuring the central areas to enhance their competitiveness, inclusiveness and carbon footprint. The pandemic has highlighted to areas for policy action across the UK. Firstly, some of the most important high order social functions has been devastated. This has reinforced the trend whereby they were increasingly being lost from city centres because they could not compete for space, for example, the cultural quarters of cities have been lost over recent years. It is accepted that many individual businesses/ venues / facilities will never re-open, but the basic human need for social congress will flourish as soon as it is allowed. There is therefore an opportunity to bring these back and restore a sector.

Similarly, whilst the traditional office complexes have been closed down during the pandemic, the new patterns of working may well prove to have reduced the threat to these urban complexes by creating head-room for growth, for example, by easing transport and rental growth pressures.

The second key local issue highlighted by the pandemic is the inadequacy of scale and quality of public open spaces. This is a long-standing issue which has not been properly integrated into economic policy - it has been treated as an add on, with notable exceptions such as the Thames gateway, Red Rose Forest and Clyde Valley Greenspace Partnership. International experience has also shown the benefit of integrating town and country environmental policy, for example through the creation of national urban parks.

The recent government initiatives promoting place-based action have been welcome but we need to recognise that they are not on a scale to make a fundamental change even where they are net additional funding and not a repackaging of existing budgets. The Towns Fund and Urban Forestry funds are only a start towards the amount required. The overall levelling up fund of £3.6bn is a fraction of the £15bn/ann identified as being required in the UK2070 February 2020 report.

In Summary

The immediate policy implications, as suggested in the following notes, is the need for an explicit new national Urban Policy based on two key aspects of the changing role and function of the UK's major cities:

- A new Urban Policy for the UK which promotes a new balance between primary cities, secondary and third tier towns / cities based around a national commitment to a connectivity revolution for all our major urban areas; and
- A new Urban Place Strategy promoting the internal restructuring of the central areas of cities as social, cultural, educational and community foci, and re-engineering and enhancement of their green-blue infrastructure.

Annex A: THE CITY AND THE FUTURE: Professor Ian Wray

The authors of the recent report on rail needs for the Midlands and North make a startling suggestion: Covid 19 could cause cities could be abandoned¹. It is interesting to see that the issue is being contemplated by policy makers. But is it more than groundless and possibly ill-informed speculation?

To provide an answer we should look to theory and to history. Start with London.

Who Buried My Cheese?

In 1666 London was hit by the plague and 100,000 souls were lost. The diarist and civil servant Samuel Pepys stayed at home in London and continued to work and socialise. Pepys did leave home during the Great Fire of London but not before burying his wine and parmesan cheese in the garden, fully intending to return.

Of course, Pepys had no car, wi fi, zoom or internet. On the other hand, he had no effective medical services and there were no effective public health precautions. Nonetheless he felt impelled to stay and did.

London was abandoned at one stage in the last two millennia. When the Roman legions left, civilised society collapsed and Europe was tipped into the dark ages². But that aside London's resilience has been enduring, withstanding the plague, Black Death, blitz, loss of manufacturing, loss of Empire. Cities like London are simply massive fixed capital investments and social networks, not to be replicated elsewhere, ready to be reshaped but not abandoned.

Theory I: The End of Cities

During the 1960s planning thinkers moved against big cities. The US theorist Melvin Webber foresaw a world in which community based on proximity and place would be no more. The car, the telephone and the new US freeways would lead to dispersed patterns of life and dispersed communities. The architect and writer Martin Pawley drew similar conclusions - a private future in which entertainment and social life revolves around and is provided within the home. Amazingly, both these visionaries developed their anti-urban world views before the arrival of the internet, email, zoom, e commerce and WFH. But they strangely anticipated these events.

In 1970s Britain, as much as 1970s New York, it looked as though the anti-urbanist prophecies were correct. All Britain's major cities lost great numbers of jobs in industry and logistics³. New York seemed to be on the verge of collapse as manufacturing disappeared along with the head offices of US corporates. Cities in both countries were experiencing de- industrialisation.

Rumours of the death of cities death were greatly exaggerated. During the late 1990s and into the 2000s London in particular (along with many big British cities) experienced a turnaround, as did usage of mass transit. Partly this reflected by the enduring role of cities as the crucibles for innovation (as demonstrated empirically by the great geographer Sir Peter Hall). But mainly it was driven by high consumer debt and by services in culture, in retailing, in finance, in tourism - supported and endorsed by policymakers anxious to create new jobs in cities with large BAME populations and running out of manufacturing jobs.

¹ Rail Needs Assessment for Midlands and the North, NIC, December 2020, P.34

² The city finally fell, and was essentially abandoned, in the early 5th century, around 410, after the occupying army and the civilian administration, the instruments of Empire, were recalled to Rome to assist in its defence against the encroaching Barbarians

[https://www.historyhit.com/the-rise-and-fall-of-roman-london/#:~:text=The%20city%20finally%20fell%2C%20and,orders%20of%20the%20Emperor%20Honorius\).](https://www.historyhit.com/the-rise-and-fall-of-roman-london/#:~:text=The%20city%20finally%20fell%2C%20and,orders%20of%20the%20Emperor%20Honorius).)

New York too saw a huge economic turnaround. With London it became one of the two richest and most powerful cities in the world, again its growth fuelled by services, by finance - all in turn fuelled by debt. The great urbanist Jane Jacobs was - apparently - vindicated. Big money was made in big cities. Or so it seemed.

Theory II: Big is Beautiful

This turnaround in economic performance in many - not all - cities was ascribed to agglomeration theory, first advanced in the 19th century by the British economist Alfred Marshall to explain the rise of industrial agglomeration. In effect it was a theory of urban economies of scale: the bigger the city, the better the access to people, ideas and collaborators. In the USA mathematicians suggested an iron law of productivity growth: the bigger the city, the higher its productivity.

What the theory did not do was explain the case of the large cities which continued to perform badly, here and in the USA. And many big cities in the USA did perform extremely badly, as the geographer Enrico Moretti demonstrated. Incomes fell, jobs were lost, services deteriorated, drug taking and deaths of despair grew, Donald Trump found his electorate.

An examination of GVA growth rates in British cities shows no real relationship between growth and size. Look at the figures between the late 1990s and the early 2010s, London of course did well. But the highest performing cities were relatively small - Milton Keynes and Cambridge. Birmingham performed particularly badly. Manchester, Sheffield and Leeds were only middle ranking. Smaller cities like Aberdeen, Bournemouth and Derby grew fast, as did Warrington, an old industrial town in North West England.

Both Milton Keynes (which came first) and Warrington (eighth) have something in common. They are both new towns expanded from smaller older urban centres by well-funded and well organised new town development corporations, using Wilson's 1968 New Towns Act. And they both occupy similar positions in wider city regions: Warrington in relation to Manchester, Milton Keynes, London. They are essentially outer ring places in a connected polycentric city, both very well related to national and regional transport networks, both rail and motorway.

What the theorists really meant by big cities was cities big in assets - like brilliant people, entrepreneurs, universities, connectedness - not just big in size, period.

Theory III: Many Centres

In the mid-2000s a massive EU funded research project looked at Europe's mega cities and how they functioned as polycentric entities. It found a sharp differentiation between London and the other big European metropolises.

London's mega region was hugely dependent on employment in its core with commuters trekking in daily up to 100km. Elsewhere - in the Randstad, Rhine Ruhr and Central Belgium - a much more distributed pattern prevailed, though there were signs that in the outer rings, beyond the Greater London boundaries, the London mega region was indeed beginning to demonstrate a polycentric and this more balanced structure. It is an ideal structure for electrified public transit, cycling and walking and thus decarbonisation. Decentralisation related to WFH could strengthen this trend.

Ten Implications

For brevity these are listed:

- Cities are remarkably resilient and it takes more than a pandemic to fell them
- High growth can and does appear in smaller places, provided they are well connected to a wider city region and have assets

- When cities take a knock, they can restructure their urban fabric, but this takes time and needs public sector support (prime examples are the UK Urban Development Corporations in places like London and Manchester)
- There is already a natural tendency to polycentric form, more so in Europe than the UK
- Reshaping cities on this wider city region footprint needs regional, city wide and long-term thinking
- In the 1970s regional plans, new town development corporations delivered high growth suburbia, high housing output and harmonious agreement between partners
- In the 1980s and early 1990s Urban Development Corporations (later Regional Development Agencies) restructured decaying parts of our cities
- A substantial urban restructuring can now be anticipated, driven by trends accelerated by the pandemic like WFH, reshaping transit flows and functions, potentially towards a more polycentric structure
- A falling away of some urban functions will make space for others, overloaded transport infrastructure will be relieved, redundant buildings can be cleared and cities made greener (there is a much experience of this in Germany and in Britain)
- But making it all work again always requires effective plans, tied to effective programmes and long-term implementation. At present we are short of all this.

