Investigating the Governance Mechanisms that Sustain Regional Economic Resilience and Inclusive Growth

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Abstract
We review the literature on regional economic resilience and discuss how it interrelates with systems of governance, local sustainability and inclusive growth. Resilience is a complex and multifaceted phenomenon shaped by pre-existing structural conditions, networks as well as institutional and governance configurations. We discuss the devolution and municipal socialism styles of governances that have evolved in Greater Manchester and Preston and compare their economic resilience and recovery from the global financial crisis. Our key empirical finding from our economic resilience scorecard is that Manchester has been the most resilient sub-region, particularly in the recovery of jobs since the crisis, while peripheral areas have continued to suffer. Preston has experienced increased productivity but at the expense of declining employment which is yet to recover. Preston, in following community wealth building policies, has had a more equitable recovery and is improving well-being for its citizens. In our policy recommendations we suggest local authorities need greater capacity and redundancy in the system and local industrial strategies need to encourage firms to invest in green innovation to deal with future crisis.

Keywords: economic resilience, regional disparities, productivity, business cycles, governance.

JEL classification: C22, E32

Introduction

The ability of regions to resist, adapt, respond, recover and/or renew from economic shocks has been a recurrent theme in the literature of economic geography. Resilience is a multifaceted phenomenon, influenced by structural and other context specific institutional and relational factors. The importance of institutions, policies and agency for shaping regional resilience has been stressed by recent literature (Bristow and Healy, 2018a; Boschma, 2015). There is a relationship between the system of governance and regional economic resilience, since local governments will use the policy levers at their disposal to try to mitigate the impact of economic downturns and address sub-national development priorities (Bentley et al, 2017).

The system of governance in the UK is one of the most centralised among developed industrial nations. Attempts towards greater local decision making in some policy arenas have mainly taken the form of 'conditional localism' (Hildreth, 2011), whereby decentralisation is conditional on local actors buying into national policy objectives. This implies that decision making is not necessarily tailored to local economic development needs. In addition, the organisation of Whitehall has often followed a functional logic with no holistic overview of how different problems and policies come together to affect specific places (Heseltine, 2012). This has been compounded by a style of policy making characterised by short-termism; a lack of institutional memory and stability of policy initiatives, an undue influence of London in policy and resource allocation (Coyle and Sensier, 2020), and a dominant economic framework underpinning national economic policy that is largely a-spatial (Bailey et al, 2015; Hildreth, 2011; Uyarra et al, 2016). This framework assumes that investing in existing agglomerations is more efficient and that growth in core areas will trickle down to less developed areas. The UK has the greatest spatial inequality among European countries (see McCann, 2019) to such an extent that the Government has made it a central mission to "level up" investment across UK regions (see Tomaney and Pike, 2020). These regional disparities have widened since the financial crisis of 2008, with some regions demonstrating greater economic resilience while others have been slow to recover (see Sensier and Devine, 2019). The UK system of governance has proven to be ill-suited to respond to these interregional problems, and has arguably exacerbated them (McCann, 2016).

The UK Labour Government's policy response to the 2007-08 Global Financial Crisis was to bail out the finance sector (nationalising some banks) and provide a fiscal stimulus to the economy. Following the general election in 2010 the Conservatives formed a Coalition Government with the Liberal Democrats and under the then Chancellor of the Exchequer, George Osborne, the focus turned to reducing the deficit (which had trebled in size due to the bank bailouts) and the introduction of austerity budget measures in order to stabilise the country's financial ratings and bring down national debt. In the 10 years of austerity policy in the UK output growth has been subdued along with investment, employment, real wages and productivity. Beneath the national headline figures the regional picture is mixed with areas with the greatest shares of deprivation suffering the largest local authorities budget reductions (see Gray and Barford, 2018) and some sub-regions yet to recover pre-crisis productivity levels (Sensier and Devine, 2019). The current crisis brought about by the coronavirus pandemic has seen immediate UK Government action in the form of support for businesses (Job Retention Scheme, business rate relief and business interruption loan schemes), the self-employed and the charitable sector with the lock down announced on 23rd March 2020. Although too early to judge these measures the response to this crisis has been led by the central state with some resources redistributed by local authorities.