Ian Wray

ANNEX B; A sample of the Recent Contributions on the Future of the City

CENTRE FOR CITIES

<https://www.centreforcities.org/blog/which-cities-are-best-equipped-for-socially-distant-working/>

CITIESTOBE

<https://www.citiestobe.com/covid-19-cities-6-trends-urban-economies/>

Deloitte

<https://www2.deloitte.com/uk/en/pages/consumer-business/articles/what-next-for-the-high-street.html>

Economics Observatory

<https://www.economicsobservatory.com/what-is-the-future-of-commuting-to-work>

EURO CITIES

<https://eurocities.eu/latest/city-dialogue-on-urban-development-and-covid-19/>

FOREIGN POLICY

<https://foreignpolicy.com/2020/05/01/future-of-cities-urban-life-after-coronavirus-pandemic/>

FT

<https://www.ft.com/content/d7c6cdc6-5e5c-47bd-bc3f-1719953c2ef0>

IPPR

<https://www.ippr.org/publication/strategies-for-promoting-integration-at-the-city-region-level> KPMG - <https://assets.kpmg/content/dam/kpmg/uk/pdf/2021/01/the-future-of-towns-and-cities-post-covid-19-how-will-covid-19-transform-england-s-town-and-city-centres.pdf>

MCKINSEY

<https://www.mckinsey.com/~media/McKinsey/Industries/Public%20and%20Social%20Sector/Our%20Insights/Thriving%20amid%20turbulence%20Imagining%20the%20cities%20of%20the%20future/Thriving-amid-turbulence-Imagining-the-cities-of-the-future.pdf?shouldIndex=false>

SPRINGWISE

<https://www.springwise.com/innovation-snapshot/future-of-cities-covid-coronavirus>

UK2070 (Six Propositions: The New Norms, Values and Politics after COVID-19)

http://uk2070.org.uk/wp-content/uploads/2020/07/The_UK2070_Papers_Series_One.pdf

WEF

<https://www.weforum.org/agenda/2020/08/future-of-cities-covid-19/>

WORLD BANK

https://blogs.worldbank.org/sustainablecities/cities-are-hub-global-green-recovery?cid=SURR_TT_WBGCities_EN_EXT

Paper 4: Homeworking - supporting organisational change in response to the COVID-19 pandemic

Peter McGettrick: Managing Director, Advisory: Turner & Townsend

Introduction

The COVID-19 pandemic has caused a major disruption to traditional working patterns. While the trend towards greater flexibility in the use of workplaces and a move towards homeworking has been seen since the end of the last century, the events of the last 12 months have accelerated this shift. The pace of change means that many businesses are now facing a series of challenging decisions around how, or even if, they make a return to the office.

This paper looks at a number of the key considerations for businesses as they seek to navigate these challenges and indicates areas where Government can help to support the transition. The considerations we have put forward in this paper are written from our perspective as a business that understands every element of the working environment.

Turner & Townsend delivers programme management, project management, cost and commercial management and advisory services across the Infrastructure, Real Estate and Natural Resources sectors. We are an independent company that has grown over 74 years to 2,800 people and 17 UK offices, with our global presence spanning 45 countries.

Through our work we help corporate owners and tenants, investors and developers of office buildings in the planning, development, construction and management of their assets across their full life cycle. We also help clients to plan for and manage physical and operational safety, health, environment and quality (SHEQ) risks, while driving up efficiencies and reducing costs.

Establishing baselines - the office in 2021 and beyond

The trend towards homeworking has its roots in the 1990s with the development of mobile phones and laptops, with further possibilities realised from the 2000s as wireless internet connections became increasingly ubiquitous in office environments.

In 2018 we modelled the breakdown of a typical regional office headquarters to look at the use of space within the workplace and how it had adapted to mobile technology. This drew on data analytics from a wide range of global corporate occupier projects. Key findings from this research included:

- A steady trend in the reduction in space used for fixed desk workstations (54% usage)
- A growth in the creation of collaborative space (15%) vs a decline in enclosed meeting rooms more typically used for training or formal meetings (5%)
- A growth in the space required for IT infrastructure to support greater mobile working (2%)

These findings provide an effective benchmark against which to measure and evaluate office space usage and how we expect this to change as we look to post-COVID recovery.

The impact of the pandemic - key implications

Since the start of the pandemic, we have worked alongside our corporate clients to shape their future workplace strategies and understand how the 2018 model outlined above needs to adapt. At the end of 2020 the main headlines and conclusions that we drew from this work were as follows:

- **No ‘target model’ has yet come to the fore and many businesses are still working out what change will look like.** 50 per cent of major corporate occupiers are still finalising their strategies and 30 per cent indicate that they are not intending to make any immediate radical changes.

Some high-profile businesses were quick to publicise strategies for long-term flexible working. In July Siemens announced it would be offering 2-3 days mobile working per week to all employees and in August Schroders said that it would be encouraging flexible working indefinitely.

However, we consider high profile announcements like these to be outliers rather than indicative of a major trend. In many cases decision-making is being held off until there is greater clarity around the efficacy and timetable of vaccine programmes, and understanding on the impact on productivity from working at home.

- **In the majority of cases, it is understood that there will be a continued need for central office environments in some form and an expectation that all employees will use these regularly.** Where it had become established that businesses prior to the pandemic would offer flexible working from home one or two days per week (known as a 4+1 model, or a 3+2 model), many businesses are now expecting to extend or invert these ratios. A key driver behind these strategies is to use centralised office space for collaboration, with a greater use of homeworking for individual tasks. This follows the trend from the data we identify above from 2018.
- **Global corporate office occupiers are looking to reduce their real estate portfolios.** In line with this shift of the office as a location for collaborative working, a significant proportion of large corporate occupiers (40 per cent) are looking to implement or extend existing flexible working strategies in a way that will support an overall reduction of their real estate portfolios. In July Fujitsu announced that it would be seeking to reduce its global office footprint by 50 per cent by the end of its financial year in 2022. We are talking to clients about reductions in the region of 20-40 per cent.
- **The pace of change will be shaped by the nature of real estate leases.** In real estate terms, the nature of the leasing market means that it is likely to act as a brake on the trend towards space disposals, with occupiers waiting for contract breaks to occur rather than exit leases early. This will soften the impact for the real estate market in terms of its financial position, enabling time for the sector to adapt.
- **Businesses are grappling with a range of complex factors when determining how they support their employees with homeworking.** A survey of 50,875 employees by Leesman from Q2 2020 found that 27 per cent of homeworkers were working without access to a proper workstation (for example on a dining table). The research found that this had significant implications for employee productivity and wellbeing compared to those who were able to work in a dedicated home office or work area.

On this basis, homeworking will often disproportionately favour those from higher socio-economic backgrounds, and those which are further progressed in their career. Leesman’s research found that employees found social interaction and learning from others easier in office environments. Again, this supports the long-term trend which we have seen towards greater allocation of collaboration space within offices.

However, at the same time global surveys indicate that employees enjoy the flexibility to choose to work from home. Research by Buffer has found that 98 per cent of employees would like to work remotely from at least some of the time for the rest of their careers.

Key reasons for this preference include the removal of a commute, spending more time with family and a more flexible working schedule.

- **While hub offices are set to remain a feature of corporate real estate strategies, we will see some decentralisation.** Many occupiers are looking to a growth in suburban / satellite offices. From the employer's perspective these offer the opportunity to reduce city-centre rent liabilities, while still offering employees an alternative to homeworking. Organisations with existing footprints of customer-facing sites (such as bank branches) are looking at the use of these to support this decentralised office model.
- **These changes pose a risk to city-centre economies, but also an opportunity for regional town centres.** Although we expect the impact on real estate leases to crystallise relatively slowly, an ongoing trend for homeworking is set to massively disrupt the service and support sectors that have grown up to support large city-centre office environments. These include catering and cleaning jobs in offices, as well as retail and food service jobs neighbouring central business districts. A more optimistic position is to look at the corresponding opportunity to support the regeneration of suburban and regional high streets as locations for secondary office space.
- **Changes to commuting patterns could fundamentally affect the role and use of public transport systems.** As flexible working continues, many of the peak-time capacity challenges that face underground and metropolitan transport systems could fall away, requiring operators to revisit their business and investment cases.

Supporting change - areas for further interrogation and potential intervention

Following these trends, we see a number of areas for potential Government research and intervention to help support a successful shift in working patterns.

- **Creating a level playing field for investment.** The closure of offices early in the pandemic crystallised an immediate competitive advantage for businesses which had already initiated a degree of flexible working policies. The investment needed to support effective homeworking - in terms of mobile technology, connectivity through cloud-based systems and network security - is significant. While many businesses have adapted well in the short-term, we anticipate a need for rapid new investment. This is particularly true for smaller businesses where overhead costs per employee are higher. Some targeted support for businesses to make this transition could help them to maintain a competitive position.
- **Adapting employment norms to acknowledge greater homeworking.** The bulk of employment law in the UK has been developed on the assumption that people will be working in an office. At the moment most employment contracts either designate employees as working from home or from a single fixed office location. From the perspective of employee wellbeing, clear responsibilities need to be put in place between the employee and employer around the suitability of the working environment. Employers should be supported to firm-up the legal position of employees working from home.
- **Supporting innovation and disruption.** Over the course of the pandemic so far, the emphasis from businesses has been to maintain effective operations despite the shift to homeworking - adapting existing models and processes to replicate those that would have existed in the office. Going forward, the greater opportunity is to revisit processes in their entirety and look at how digital tools can actually improve productivity.

In the long-term, we see the trend away from large centralised offices as one that supports greater specialism and diversification in the supply chain. Hub office environments encourage greater homogenisation of skills and working practices. By comparison the

splintering of business functions into decentralised secondary locations, or home offices, gives greater influence on self-employed workers.

- **Backing secure digital infrastructure.** Security and privacy are a huge concern for businesses adapting to homeworking and in many instances, systems are not sufficiently robust - leaving companies vulnerable. Industries such financial trading are not able to effectively and securely work from home without major investment in secure connections. Government can support businesses by establishing frameworks and advice over data security.
- **Levelling up.** Longer-term, secure digital infrastructure is essential to support a high-performing service economy. Homeworking brings major opportunities to support the Government's levelling up agenda, allowing the decentralisation of wealth and economic activity away from large metropolitan centres. To achieve this, the Government should seek to stimulate inward investment - potentially through the new National Infrastructure Bank - which improves digital connectivity.
- **Achieving net zero.** Throughout the pandemic local authorities and businesses across the UK have maintained their commitments to the net zero agenda. However, many strategies to reduce emissions have been developed predicated on pre-covid conditions. As businesses and urban areas adapt to more flexible working environments, there is an urgent need to reassess how this will affect carbon usage. Key areas of focus need to be:
 - Carbon efficiency of homes vs centralised offices
 - Changes in commuting patterns (including a potential increase in use of private vehicles as employees avoid public transport)
 - Energy demands associated with the use of virtual tools such as MS Teams and Zoom, including data centre storage

As part of its own work on the net zero agenda Turner & Townsend leads the Mayor of London's retrofit accelerator programmes for workplaces and homes in the capital. These programmes promote the creation of an industrialised retrofit sector which supports skills and jobs across the UK. As the trend towards homeworking continues, we see a clear added benefit of these programmes to support the net zero agenda.

About Turner & Townsend

Turner & Townsend is an independent professional services company specialising in programme management, project management, cost and commercial management and advisory across the real estate, infrastructure and natural resources sectors.

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Paper 5: Measuring Spatial Inequality in the UK: What We Know and What We Should Know?

Professor Cecilia Wong, Tom Arnold, Professor Mark Baker, Dr. Caglar Koksal, Dr. Andreas Schulze Bäing & Dr. Helen Wei Zheng

The Spatial Policy & Analysis Laboratory at The Manchester Urban Institute

The University of Manchester (January 2019)¹

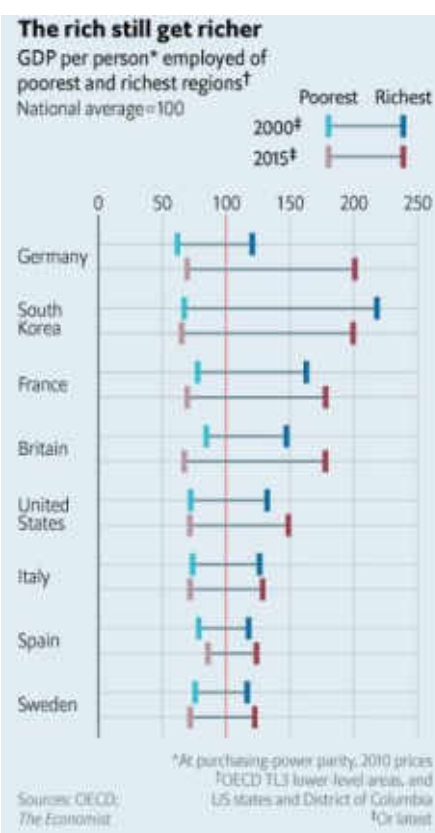
The challenges of charting regional inequality: There is no perfect measure, but context is everything (Selby-Boothroyd, 2018)

While some common indicators such as GDP per head, unemployment rate and employment rate are widely accepted regional performance measures, the precise methodology used to analyse them is often subject to controversial debate. A recent debate was sparked by the publication of a GDP per person graph (Figure 1a) in *The Economist* which highlights the shocking regional inequalities in Britain compared to other OECD countries. One of the main criticisms of the method is its use of residential population as the denominator, as the functional labour market area of the richest west London region is much bigger than its domicile residents and thus distorts the real situation. After experimenting with different methods, different analyses are provided including one for GDP per employed person (Figure 1b). Regardless of what method is used, what matters is that Britain is still ranked the 1st-7th most regionally unequal among the 34 OECD countries and the situation is growing worse.

Figure 1a



Figure 1b

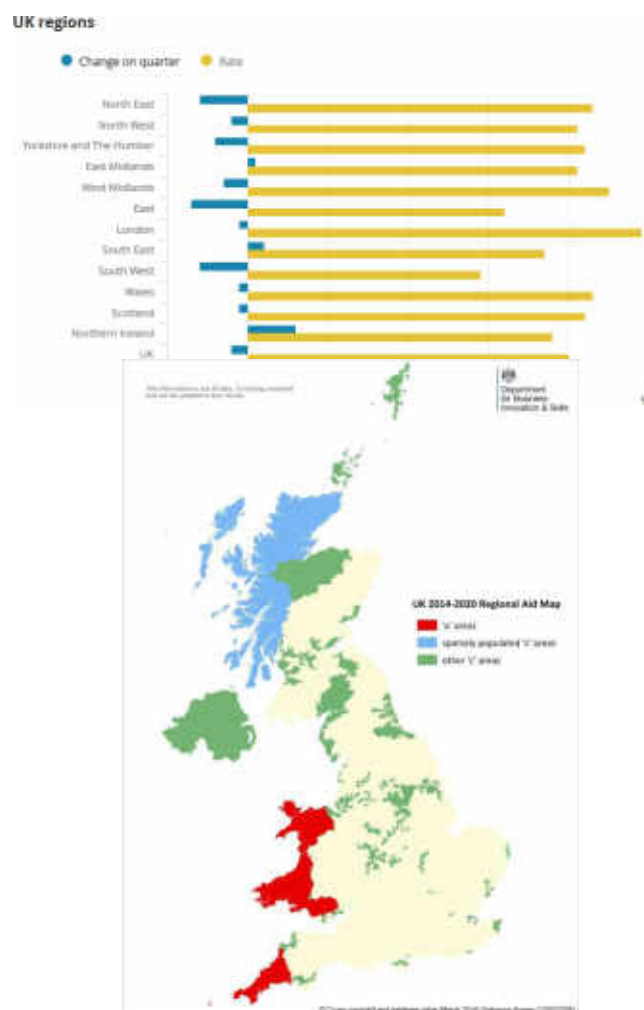


¹ The following Think Piece was originally submitted to the UK 2070 Commission in response to its Call for Evidence and is republished here because of its continued relevance to the discussion on levelling up. The views expressed are those of the author, and not the Commission.

Common spatial inequality measures in the UK: unemployment rates and Assisted Areas

There has been a long standing practice since 1984 of using unemployment measures to devise Assisted Areas maps to define areas in Britain eligible for regional funds and regional selective assistance. Throughout most of the 20th century, there were significant interregional differences in unemployment and these differences were exacerbated by the economic cycle. In the depression of the early 1930s, for example, unemployment reached 30% in South Wales compared to 15% in London and the South East¹⁸. After recovering from the 2008 financial crisis, employment in the UK currently stands at a high level by historic standards and interregional differences in unemployment are small. As of August 2018, the UK unemployment rate stood at 4.0% (see Figure 2), with London (4.8%) and the West Midlands (4.7%) exhibiting the highest unemployment rates, with the lowest in the South West (2.7%), East (3.0%) and South East (3.8%).

Figure 2 Unemployment rates by region (seasonally adjusted),
Figure 3 Assisted Areas Map, 2014-2020 June-August 2018, source: ONS source: DBIS



¹⁸ Hansen, N., Higgins, B. and Savoie, D.J. (1990) Regional Policy in a Changing World. Plenum Press, New York.

Despite broad similarities in unemployment rates across the UK, there are clear differences in the economic performance of different parts of the UK by other measures. In a period where economic growth, rates of employment and wage levels have become increasingly detached, other criteria were taken account in the derivation of the 2014-2020 Assisted Areas Map (set with a maximum coverage of 27.05% of UK population by the European Commission, see Figure 3). Besides the low employment rate, the metrics of economic need includes low skills rate, high working age benefit claimant count rate, low population growth/net out-migration of working age population, and high rates of manufacturing. According to the What works centre for local economic growth, UK's Regional Selective Assistance is effective in supporting employment - with a 10% point increase in the maximum subsidy rate to an area resulting in a 3.2% decrease in unemployment.

Index of inequality: Gini coefficients

The sense that economic growth is increasingly detached from standards of living for many has prompted interest in creating new ways to measure development (Pike et al, 2017)¹⁹. The Gini coefficient has been widely used to measure income inequality at the individual scale which, in recent years, has been increasingly utilised to measure spatial inequalities. The UK's 73.2% on the wealth Gini coefficient is close to the OECD average of 72.8%. On income Gini, the UK exhibits a much higher level of inequality and is ranked 7th of 30 OECD nations (see Figure 4), just behind Eurozone nations strongly affected by the financial crises such as Greece and Spain, as well as the United States and Mexico²⁰.

The Luxembourg Income Study (Naguib, 2015)²¹ by analysed the relationships between inequality (measured by Gini coefficient) and GDP growth. Based on three different estimation methods, a positive relationship between growth and equality was found; suggesting that higher inequality levels are related to higher levels of per capita GDP and its growth rate. Of course, there are caveats to the findings in relation to the limited sample and that the results were not consistently found to be statistically significant. Also, the relationship between GDP growth rates and the Gini coefficient is not necessary a linear one. Banerjee and Duflo (2003)²² claim the existence of an inverted 'U'- shaped relationship between the two variables: when inequality level is high, a reduction in the Gini coefficient has a positive impact on GDP; but where the inequality level is modest, a further reduction of the Gini coefficient is associated with a reduction in the GDP growth rate.

This highlights the methodological challenges encountered in measurements. Recent work by Smith and Rey (2018)²³ proposes a spatial decomposition of the Gini coefficient to track changes in subnational inequality. Although this approach requires some development, it nevertheless offers a potential measure of regional inequality that would allow comparisons with other nations.

¹⁹ Pike, A., Rodríguez-Pose, A. and Tomaney, J. (2017) 'Shifting horizons in local and regional development', *Regional Studies*. 51 (1). 46-57

²⁰ Equality Trust, 2016 based on data from the Luxembourg Income Study

²¹ Naguib, C. (2015) *The Relationship between Inequality and GDP Growth: An Empirical Approach*, Luxembourg Income Study Working Paper Series No. 631.