In this paper we look at two different styles of local governance that have evolved since the financial crisis in the UK cities of Greater Manchester and Preston. Greater Manchester and Preston have been chosen because they have performed differently in terms of various dimensions of resilience. While exhibiting a positive performance in some resilience aspects vis a vis the national and the regional level, their different trajectories are a product of the different structural, social, institutional and governance conditions in place. In order to do so we first review the academic and policy literature on regional economic resilience, governance mechanisms and inclusive growth. We document policy interventions that have been applied to help with the recovery from the 2008 recession to see if lessons can be learned to aid in the recovery from the 2020 coronavirus pandemic crisis. We compare Greater Manchester and Preston local indicators in terms of their recovery and resilience from the financial crisis along with indicators for inclusive growth and sustainability. Greater Manchester is part of the 100 Resilient Cities Project funded by the Rockefeller Foundation and has followed a devolution agenda. Preston has pursued local wealth building strategies and municipal socialism. We discuss what lessons have been learnt from the financial crisis and in particular the way local economies can adapt and recover, particularly when lead by strong institutions. We explore if these policies could be applied for the recovery from the coronavirus pandemic and make recommendations for further policy measures. Does a crisis offer a chance of truly transformational change within a nation state to deal with the wicked societal problems of climate crisis and inequalities?

Governance and Resilience Review

Regional economic resilience is defined as the capacity of a regional economy to withstand, recover from and reorganise in the face of market, competitive and environmental shocks to its developmental growth path (Bristow and Healy, 2014; Martin and Sunley, 2015). While original interpretations of the concept of resilience were grounded in engineering and ecological traditions and understood as the ability to withstand or recover from a shock, recent understandings of resilience consider the possibility of renewal and the creation of new pathways, rather than simply returning to a pre-shock state paths (Boschma, 2015). This is linked to the notions of adaptation and adaptability, understood respectively as the ability to maintain previous economic specialization through path extension or to transform towards new development paths (Boschma, 2015). Martin (2012) in turn identifies four interrelated dimensions of economic resilience that are necessary for describing how a regional economy responds to a recessionary shock. The first is resistance which is the sensitivity of a region compared to the nation during the recession, second is the speed and extent of recovery from the recession, and third is if the region goes through structural re-orientation and what implications this has for the region's jobs, output and income. The fourth dimension is the degree of renewal a region will undergo following the shock and the extent to which it renews its growth path. The root cause of these shocks could be global (the 2008 financial crisis and the 2020 coronavirus pandemic), national (1990s house price crash) or local (closing of a factory) in nature.

Academic studies taking an evolutionary lens on regional resilience have focused on the nature and dynamics of resilience in local and regional economies, and tried to understand why some regions are more able than others to recover from economic shocks. Martin and Sunley (2015) identified three main sets of factors: compositional factors such as the sectoral/industrial structure of local and regional economies, collective factors related to relationships between local economic agents within each regional economy, and contextual factors related to policies and multi-scale institutions. Most studies have focused on compositional and collective factors, stressing aspects such as skills, the regional productive structure and the structure of knowledge

networks and the innovation propensity of knowledge firms. Martin et al. (2016) state that economic structure of places varies across the UK and the degree of foreign ownership, the geographical distribution of supply chains, export orientation and legacy of the inherited labour market all play a part in why some regions are more resilient than others, although they suggest that the importance of industrial structure has decreased since the 1970s. Davies (2011) finds resilience was weaker in more manufacturing intensive regions across Europe in the immediate aftermath of the financial crisis. Webber et al. (2018) found mixed results on the effect of manufacturing and a positive impact of employment in services on economic resilience. Kitsos and Bishop (2018) found that past economic performance but also skills were important factors explaining differences in economic resilience outcomes to the 2008 recession in the UK. Lee (2014) found that UK cities with higher skill levels had the smallest increase in unemployment over the 2008-09 recession.

Regions that have been most resilient have tended to be those specialised in dynamic and productive industries and those with more diversified economies (Cuadrado and Maroto 2016). Regions with a more diversified sectoral portfolio are assumed to be less sensitive to economic shocks as the risk of being hit by a shock is spread among those sectors (Frenken et al., 2007) and they are better placed to find new combinations that may lead to new growth paths (Boschma, 2015). Xiao et al. (2018) found in a study of European regions that related variety and unrelated variety of industry increased the probability of regions being resilient when comparing industry entry levels before and after the financial crisis. The most resilient regions had higher entry levels of knowledge-intensive industry after the crisis. Innovation was found to play a key role by Bristow and Healey (2018b), who observed that regions identified as innovation leaders were more likely to have either resisted the financial crisis or recovered quickly. Rocchetta and Mina (2019) found that technological coherence, measured by the cognitive proximity of patenting activity in UK NUTS3 regions, had a positive impact on regional resilience performance. Other explanatory factors include the importance of networks, for instance the internal structure of a region's knowledge network, and the connectivity and openness of those networks to knowledge developed elsewhere (Balland et al., 2015). Fratesi and Rodriguez-Pose (2016) found that regional economies which are more sheltered have lower levels of adaptability compared to those that are more open.