²² Banerjee, A. V. and E. Duflo. 2003. Inequality and Growth: What Can the Data Say? *Journal of Economic Growth*, 8, 267-299.

²³ Smith, R.J. and Rey, S.J. (2018) 'Spatial approaches to measure subnational inequality: implications for sustainable development goals', *Development Policy Review*. 1-19

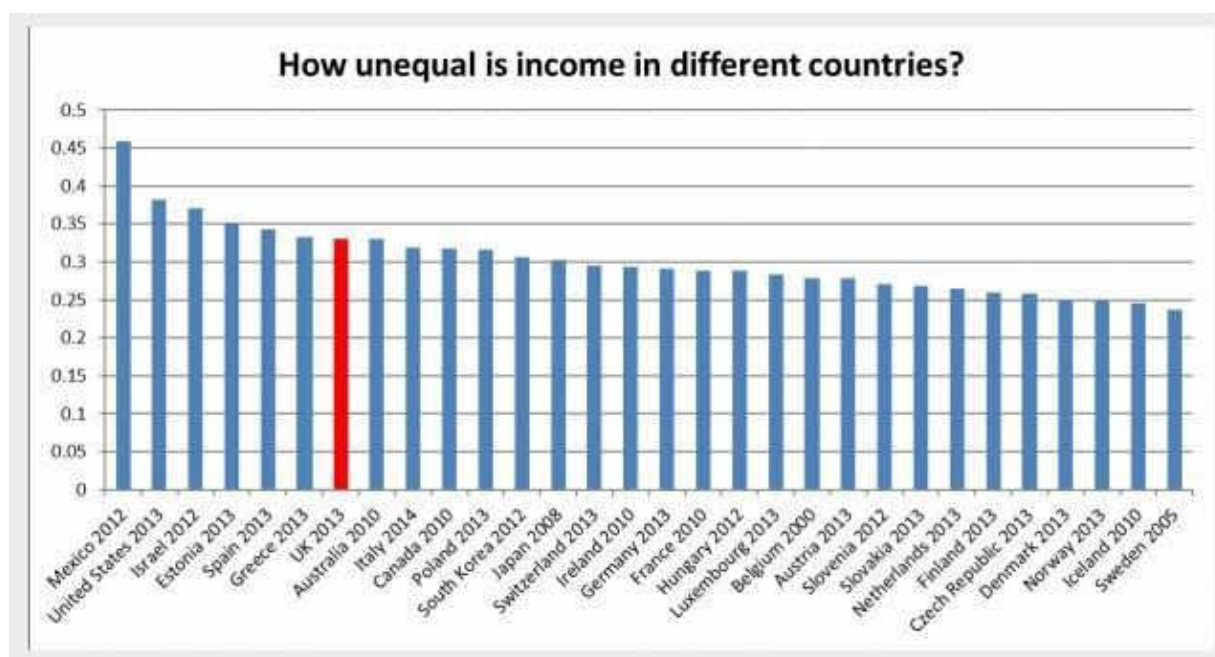


Figure 4 Gini coefficient of income

Source: [Equality Trust \(2016\)](#)

Towards a broader conception of human and societal well-being: Sustainable Development Goals

Recent years have seen the development of composite measures of development which aim to assess quality of life as well as income and wealth. The United Nations Human Development Index (HDI), for example, proposes three dimensions of development: citizens should have a long and healthy life; be knowledgeable; and have a decent standard of living. The underpinning rationale of the HDI is to shift the focus of development from national income accounting to more people centred policies by measuring life expectancy, adult literacy rate, GDP and purchasing power parity. Indicators include life expectancy and years spent in formal education, along with the Gini index (UNDP, 2016).²⁴

The recent international agenda has focused on cities as drivers of economic growth and sustainable development. The City Prosperity Index,²⁵ developed by UN Habitat, sets out a strong critique of the 'GDP fetishism' and argues for the need to move towards measuring a broader conception of human and societal well-being (Wong, 2015)⁸. UN-Habitat (2012)²⁶ advocates its own approach by defining a prosperous city as one that possesses the essential qualities of productivity; infrastructure; quality of life; equity and inclusion; environmental sustainability, and governance and legislation. These five dimensions of prosperity (see Figure 5) are conceived as the spokes of 'the wheel of prosperity', each of which is measured by a number of indicators or sub-indices and driven by the hub of planning and government institutions. As shown in Figure 6, economic growth and inequality often coexist within the same space. New York, Toronto, London, Stockholm and Auckland are examples which contrast sharply with more equitable and economically successful cities such as Vienna and Helsinki. More recently, the UN has adopted the CPI as a global monitoring framework for its Sustainable Development Goal 11 'Sustainable Cities and Communities' and the New Urban Agenda known as Habitat III.

²⁴ United Nations Development Programme (2016) Human Development Report 2016: Human Development for Everyone, United Nations, New York.

²⁵ Wong, C. (2015) A framework for 'City Prosperity Index': Linking indicators, analysis and policy, Habitat International, 45: 3-9.

²⁶ United Nations Human Settlements Programme (2012) State of the world's cities 2012/13: Prosperity of cities. Nairobi, Kenya: UN-HABITAT.

The Office for National Statistics (ONS) is responsible for compiling, analysing and contextualising indicators for the 17 Sustainable Development Goals and reporting back to the UN, as well as making the data available online. So far, a consultation exercise was carried out, and an annual progress report and some global SDGs for the UK as a whole were published. For example, the headline messages for Goal 10 ‘Reduced Inequality’ include: ‘The UK is currently meeting the Sustainable Development Goals’ (SDGs) target 10.1 to sustain income growth of the poorest 40% of the population at a higher rate than the national average’ though ‘Expenditure growth rates of the poorest 40% of the population are much closer to the national average and in recent years have not sustained a higher rate of growth’ and that ‘those most at risk of poverty in 2016 were single parent households with children and those who are seeking employment’. The problem with such aggregate national analysis is the lack of information on the distribution of these ‘at risk’ groups to inform local policy development, especially in the light of the spatial decentralisation of planning and development functions. The only spatially disaggregated goal is SDG11 whereby indicators have to be collected at ‘city and human settlement’ level, but no data has been published yet.

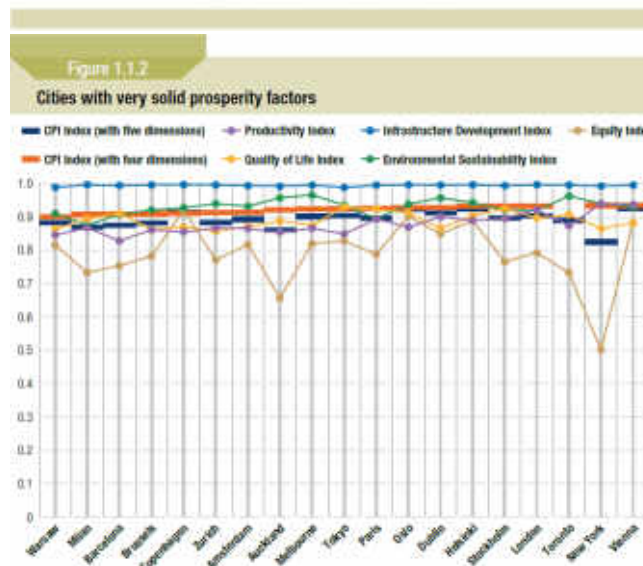
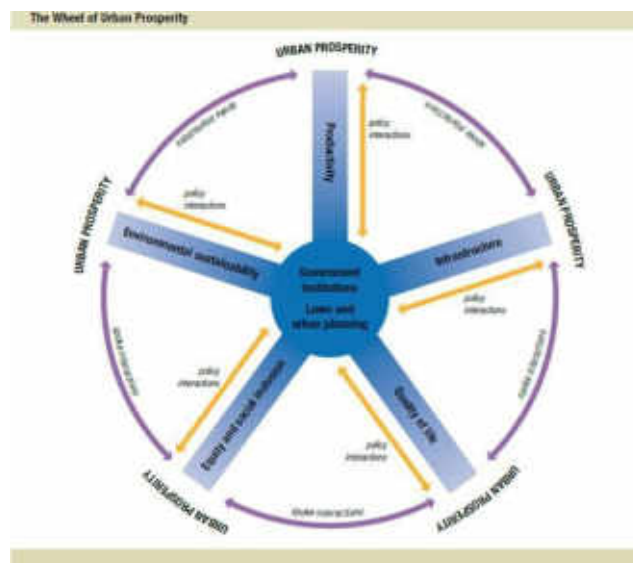


Figure 5 Five dimensions of the City Prosperity Index and Figure 6 Best performing cities by the City Prosperity Index source: [UN-Habitat \(2012:15\)](#) and [UN-Habitat \(2012:19\)](#)

Another people-centred measurement approach is the Inclusive Growth Monitor of the Joseph Rowntree Foundation (JRF) and the University of Manchester's Inclusive Growth Analysis Unit. Although the concept of inclusive growth is somewhat ill-defined (Lee, 2018)²⁷, this offers a route for policymakers to consider the spatial distribution alongside the aggregate output of economic growth. The 2017 Monitor measures the relationship between economic inclusion and prosperity for Local Enterprise Partnership (LEP) areas. Each LEP area was given an 'economic inclusion' score, based on nine indicators covering income, living costs and labour markets, and a 'prosperity score', calculated through nine indicators based on output growth (e.g. GVA per capita), employment and human capital (Rafferty et al, 2017),²⁸ 'High prosperity and high inclusion' LEP areas include Thames Valley Berkshire, Buckinghamshire Thames Valley and Oxfordshire, whilst the top 'low prosperity and low inclusion' areas are the Black Country, Liverpool City Region and Tees Valley. The 'economic inclusion' measure provided by the IG Monitor index illustrates the extent to which the South East benefits from regional imbalance in the UK, although it is notable that London itself performs poorly on the inclusion measure.