Recent studies highlight the importance of institutions (including policy) and agency in shaping resilience outcomes (Bristow and Healy, 2018b; Dawley, 2013; Wolfe, 2010), including place-based (or 'place-renewal') leadership by firms and public authorities (Sotarauta and Beer, 2017; Bailey et al., 2010). For Boschma (2015) human agency, institutions and structural change are key to understanding the resilience and long-term economic evolution of regions. Institutional factors influence resilience but also key actors (either individually or collectively) can influence 'region-specific' institutional conditions (Martin and Sunley, 2015; Boschma, 2015; Cortinovis et al., 2017). Resilient regions are more likely to have dynamic and adaptable institutional structures that have learnt from previous crisis. Indeed, Kakderi and Tasopoulou, (2017) argue that policies that promote social and institutional learning, flexibility and connectivity facilitate new path development and resilience (see also Balland et al., 2015). Magro et al. (2020) articulate the policy responses contributing to resilience, and use the case of the Basque Country in Spain to understand the role of policy measures and agency to foster not just short-term adaptation to crisis but also medium and long-term adaptability through enabling new regional growth paths. Ayres et al (2018) note that "crises open 'windows of opportunity' by potentially jolting institutions or constitutional configurations out of established pathways and thereby facilitating the introduction of new structures and relationships". Political elites may seek to control the crisis and return to the status quo.

Conversely, reform agendas can be followed by committed individuals who seek to remove 'executive blockages' before the window of opportunity closes. The financial crisis may have provided such a window of opportunity for some places to develop new arrangements supporting new path creation and diversification of regional economies (Neffke et al, 2011).

Wink et al. (2018) describe the vulnerabilities of Stuttgart region in Germany following the 2008 recession as the region automotive industry was exposed to the global contraction of exports leading to a deep recession of 10% in regional GDP. The region had learned lessons from a severe recession in the early 1990s and had developed a strong institutional sector based collaboration between public and private organisations and a strong social consensus between firms and trade unions in the manufacturing industry. There was an immediate country level response to the crisis with tax and social security payment reductions for firms and households, along with a short-term working allowance to enable workers to work part-time but still get 60% of their salary, thus preventing loss of workers with tacit knowledge. Germany also introduced a "future investment programme" which was spent on education and research infrastructure and the modernization of energy systems. The state level response in Baden-Württemberg included the introduction of its own infrastructure programme for public buildings and roads and strengthened by a municipal fund for local infrastructure. Further measures introduced were "innovation vouchers" to boost SMEs R&D funding in 2008. This scheme awarded firms up to 5,000 euros for projects to develop new products and processes to strengthen innovation strategies through the crisis. Short-term liquidity loans and guarantees from the state development bank were also available to help struggling firms. Following the crisis, the region recovered quickly and transformed digitalization towards electric vehicles development along the same technological pathways and so achieved related variety diversification.

In the UK the 2004 Civil Contingencies Act required every local area to establish a Local Resilience Forum to be able to put in place emergency plans to deal with local/ national shocks. As an example of place-renewal leadership in the UK, Bailey and Berkeley (2014) discuss the operation of the West Midland's Regional Resilience Taskforce that dealt with business and employment issues during the downturn to ensure resilience over the short and longer term. They document a number of central and local government funds that were set up to help firms access credit and advice during the 2008 downturn. The retention of institutional memory and lessons from dealing with the 2005 closure of the Rover car plant were vital in helping deal with recession. They suggest the resilience dimensions of resistance and recovery were important in the short-term but then the renewal and reorientation of the local automotive sector to diversify into low carbon and higher value activities were important for long-term planning. The West Midlands proved to be resilient after adaptation following the 2008 recession as output, employment and productivity bounced back with higher rates of growth post crisis, see Sensier and Devine (2019). Tomlinson and Branston (2014) analysed how the North Staffordshire ceramics industrial district was able to reverse a phase of 'long decline' through purposive adaptation and joint action by local actors, thus arguing that "there is nothing inevitable about the trajectory of old industrial districts" (p.502). Sensier and Artis (2016) profile the resilience of the Welsh labour market following the 2007/08 financial crisis, Welsh employment peaked earlier than the UK and subsequently had a larger loss than the UK recovering after 5 years. The Welsh Government introduced the ReAct (Redundancy Action Scheme) and ProAct schemes for firms to apply for training funding so as to retain jobs in the wake of the crisis with money from the European Social Fund.

Broadening the view of resilience to include sustainability and social considerations, the literature on urban resilience has also discussed governance structures and strategies to react and adapt to external shocks. Meerow and Newell (2016) define urban resilience as "the ability of an urban system-and all its constituent socio-ecological and socio-technical networks across temporal and spatial scales-to maintain or rapidly return to desired functions in the face of a disturbance, to adapt to change, and to quickly transform systems that limit current or future adaptive capacity." (p. 45). Urban resilience has gained momentum as a result of the influence of think tanks, NGOs and global initiatives such as the drive towards the United Nations Sustainability Development Goals (SDG) and the 100 Resilient Cities, set up by the Rockefeller Foundation to help world cities "become more resilient to the physical, social and economic challenges that are a growing part of the 21st Century". In the UK participating cities include Bristol, Glasgow, Belfast, London and Greater Manchester. The 100 Resilient cities strategy advocate a form of urban governance that is flexible, redundant (spare capacity to accommodate disruption), robust, resourceful, reflective, inclusive and integrated (Rockefeller Foundation, 2015). Fastenrath et al (2019) discuss Melbourne's resilience strategy and conceptualise resilience actions as 'governance experiments' that aim to "re-construct established urban governance structures by disrupting institutional path dependencies through collective innovation, cooperation and coordination" (p.7-8). They also discuss the need for more policy experimentation and combining solutions from "bottom-up" grass roots organisations (for example in the voluntary and social enterprise sector) with "top-down" established urban planning policy. A number of critical views have similarly argued against expert-driven, top-down and private sector led approaches to resilience and stressed the need to address questions of socio-spatial inequalities and social justice, including: who is included/excluded from the system? Who determines what is desirable? Resilience for what and for whom? Whose resilience is prioritized? (Meerow and Newell, 2016; Leitner et al, 2018).

The policy agenda around inclusive growth is similarly concerned with understanding the distributional consequences of economic growth, Lee (2019). The OECD (2018) describes inclusive growth as economic growth that creates opportunities for all segments of the population and distributes the dividends of increased prosperity, in both monetary and non-monetary terms, fairly across society. A number of UK local industrial strategies have focused on addressing challenges in terms of low wages, low skills and low rates of productivity. This involves stimulating demand for jobs that are more secure and better paid. In 2015 the Welsh Government introduced a "Wellbeing of Future Generations" Act. This placed a legal requirement of Welsh public bodies to think about the long-term social, cultural, environmental and economic impact of their investment decisions on wellbeing. In the Welsh Government Economic Action Plan of 2017 they launched an initiative to support foundational economy (see Englen et al, 2017) sectors (tourism, food, retail and care) in particular to support key sectors with policies including skill development, new business models and infrastructure. In 2017 the Scottish government and North Ayrshire Council developed an 'inclusive growth diagnostic approach' to identify barriers to sustainable inclusive growth and recognise investment decisions with the potential to deliver long-term change. Lupton et al (2019) note that this "process identified drivers of inclusive growth across the external environment, local conditions, and social factors. These drivers included factors often identified in economic analysis such as infrastructure and skills but also the value and quality of jobs, and 'social factors' such as community empowerment, health, aspirations and childcare. Factors were then scored on a matrix of impact (on growth, inclusion and sustainability) and deliverability, in order to prioritise strategies and investment." Lupton, et al (2019) state that inclusive growth policy and practice has two spheres of activity: (1) working towards economic structures and

activities which are more inclusive by design; (2) making sure local people are connected to economic opportunities in terms of having good physical local service provision (housing, digital connectivity and transport) and provision of good quality education, training, health and care services as a basic minimum.