Decoupling inputs from outcomes: equality of opportunities

Development outcomes affecting a specific area, whether this is a nation, region or neighbourhood, is related to wider market conditions as well as policy interventions. Rather than simply measuring differential outcomes, it is also important to examine different policy inputs and the socio-economic opportunities available to population and businesses in different localities. As shown in a research study funded by the N8, there are major challenges to transforming the lagging northern region into a global powerhouse as the spatial divide largely persists, with London and the South East regions continuing to dominate the country's economic growth (Wong and Webb, 2014).²⁹ For example, London has 1.6 times more direct inter-city rail links than Manchester and Birmingham. With fast speed rail links, the journey time between London and many northern cities is significantly compressed, but this mainly enhances trip gravity towards London. The five major London airports account for 61% of all UK airport capacity (in terms of passenger flows), with Heathrow alone having the lion's share of 28.5% (76 million passengers). The largest regional airport is Manchester, with just 9.6% of the share, and it still has spare capacity. These uneven capacities are further sharpened when focusing on international scheduled flights: Heathrow accounts for 37% of the UK share and all five London airports account for over 71% of the total, followed by Manchester's 9.2% (see Figure 7).

²⁷ Lee, N. (2018) 'Inclusive Growth in cities: a sympathetic critique', *Regional Studies*. Published online 6 June 2018

²⁸ Rafferty, A., Hughes, C. and Lupton, R. (2017) *Inclusive Growth Monitor 2017: Local Enterprise Partnerships*. University of Manchester, Manchester

²⁹ Wong, C. and B. Webb (2014) Planning for infrastructure: challenges to northern England, *Town Planning Review*, 85, 683–708.

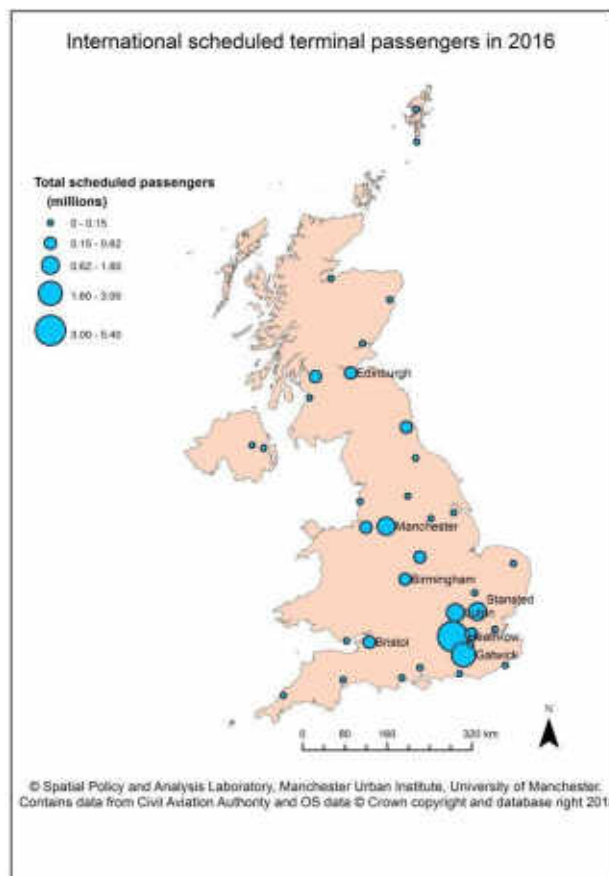
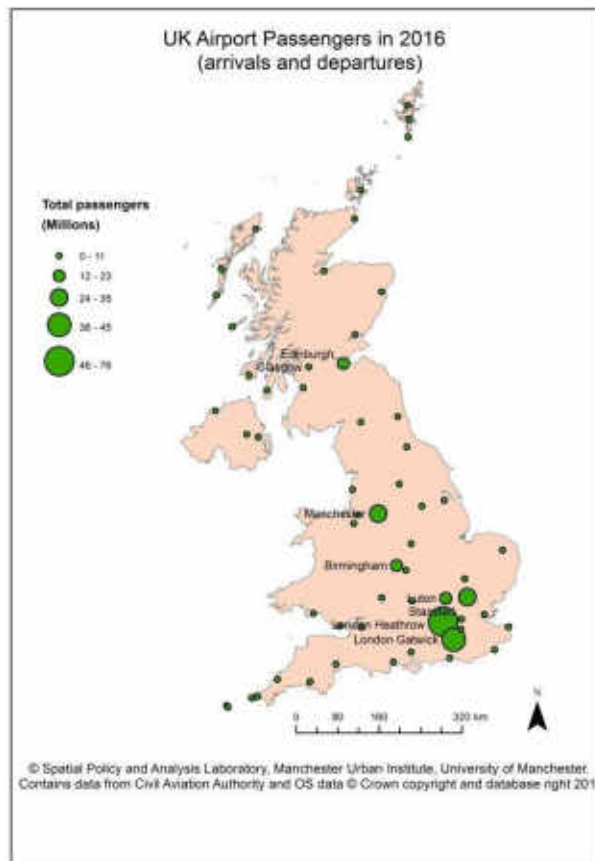


Figure 7 Passenger flows of UK airports, 2016: (a) total and (b) international scheduled flights
Source: Department for Transport's aviation statistics

Infrastructure investment in England tends to reinforce the differential spatial trajectories and favours London. According to the 2013 National Infrastructure Plan, £36 billion was targeted at London, representing 40% of England's total spend on regional projects and programmes. The East Midlands and the North East, with an investment of £2 billion and £2.2 billion respectively, receive the least amount of capital funding. On a per capita basis, the East Midlands continues to trail in investment with just £567 per person while the equivalent figure for London is £4,333 (see Figure 8).

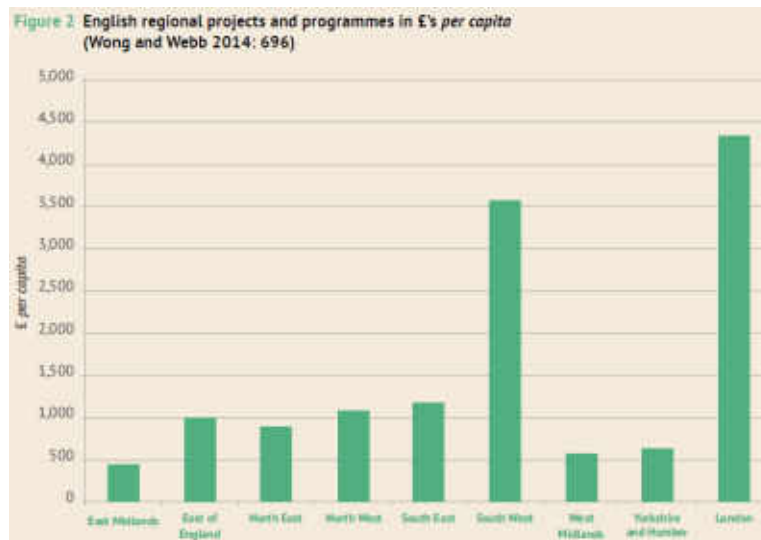


Figure 8 English regional projects and programmes, National Infrastructure Plan 2013

One potential way of approaching this problem is to determine a minimum standard of living or services required to reduce inequalities in opportunity. Building on the concept of Universal Basic Income, a Universal Basic Services metric was proposed by the Institute for Global Prosperity's Social Prosperity Network (IGP, 2017)³⁰ The IGP report suggests social security and economic development should move from a primarily redistributive model to a service-orientated approach that identifies the needs of society as a whole rather than on an individual basis. Service provisions would include access to public transport and information, as well as traditional welfare concerns such as healthcare and education.

The Industrial Strategy Commission (2017)³¹ also put forward proposals for a measure of Universal Basic Infrastructure, recommending the need to provide a minimum level of access to hard and soft infrastructure for all citizens. The commission identified shortcomings in the UK's rail, energy, water and communications infrastructure and suggested the lack of investment in these areas represented a significant risk to future economic prosperity. In terms of 'soft' infrastructure, the UK's performance in education, health and social care is also considered to fall short of international standards. It is recommended that the industrial strategy "should not seek to do everything everywhere but it should seek to do something for everywhere" (p. 50) by ensuring all places have access to a basic level of infrastructure, such as connectivity to the transport network and to high quality education.

³⁰ Institute for Global Prosperity (2017) Social Prosperity for the Future: A proposal for Universal Basic Services. UCL, London.

³¹ Industrial Strategy Commission (2017) The Final Report of the Industrial Strategy Commission. The University of Sheffield, Sheffield

Visualisation of spatial inequality: the dynamic commuting flow patterns

While economists and sociologists have widely adopted statistical indicators and composite indices to measure socio-economic inequalities, the presentation of the analysis is not always easily accessible. More importantly, these measures do not aim to ascertain unequal spatial relationships. With the advance of mapping techniques and dynamic flow data, more robust and user-friendly expression of differential spatial capacities and outcomes is possible. The Royal Town Planning Institute commissioned Manchester University³² to develop A Map for England. This demonstrated the value of using mapping analysis to highlight the different policy outcomes in different parts of the country and the findings were used by politicians to make more informed judgments about individual policy proposals and the way they interact with, and affect, the development of the country.