These different agendas and considerations have implications in terms of how resilience, broadly understood, is measured, which indicators to use and at what units of analysis. Regional economic resilience has been typically operationalised in terms of standard economic measures such as gross value added (GVA) and labour market indicators. A range of resilience indicators have been reported by think tanks (CLES, 2010; Greenham et al., 2013; IPPR North, 2014). To understand community resilience and inclusive growth a range of metrics are required that also measure citizen health and well-being, job quality, environmental assets and cultural capital (Axinte et al., 2019). We will compare our resilience scorecard of Greater Manchester and Preston with two new approaches that advocate the use of indicators of societal well-being. The first is the Index from the Centre for Thriving Places (2020), which take account of local conditions, equity and sustainability measures. The Thriving Places Index builds on the approach of Raworth's (2017) Doughnut Economics which is derived from the UN's SDGs and argues that local economies should be regenerative and redistributive by design, instead of waiting for growth to level or clean things up. The second indicator is for inclusive growth from the Good Life Communities index from the Centre for Progressive Policy (2019).

Devolution in Greater Manchester

Greater Manchester's ten local authorities have a long history of working collaboratively from the creation of the Metropolitan county council in 1974 to its abolition in 1986, followed by the formation of the Association of Greater Manchester Authorities (AGMA) created as a forum for discussion (see Table 1 for a timeline of Governance events). Greater Manchester reviewed the state of its local economy in the Manchester Independent Economic Review. This built up a strong evidence base on the economic and social progress over time for the city region in terms of location of economic activity, population, deprivation and worklessness (see Holden, 2020). Greater Manchester was in the first wave of City Deals in 2011 and the only place to secure the earn-back mechanism (to invest local funds into transport infrastructure, retain a share of the proceeds of subsequent tax yield derived from increased economic growth and then re-invest the revenues in further 'GVA enhancing' infrastructure, O'Brien and Pike, 2015). O'Brien and Pike (2018) state that City Deals were introduced in the UK by the coalition government, formulated in the aftermath of the 2008 crisis and shaped by the UK national government's public finance deficit reduction priority and ambition for enhanced decentralisation to enable cities to boost economic growth and recovery. UK national government actors have used City Deals to incentivise coalitions of local state actors at the city-regional scale to develop visions, strategies, and priorities – especially for funding and financing urban infrastructure – and reform governance structures to "unlock" city-regional growth.

Devolution deals that took place in England between 2010 and 2016 are described by Ayres, et al (2018) as partnership agreements bartered between the centre and local authorities. Holden (2020) describes the Greater Manchester settlement as "deal based" devolution which began in 2014 and is "grounded in a model, which has been developed over a period of more than 30 years, that is characterised by extensive public-private collaboration, strong civic leadership and robust governance with strong independent external review functions, an evidence based approach to policy development". Haughton, et al (2016) state that the Greater Manchester devolution model has favoured agglomeration policies that have increased economic activity

in the city centre and public service reform has been crucial for Central Government to allow more local policy autonomy and greater fiscal powers. Greater Manchester's devolution deal was initially led by an unelected Mayor and then an elected Mayor since May 2017. Greater Manchester was also among the first group of city regions to produce a local industrial strategy, which identifies local strengths and challenges, future opportunities and action needed to boost productivity, earnings power and competitiveness.

Table 1: Timeline of Governance Events in Greater Manchester

Date	**Event/ Strategy**
2009	Manchester Independent Economic Review published
2010	GM Local Enterprise Partnership created
2011	GM Combined Authority (GMCA) created. Each of 10 LA Leader takes a GM policy portfolio
2012	GM City Deal agreed (£2.7 million)
2013	GM Strategy, Stronger Together brings together economic growth and public service reform priorities
2014	George Osborne makes 2 speeches about "Northern Powerhouse". GM Devolution deal is signed in November
2015	Health and social care spending agreed £6bn
2016	Devolution deal for more criminal justice system powers.
2017	GM Mayor Andy Burnham elected.
2019	GM Independent Prosperity Review in Feb
2019	GM Green Summit, 5 year Environment Plan launched in March. GM aims to be carbon neutral by 2038
2019	Greater Manchester Housing Strategy committed to 50,000 additional truly affordable homes by 2037, launched in June (GM Spatial Framework)
2019	Transport for the North Strategic Economic Plan
2019	GM Local Industrial Strategy Launched in June

Lupton et al (2019) discuss problems within Greater Manchester and its lack of inclusive growth in terms of low pay and insecure employment with around 620,000 households living in relative poverty. Peripheral areas continue to struggle and women, ethnic minorities and disable people tend to fare much worse in terms of jobs and pay. Lupton et al (2019) discuss the Greater Manchester Good Employment charter[1] that has been established to encourage employers to offer more equitable employment practices including workplace engagement, in-work progression and paying at least the real living wage. In 2019 GM launched a Co-operative Commission which solicited ideas from the local population and businesses. Lupton et al (2019) note the challenges of financing inclusive growth strategies for city regions that have experienced piecemeal devolution and a long period of austerity which has meant the phasing out of the local government support revenue grant. They propose some solutions for filling the public sector funding gap including "establishing local financial institutions to enable local saving and lending; local investment of anchor institution assets and funds; municipal or social investment bonds; and municipal ownership or community ownership of local public assets". Sensier (2017) discusses the role a community bank could play within Greater Manchester. Local networks and institutions strengthen community resilience, particularly those firms rooted in communities (Brett, 2020) and community banks could work with local companies.

[1] See https://www.greatermanchester-ca.gov.uk/what-we-do/economy/greater-manchester-good-employment-charter/

Community Wealth Building in Preston

Preston, Lancashire has aimed to rebuild itself post financial crisis after the loss of large inward investment from a shopping centre development in 2011. McInroy (2018) describes how Preston city council has been working on local wealth building initiatives with anchor institutions (university, housing associations and the hospital) to pay the real living wage and procure more goods and services locally. The "Preston model" of municipal socialism has learned lessons from community wealth building principles applied in Cleveland, Ohio in the US, Thompson (2020). For a timeline of events for Preston see Table 2. Preston also launched a Co-operative Development Network[2] linking procurement to expand local opportunity (Preston learned from the co-operatives in Mondragon, Spain, see Manley and Froggett, 2016). Thompson et al (2019) states that Preston has developed place-based inclusive growth strategies which challenges the market dominance under urban entrepreneurialism in which cities look outwards to attract mobile capital and the creative class in a competitive zero-sum race to the bottom. They name this strategy "entrepreneurial municipalism", developing the idea of the entrepreneurial state (Mazzucato, 2013) for the municipal scale. This involves urban authorities using their political, legal and financial powers to harness endogenous assets such as land and labour to build a more socially just and self-sustaining pathway to local economic development – one which reflects the interacting processes of reciprocity, redistribution and market exchange of a socially embedded local economy.

Table 2: Timeline of Governance Events in Preston

Date	**Event/ Strategy**
2002	Won Golden City status in Queen's Golden Jubilee.
2011	John Lewis retail development withdrawn; Cllr Matthew Brown investigates Community Wealth Building in Cleveland; US and starts to work with CLES.
2013	CLES estimates local spend for Preston & Lancashire.
2013	Preston, South Ribble and Lancashire City Deal was signed in September 2013. Investment of £1.47 million LEP says "expand transport infrastructure create 20k new jobs and generate more than 17k new homes over next 10yrs".
2019	Selected for Government Stronger Towns and High Street Funds

CLES (2018), describe the inclusive economy model followed by Preston as one that is intentionally organised to produce social and economic justice, environmental sustainability and prosperity for all. This, according to CLES, "aims to reorganise and control the local economy so that wealth is not extracted but broadly held, generative and rooted locally" (p. 7). One of the pillars of this community wealth building has been to harness the spending power of anchor institutions through public procurement to retain mobile capital that would have otherwise leaked out of the region. This approach has been criticised for its protectionist stance towards local suppliers in procurement contracts which, if followed by other localities, could lead to a competitive race-to-the-bottom (Thompson, 2020) and for its narrow view of value capture and anchoring (Uyarra et al., 2017). While acknowledging that this approach is not risk free, CLES notes that it provides "the best options to enhance the opportunities of individuals and workers […] as continued economic, social and territorial conflict continues to erode the economic, social and political foundations on which current and future well-being is based." Preston has pursued these policies for nearly 10 years in face of further local government austerity measures and is also planning to establish a co-operative community bank. It was named most improved city by the PWC/Demos (2018), Good Growth for Cities Index[3], due to

[2] See https://www.councils.coop/case-studies/preston-co-operative-development-network/
[3] See https://www.theguardian.com/politics/2018/nov/01/preston-named-as-most-most-improved-city-in-uk

a reduction in the unemployment rate and increases in the share of the workforce paid more than the real living wage, evidence that these policies are making a real difference.