Another example of visualisation is through examining the dynamic movements and flows of workers and populations. By analysing, mapping and visualising the 513,892 commuting flows of England and Wales from the 2011 Census (which captured 18.4 million of the 26.5 million workers), researchers at Manchester University do not only show the complex commuting patterns across different parts of the country, but also reveal the different socio-economic dynamics of these commuting flows. The flow density in Figure 9 highlights the labour market pull of different towns and cities which criss-cross local authority boundaries. The movement of the higher order socioeconomic groups, such as high-flying professional and managerial workers and the techs and city types, are particularly pronounced. There is a notable concentration of Techs and the City Types in London at the residential-end of the commute, and the concentration of these flows significantly is higher when considering workplace patterns as shown in Figure 10 (Hincks et al. 2017)³³.

Developing progressive measures of spatial inequality: what we learnt?

- There is not a single perfect method or index to robustly measure spatial inequality.
- The aggregated indices and Gini coefficients tend to be used to measure national inequality and there is major challenge in developing sub-national measures to examine spatial patterns of unequal development.
- There has been an international shift towards a broader conception of human and societal well-being, especially the Sustainable Development Goals and the City Prosperity Index adopted by UN-Habitat.
- There is a need to measure both inputs and outcomes and to pay attention to accessibility to opportunities, for example, via the proposed measure of Universal Basic Infrastructure by the Industrial Strategy Commission.
- There is a need to adopt mapping analysis and visualisation to illustrate dynamic spatial relationships and the uneven distribution of capacities and resources.

³² Wong, C, Baker, M, Hincks, S, Schulze-Baing, A, Webb, B (2012) A Map for England: Spatial Expression of Government Policies and Programmes, London: Royal Town Planning Institute

³³ Hincks, S., Kingston, R., Webb, B. & Wong, C. (2018) A new geodemographic classification of commuting flows for England and Wales, International Journal of Geographical Information Science, 32:4, 663-684.

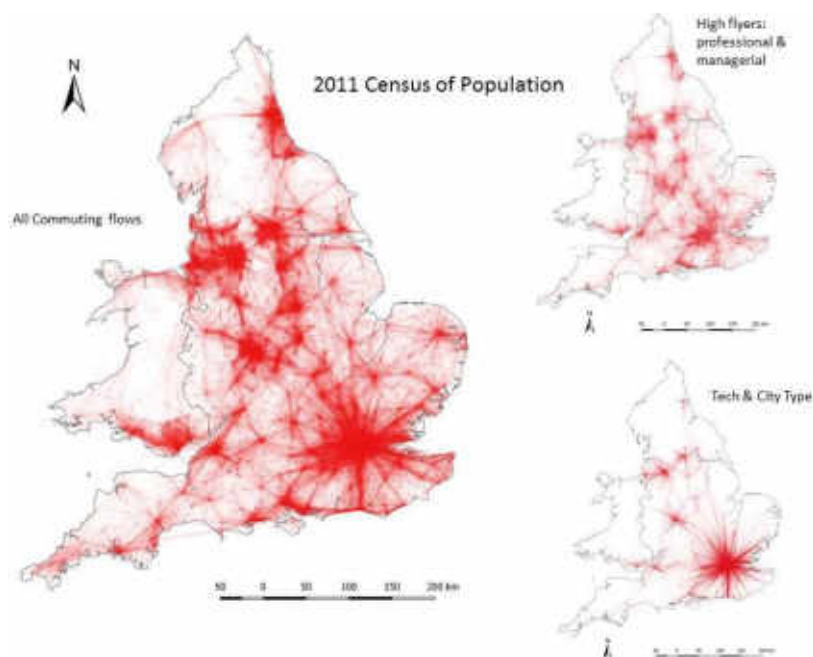


Figure 9 Commuting flows in England and Wales by types, 2011 Census
 Source: These maps show classification of commuting flows >5 between MSOA of England and Wales, developed at the Spatial Policy & Analysis Lab of The University of Manchester. The maps contain National Statistics data © Crown copyright and database right 2018 and OS data © Crown copyright and database right 2018.

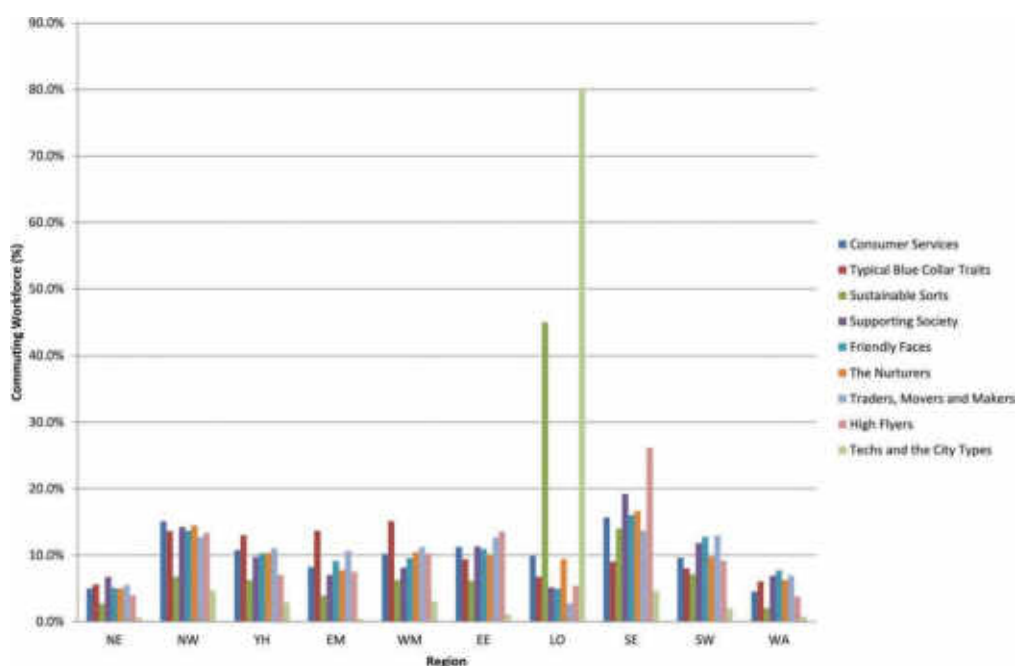


Figure 10 Commuting by Supergroup - workforce aggregated to Standard Regions and Wales by workplace-end of the commute. Total workers in each Supergroup as percentage of 18,401,833. Source: [Hincks et al. 2017](#)

Paper 6: UK 2070, Agenda 2030, the New Urban Agenda and the Sustainable Development Goals - what do our international commitments mean for reducing spatial inequalities in the UK?

Professor Trudi Elliott CBE MRTPI FAcSS: Henley Business School at The University of Reading: March 2019¹

Introduction

UK2070 is currently considering the deep-rooted inequalities across the UK and exploring through national enquiry and debate the nature of these problems and the actions needed to address them. This paper explores how international agreements which all the UK nations have committed to might inform this thinking. It will also explore how the commission's work can support the UK deliver on them and measure progress.

In 2015 and 2016 all nations within the umbrella of the United Nations came together and signed a series of both legally binding and non-binding agreements focussed on climate change, sustainable development, poverty eradication, pollution, housing and infrastructure adequacy, food security and humanitarian issues and the related governance and financing issues. In this paper the focus will be Transforming Our World: The 2030 Agenda For Sustainable Development (Agenda 2030)² and the New Urban Agenda (NUA)³ but for completeness the other agreements were: The Sendai Framework for disaster risk reduction (2015)⁴, The Addis Ababa Action Agenda which addresses Financing for development (2015)⁵, The Paris Climate change agreement (2015)⁶ and The Agenda for Humanity - which is the world humanitarian summit framework (2016).⁷ A synopsis of these is to be found on the RTPI website in a paper entitled Global Challenges and international agreements on sustainable development.⁸ Since 2007 more than half the world's population live in cities or urban centres. By 2030 estimates show that cities will be home to 60% of the global population, increasing to about 68.4% by 2050. Urbanisation is thus a key development trend. Since these agreements were signed more reports have underlined the need for concerted action.

¹ The following Think Piece was originally submitted to the UK 2070 Commission in response to its Call for Evidence and is republished here because of its continued relevance to the discussion on levelling up and post Covid recovery. The views expressed are those of the author, and not the Commission.

² United Nations Transforming our World. The 2030 Agenda for Sustainable Development. (25 .9 2015) <http://www.un.org/sustainabledevelopment/sustainable-development-goal>

³ United Nations -New urban Agenda (NUA)<http://habitat3.org/the-new-urban-agenda/>

⁴ United Nations-The Sendai Framework for disaster risk reduction (2015)<http://www.unisdr.org/we/coordinate/sendai-framework>

⁵ United Nations -The Addis Ababa Action Agenda which addresses Financing for development (2015) http://www.un.org/esa/ffd/wpcontent/uploads/2015/08/AAAA_Outcome.pdf

⁶ The Paris Climate Change Agreement (2015)<http://www.c40.org>

⁷ The Agenda for Humanity - the world humanitarian summit framework (2016) <http://agendaforhumanity.org/initiatives/3851>

⁸ Royal Town Planning Institute - Global Challenges and international agreements on sustainable development RTPI https://www.rtpi.org.uk/media/2400659/global_challenges_and_international_commitments_rtpi_briefing_note_updated_13_june_2017.pdf

On Climate change the Intergovernmental Panel on Climate Change⁹ published this year is the technical report that will feed into the Katowice Climate Change conference in December 2018 which will review progress on the Paris agreement. The OECD report Divided Cities¹⁰ underlies the continuing challenge of inequality globally, whilst their upcoming report Financing Global Future will look at infrastructure investment and emissions. The 2018 OECD report¹¹ concluded that most available measures consistently show large and persistent regional difference globally. Across the UK the difference between the most and least productive regions are one of the largest in the OECD. OECD stated that the poor performing regions in the UK “have not been showing signs of catching up over the past few years.”¹²

The 2030 Agenda for Sustainable Development

In September 2015 after an open and consultative approach, all 193 UN members states committed to Agenda 2030 which contains 17 Sustainable Development Goals (SDGs). The 17 SDGs are supported by 169 agreed global targets and 234 indicators to be monitored from 2015-2030. The targets are designed to balance the social, economic and environmental dimensions of sustainable development. The theory is that they are integrated and indivisible thus aligning with key planning concepts. The UK government actively engaged in the development of the goals. The SDGs replaced the Millennium Development Goals (MDGs). Whilst the latter were primarily directed at supporting the less economically developed nations the SDGs are applicable to all 193 member countries including all the UK nations. Agenda 2030 is underpinned by the principle of universality - that the Goals are shared by all UN member states who are expected to prepare strategies for how they are going to implement and achieve the SDGs. These national strategies should focus on the domestic achievement of the Goals and reflect the local context. The Universality concept also recognises that responsibility for delivery of the SDGs is not just the responsibility of National and Local Government but also for stakeholders and communities. Thus, the UK2070 Commission should consider how its objectives and aspirations align with the international commitments the UK has made and where and how their research, finding and recommendations align and could contribute to the UK delivering the SDGs.