Comparing Resilience in Greater Manchester and Preston

We compare the economic resilience of Greater Manchester and Preston by first dating the business cycle turning points (as in Sensier, et al 2016) to determine if regions have experienced recession and then recovered their pre-recession peak level of output, employment and productivity. We assess how GM and Preston fared in the run up to the financial crisis, then during the recession and how they subsequently recovered. We examine time series data for real balanced GVA with Office for National Statistics (ONS) annual time series over the sample 2002-2018 (in 2016 pounds which takes account of regional price differences, see ONS, 2020). The employment series is the amount of productivity jobs from the ONS sub-regional productivity release. We calculate real productivity as:

Real Productivity = Real GVA/Productivity Jobs (1)

When we have established the turning points of the business cycle we can calculate a range of indicators that will be utilised in the resilience scorecard. The duration of the recession is the difference in years between the trough and peak dates. We calculate the LOSS over the recession where we take the difference in the level of employment in a region (Emp_r) between the peak and trough dates and divide this by the level at the peak, multiplying by 100 to show a percentage loss:

$$LOSS=100.(Emp_{peak_r} - Emp_{trough_r})/ Emp_{peak_r}] \quad (2)$$

To compare the resistance of regions to the nation we compute a sensitivity index (β_r) from Martin (2012) which is the percentage change in the variable, here for employment lost in a region (Emp_r) compared to that lost at the national level (Emp_n), between peaks and trough turning points as follows:

$$\beta_r=[100.(Emp_{peak_r} - Emp_{trough_r})/ Emp_{peak_r}]/[100.(Emp_{peak_n} - Emp_{trough_n})/ Emp_{peak_n}] \quad (3)$$

If the value of $\beta_r > 1$ then the region has lost a greater percentage of employment than the nation and is less resistant to the recession but if the $\beta_r < 1$ then the region has lost a smaller share of employment than the nation and is more resistant to the recession than the nation. We calculate the expansion average growth rate (EAGR) to measure the 5 year average of the growth rate (first difference of the natural log) before the recession including the date of the peak year. We calculate the rate of growth for the series after the trough by taking the second expansion average of the growth rate (E2AGR) for 5 years following the recession. To rank the region's economic resilience we present a resilience scorecard that compares regional statistics before, during and after the recession to assess a region's growth path. The resistance of regions are compared to the nation as the benchmark along with how quickly they recovered from the crisis. The renewal measure compares the growth rates 5 years before the recession and then 5 years after the recession. A greater rate of increase after the recession indicates that the region has rebounded strongly and is accelerating to a higher growth path. The date of recovery is noted when the region has regained its pre-recession peak level or if by 2018 (last year available) it has not recovered (NR). We will analyse data at the NUTS 2 level (Greater Manchester and Lancashire) and then also NUTS 3 level within those areas (see the Appendix for list of NUTS 3 regions). The resilience scorecard compare 4 statistics for each region over the recession and up to 2018, including:

1. RESISTANCE: Has the fall in GVA/jobs/productivity been less than the national decrease (β_r <1)?
2. DURATION: Has the duration of the recession been shorter or the same as the national recession?
3. RECOVERY: Has the region recovered faster or at the same time as the nation?
4. RENEWAL: Was the rate of growth after recession greater than before (E2AGR> EAGR)?

If the answer to the above question is yes then the region is classified as being more resilient than the national data series and is coded 1, if no it is less resilient and coded 0. Based on this we sum up all regions over 4 categories for 3 variables the highest score if they are very resilient is 12.