Under Article 47 of Agenda 2030, Governments have the primary responsibility for follow up and review, at the sub-national and national levels, in relation to the progress made in implementing the goals and targets. Individual countries are expected to establish regular and inclusive review processes and where necessary develop new systems for ensuring high quality, accessible, timely and reliable disaggregated data to measure progress at the national and sub-national levels. Regional bodies and international agencies were given the responsibility for regional and global follow-ups and reviews. In the UK the Office of National Statistics (ONS) have been tasked with the task of establishing data sets and monitoring progress on them.

The SDGs and UK2070

Whilst all the SDGs have relevance to the issues under consideration by the UK2070 Commission, consideration of a sample illustrates this:

- SDG 1 End poverty in all its forms everywhere;
- SDG 5 Achieve gender equality and empower all women and girls;
- SDG 8 Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all;
- SDG 9 Build resilient infrastructure, promote inclusive and

⁹ Climate change the Intergovernmental Panel on Climate Change <https://report.ipcc.ch/sr15>

¹⁰ OECD Report: Divided cities - Understanding Intra-urban Inequalities <http://www.oecd.org/publications/divided-cities-9789264300385-en.htm>

¹¹ The Kuala Lumpur Declaration on Cities 2030 <http://wuf9.org/kuala-lumpur-declaration/>

¹² OECD Report: Divided cities - Understanding Intra-urban Inequalities <http://www.oecd.org/publications/divided-cities-9789264300385-en.htm>

- sustainable industrialisation and foster innovation;
- SDG10 reduce inequalities within and among countries;
- SDG11 Make cities and human settlements inclusive safe, resilient and sustainable; and
- SDG12 Ensure sustainable consumption and production patterns.

SDG Targets⁽ⁱⁱⁱ⁾ and their relevance to UK2070

A more detailed look at some of the targets supporting the SDGs only serves to underline the aspirations in Agenda 2030, remembering all UN Nations have signed up to this for themselves and for other nations and its pertinence to the work of the UK2070 Commission. For example: Target 8.2.1 Annual growth rate per employed person; Target 10.1.1 Growth rate of household expenditure or income per capita among the bottom 40% of the population and the total population are all pertinent to the issues UK2070 is exploring.

The targets of SDG 11, known as the cities and settlement SDG, are relevant the commission's explorations. These are:

- Target 11.1 - By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums
- Target 11.2 - By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons
- Target 11.3 - By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries
- Target 11.6 - By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management
- Target 11.a - Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning
- The New Urban Agenda. Each SDG has around ten supporting targets.



The New Urban Agenda (NUA)

The NUA was adopted in 2016 in Quito at Habitat 111. It both complements and reinforces the urban related SDG targets. NUA's effective implementation is also expected to contribute to the achievements of many other global agreements such as the Paris agreement and the Sendai Framework for Disaster Risk Reduction. It builds on SDG 11, focusing on what needs to be done to ensure cities and human settlements of all scale

deliver sustainable development. Whilst there are therefore substantive linkages between SDG 11 and NUA the latter goes further to address a wide range of actions necessary for making places

spatially effective for sustainable development and details strategic actions necessary for ensuring that cities and human settlements support and facilitate the implementation of the whole range of SDGs. Many of these align with areas of exploration within the UK2070 propositions to be explored in the Call For Evidence. From the perspective of the exploration of UK2070 it is important to note that the NUA clearly articulates strategic spatial and governance frameworks such as national urban policies, legislation, spatial planning and local finances as tools for the implementation of the SDGs. The NUA addresses ways in which cities are planned, designed, managed, governed and financed to achieve sustainable development goals, making it a complimentary driver for the achievement of all the SDGs.

How effectively we advance the NUA will have implications for achievement of the 2030 Agenda. The propositions articulated in the UK2070 Commission's Call for Action are thus highly pertinent to this in a UK Context. The NUA addresses the means and approaches on how cities need to be planned, designed, managed, governed and financed to achieve sustainable development goals. The NUA has three aspirational commitments: social inclusion and ending poverty; sustainable and inclusive urban prosperity and opportunities for all; and environmentally sustainable and resilient urban development. This resonates with the UK2070 Commission's aspirations in terms of recommendations for action for an approach to developing inclusive and sustainable frameworks for addressing spatial inequalities in terms of the form and content of frameworks including scope and horizon; the requirements for leadership governance and research; processes for engagement delivery and review; enhanced regulatory and fiscal regimes and competences and capabilities. In 2018, the Kuala Lumpur Declaration on Cities 2030¹³ adopted at the 9th Session of the World Urban Forum (WUF) the role of cities in achieving and contributing to the success of the Agenda 2030 and NUA targets was reaffirmed. The NUA does not have a standalone monitoring framework, it relies on other urban monitoring such as the SDG's monitoring framework and the comprehensive City Prosperity Initiative (CPI) tools developed by UN-Habitat.¹⁴ The NUA also aligns with the International Guidelines for Urban and Territorial planning adopted in 2015 by the UN.¹⁵

The UK approach to delivery

In 2017, the UK Government published a report on its approach to Implementing the Sustainable Development Goals.¹⁶ This looked both at how the UK will act globally to support other countries in their delivery of the goal as well as the beginnings of the approach domestically. The Government said that Single Departmental Plans will incorporate SDG targets, with the aspiration that from May 2018 many plans have aligned their objectives to the SDGs. However, this does not yet amount to a specific delivery plan for the SDGs and there is no published review of policy coherence issues or gaps analysis. The Government's stated objective is important, "We are committed to ensuring that the UK is an inclusive society for all, building a country and economy that works for everyone and reducing inequalities through our development programmes. We are achieving this by... promoting economic growth and participation by all, empowering and legislating against discrimination and devolving greater powers to the regions and constituent nations of the UK."¹⁷ Responsibility for the Goals being met in Scotland, Wales and Northern Ireland on devolved issues lies with their respective administrations. Although methods to implement the Goals may differ across the administrations of the UK, they all share the visions inherent in the Goals, Agenda 2030 and the devolved nations. The Governments of Wales and Scotland are building upon existing work programmes that align to the SDGs.

¹³ The Tools of the City Prosperity Initiative - Comprehensive City Prosperity Initiative (CPI)

<http://cpi.unhabitat.org/tools-city-prosperity-initiative>

¹⁴ International Guidelines for Urban and Territorial Planning <https://unhabitat.org/books/international-guidelines-on-urban-and-territorial-planning/>

¹⁵ www.gov.uk/government/publications/agenda-2030-delivering-the-global-goals

¹⁶ House of Commons Library Briefing, The Sustainable Development Goals and the Post-2015 Development Agenda (September 2015)

¹⁷ Well-being of Future Generations (Wales) Act 2015 <https://gov.wales/topics/people-and-communities/people/future-generations-act/?lang=en>

Wales

The Welsh Government has introduced the Well-being of Future Generations (Wales) Act 2015.¹⁸ This Act sets ambitious, long-term goals for Wales. It provides 44 public bodies including the Welsh Government with a legally-binding aim to work towards seven goals set out in the Act which support the principle of sustainable development. The focus is on improving social, economic, environmental and cultural well-being in Wales. It sets out the five ways of working which it envisages will contribute to maximising the benefits achieved across the seven goals. Progress will be measured through a set of 46 National Indicators and will form the basis of understanding of how Wales is contributing to the well-being goals and the SDGs. The data for these indicators is primarily official statistics products. They are under the responsibility of the Chief Statistician of the Welsh Government. They are published on an open data platform with interactive and multi-functional views for users.

The platform shows how they map to the well-being goals and SDGs, demonstrating how Welsh outcomes are aligned with the international context. The Welsh Government is also working alongside our team at Office for National Statistics (ONS) to fill some of the data gaps relating to the SDGs.

Scotland

The National Performance Framework (NPF)¹⁹ is Scotland's main mechanism to deliver the UN SDGs. The NPF was recently reviewed following a wide consultation process and sets out the vision for Scotland. This vision is described through Scotland performs²⁰ supported by rights-based approach, set out in Scotland's human rights plan. There are 11 National Outcomes, 81 National Indicators underpinning the outcomes together with a set of values and a "collective purpose" for Scotland focusing on creating a more successful country with opportunities for all to flourish through increased well-being, and sustainable and inclusive economic growth. The NPF and SDGs share the same ambition to encourage the change necessary to tackle the most challenging issues facing our societies and planet.

The SDGs have been embedded into the NPF by mapping the goals to the outcomes and aligning the indicators where appropriate and possible. The NPF is enshrined in statute through the Community Empowerment (Scotland Act) 2015²¹ which places a duty on Scottish ministers to review the National Outcomes every five years. The next review is due to take place in 2023. The Scottish Council for Voluntary Organisations (SCVO) has set up and coordinates an SDG Network to help increase public awareness and engagement around the goals. This coalition has also created a platform for the goals²² - www.globalgoals.scot - to share the views of people and organisations on how to grow the SDG movement in Scotland Departmental Annual reports.

Northern Ireland

Northern Ireland's Sustainable Development Strategy was published in 2010 and the Northern Ireland (Miscellaneous Provisions) Act 2006²³ placed a sustainable development duty on all public authorities. Northern Ireland will be included in the UK voluntary national review.

¹⁸ Well-being of Future Generations (Wales) Act 2015 <https://gov.wales/topics/people-and-communities/people/future-generationsact/?lang=en>

¹⁹ The National Planning Framework Scotland <https://www.gov.scot/publications/national-planning-framework-3/>

²⁰ <http://www.globalgoals.scot/>

²¹ <https://www.gov.uk/government/publications/agenda-2030-delivering-the-global-goals>

²² <https://globalgoals.scot/>

²³ Northern Ireland (Miscellaneous Provisions) Act 2006 <https://www.legislation.gov.uk/ukpga/2006/33/contents>

How are countries in the UN are reporting on Voluntary National Reviews?

In the last 3 years, countries have had an opportunity to report on their progress of implementation of SDG targets through voluntary national reviews. UN Habitat synthesis report on SDG 11²⁴ summarises what these voluntary national reviews tell us. There is a long way to go and a variety of approaches. There are examples of the integration of SDG targets within national development plans and other urban strategies. UN Habitat suggest Urban targets require engagements at the national and sub-national/city levels.

How is UK doing on SDGs?

The UK government has committed to a full monitoring report in 2019 where the UK will report on its progress to the UN. This gives the opportunity for work from the UK2070 Commission to feed in and the commission the opportunity to encourage those contributing to UK2070 to explore the synergies of their work with this agenda and work programme. The House of Commons Environmental Audit Committee published a report on the UK progress with the SDGs on 26 April 2017. The Government responded to the report in November 2017.²⁵ The report made 11 recommendations, which ranged from awareness raising to business engagement and to a perceived delay in the work on measuring monitoring and reporting being led by the ONS developing measurement statistics. The government response said, “the UK was at the forefront of negotiating the Goals and we are determined to be at the forefront of delivering them too.” They outlined why embedding the Goals in a department’s Single Departmental Plan was the most effective way to do this. Departmental plans inform and direct the priorities of departments throughout the year. The Government response mirrored the new Urban agenda in suggesting that partnership and multi-stakeholder participation in the process is also essential and encouraged businesses, civil society organisations and individuals to also pick up the baton for both promoting and delivering the Goals in the UK thus giving licence to UK2070 to engage and make suggestions.

Measuring up

In July 2018 the UK stakeholders for sustainable development group in partnership with the All-Party Parliamentary Group for the UN Global Goals for Sustainable Development published a report on UK progress entitled *Measuring Up*.²⁶ They described their research as giving a snapshot of UK progress on the SDGs. Their view of how the UK was doing was that it was “a mixed bag”. Their headline figures concluded that the UK is performing well on nearly a quarter of all the indicators (24%, and a traffic light indicator of green). For 57% of indicators there is either gap in policy or poor performance on those indicators (amber). 15% are rated red which means there is little to no policy in place, or where performance on these indicators is poor. In their view the UK is performing best on Goal 3 Good Health & Wellbeing; Goal 4 Quality Education; and Goal 17 Partnerships to Achieve the Goals.

Significantly for the UK2070 Commission’s work they concluded that the most vulnerable people and places in our society are increasingly being left behind. The UK2070 Commission work in further illuminating the imbalances in Economic activity and work to identify policy interventions and mechanisms for collaboration to address the imbalances between region and nations is timely, critical and can support this key aspect of implementation of the SDGs and the NUA.

²⁴ The House of Commons Environmental Audit Committee published its Ninth Report of Session 2016–17 on the Sustainable Development Goals in the UK, HC 596 on 26 April 2017

²⁵ *Measuring Up: How the UK is performing on the UN Sustainable Development Goals*
<https://www.ukssd.co.uk/measuringup>

²⁶ Sustainable Development Goals: progress and possibilities November 2017 and November 2018
<https://www.ons.gov.uk/economy/environmentalaccounts/articles/sustainabledevelopmentgoalstakeingstockprogressandpossibilities/november2017>

The importance of data and measuring progress.

The UN describe urban data²⁷ as having large variations in quality and availability, with capital cities and large towns having more data with better quality than small towns. For example, on average countries are only able to report on less than one third of the global indicators for SDG 11, and only 3 per cent reported on more than 5 indicators. What has evidently emerged is that there are real constraints in terms of data. In the UK the Office for National Statistics (ONS) is responsible for reporting our data. The ONS describes its role as to source the appropriate UK

data for the global indicators; provide data to the international organisations responsible for each indicator, known as Custodian Agencies, who will report them to the United Nations; analyse the data so that we can put it into context; and make the data available to everybody using an online tool and supporting reports. To do this they consulted on their approach to measuring and reporting UK progress against the global SDGs indicators. They first reported progress in 2017 and on 7th November 2018 ONS published their second progress report²⁸. This looked at how much data has been collected for the global SDGs indicators by ONS for the UK. It also explains what work we are doing to measure progress towards the SDGs. This is not an update on UK progress towards meeting the Goals themselves, which will be presented in the Voluntary National Review to the UN High-Level Political Forum in July 2019. To date, ONS say they have data for 64% of the global SDG indicators, up from 39% in their first report; 61 indicators have been added in the last year meaning there is some data covering nearly all the Goals.

Meanwhile they have created an SDG reporting platform called the National Reporting Platform (NRP),²⁹ The “alpha” version is live and is a treasure trove of information on where we have measures and where we do not. It also helps in understanding the importance and implications of this work and its relevance to UK2070’s consideration. By clicking on each goal, the platform takes you through to the indicator set and reports progress. The site is based on an open-source version developed by the United States government with whom ONS are working. ONS are seeking feedback on the platform in this alpha phase.

ONS, SDGs and a Focus on Geography and its relevance to UK2070

ONS have said that a key issue raised in consultation responses was the need to focus on geography at the lowest possible level. If one looks at the SDG targets and UK data sets the ability to break it down at local and regional level is of critical importance to the question of regional and intra-regional inequality and vital to monitoring progress. In response to this demand ONS set up the “Geography Accelerator Project”.³⁰ The project includes among other things; improving the geographic disaggregation of global Sustainable Development Goals (SDGs) indicators, improving the mapping functionality for the national reporting platform and adding geocodes to data on the NRP, to ensure they are ready for mapping and geographical analysis. This could be invaluable both to the work of UK2070 and local government, sub national and regional partnerships. ONS have also participated in an aspect UN Statistics Division initiative to develop an open SDG data hub³¹ aimed at exploring new ways of producing and communicating geographical data.³² One challenge for ONS is monitoring progress for the whole of the UK can be challenging because data

²⁷ The House of Commons Environmental Audit Committee published its Ninth Report of Session 2016–17 on the Sustainable Development Goals in the UK, HC 596 on 26 April 2017

²⁸ Sustainable Development Goals in the UK: An update on progress (UK Government, November 2018) <https://www.gov.uk/government/statistics/sustainable-development-goals-in-the-uk-an-update-on-progress>

²⁹ Office of National Statistics - SDGs reporting platform <https://sustainabledevelopment-uk.github.io/>

³⁰ The Sustainable Development Goal indicators unstats.un.org/sdgs

³¹ UK Government report on delivering the Agenda 2030 Goals - 28th March 2017 <https://www.gov.uk/government/publications/agenda-2030-delivering-the-globalgoals>

³² The International Institute for Sustainable Development – Comprehensive Wealth <https://www.iisd.org/project/comprehensive-wealth>

are often not collected or reported in the same way across the four countries. They are working with the devolved administrations to ensure that we provide an aggregated figure wherever appropriate. They will present figures for each country to ensure full UK coverage where different data sources or definitions mean that we cannot provide a single UK figure for an indicator. Currently, of the 157 indicators that we have data for, 62% of these have UK coverage.

Measuring what matters

One issue that consideration of the UK2070 and Agenda 2030 together raises is the whole question of what we measure and how we might measure inequality in a more holistic sense. A number of UK2070 think pieces are exploring what is measured and what should be.

Conclusions and recommendations for UK2070

There is much synergy between both the aspirations of Agenda 2030, the SDGs, the NUA and the work of UK2070 commission. The UK 2070 commission work in illuminating the imbalances in economic activity and on-going work to identify policy interventions and mechanisms to address the imbalances between regions and nations is timely, critical and can support this key aspect of implementation of the SDGs and the NUA. The commission could therefore:

1. Consider how its objectives and aspirations align with the international commitments the UK has made in Agenda 2030, the SDGs and NUA and where and how their research, finding and recommendations align and could contribute to the UK delivering the SDGs.
2. When encouraging or commissioning research, request that it specifically considers how their finding and recommendations align and could contribute to the UK delivering the SDGs. A powerful example of this is the UK2070 think piece by the Manchester Urban Institute entitled Measuring Spatial inequality what we know and what we should know.
3. Explore ways to feed in to The UK government SDG monitoring progress report and national Voluntary report to the UN.
4. Engage with ONS on their data work in particular (a) give feedback on the alpha phase of the National reporting platform and (b) encourage and support their geography accelerator project and stressing the critical importance of disaggregating data geographically to the lowest relevant scale.