Table 3: Real GVA Real BC Turning Points and Resilience Measures NUTS 3 regions

Region	Peak year	Trough year	Loss Peak to Trough	Beta - Resist	Year Recover	EAGR	E2AGR
UK	2007	2009	-4.1	1	2011	2.99	2.2
NW	2007	2009	-3.61	**0.88**	2014	3.02	1.44
GM	2007	2009	-3.17	**0.77**	2012	2.97	1.3
UKD33	2008	2009	-1.64	**0.4**	2011	3.56	1.35
UKD34	2007	2009	-4.54	1.11	2012	2.9	2.79
UKD35*	2007	2011	-1.15	**0.28**	2012	1.88	0.49
UKD36	2007	2009	-6.87	1.68	2015	2.29	0.86
UKD37*	2007	2011	-4.99	1.22	2015	2.42	1.2
Lancs.	2007	2009	-8.01	1.96	2014	3.11	1.87
UKD41	2007	2009	-5.13	1.25	2013	2.76	1.85
UKD42*	2006	2012	-16.44	4.01	2018	3.63	3.59
UKD44	2007	2009	-13.52	3.3	NR	2.96	1.45
UKD45	2008	2009	-4.97	1.21	2012	1.39	**1.55**
UKD46	2007	2009	-10.75	2.62	2013	3.97	3.08
UKD47	2007	2009	-4.66	1.14	2012	2.05	1.1

Note: bold font in Beta – Resistance column signifies the region is more resistant than the nation. Bold font in the second expansion average growth rate (E2AGR) column means that this is greater than the expansion average growth rate (EAGR) before the recession. *Double Dip recession.

The results for the UK national series are shown in the tables (UK charts are shown Sensier and Devine, 2019) as we benchmark the regions against the UK series. We present the turning points and resilience measures for real GVA in Table 3 which shows that the GVA loss over the recession for the North West was -3.6% and for GM was -3.2% (as shown in Figure 1) both less than the national loss so they are more resistant (with beta-sensitivity index is less than 1 and is highlighted in bold font). Within GM GVA contracted the least in the Stockport and Tameside NUTS 3 sub-region (UKD35) by -1.2% though it suffered a double dip recession lasting four years (a second deeper fall after an initial recovery) and Manchester (UKD33) GVA contracted by -1.6%. Bolton and Wigan (UKD36) had the deepest contraction of -6.9% along with Bury, Oldham and Rochdale (UKD37) which contracted by -5% over 4 years, both of these areas took the longest to recover within GM of 8 years. The Lancashire NUTS 2 region had a deeper recession loss of -8%, within this region the NUTS 3 region UKD42 (Blackpool) had the deepest contraction of -16.4% with a long recovery lasting 12 years. The area UKD44

(Lancaster and Wyre) suffered a deep recession of -13.5% loss over 2 years and is yet to recover its pre-recession peak (with data up to 2018). The Preston sub-region (Mid-Lancashire, UKD45) contracted -5% over one year and returned to its pre-recession peak in 2012 though suffered a small downturn the following year (see Figure 2). In Table 3 the 7th column presents the pre-recession growth rate for 5 years up to and including the peak, the last column shows the growth rates after the trough of the recession for 5 years. In all cases apart from Preston the growth rate was lower following the recession.

Table 4: Productivity Jobs Business Cycle Turning Points and Resilience Measures

Region	Peak year	Trough year	Loss Peak to Trough	Beta - Resist	Year Recover	EAGR	E2AGR
UK	2008	2009	-1.49	1	2012	0.94	**1.06**
NW	2008	2011	-0.76	**0.51**	2013	0.62	**1.15**
GM	2010	2011	-1.8	1.21	2013	0.15	**1.64**
UKD33	2010	2011	-2.73	1.84	2013	1.5	**3.67**
UKD34	2007	2008	-0.6	**0.41**	2010	0.59	**0.86**
UKD35*	2008	2013	-6.4	4.31	2018	1.23	**1.65**
UKD36*	2008	2012	-3.3	2.22	2014	-0.0005	**1.62**
UKD37*	2007	2011	-6.35	4.28	2016	1.16	**1.46**
Lancs.*	2008	2012	-2.59	1.74	2016	1.07	0.41
UKD41	2008	2011	-10.92	7.35	2014	1.33	**2.52**
UKD42*	2006	2013	-7.84	5.28	2018	-0.34	**2.06**
UKD44*	2008	2012	-11.06	7.44	NR	1.77	1.18
UKD45	2011	2012	-3.43	2.31	NR	1.78	0.05
UKD46	2008	2010	-7.94	5.35	2016	0.61	**1.46**
UKD47	2007	2009	-5.49	3.69	2014	1.73	1.19

Note: *Double dip recession.

Table 4 presents the results for the employment series for the UK and regions. Here we find generally greater loss than the national apart from for the North West (-0.8%) and for the Salford and Trafford sub-region (UKD34), loss of -0.6%. GM and Manchester were later to enter recession with the peak dated at 2010, and a recession lasting a year, this could coincide with the large number of local government job losses which began with austerity measures after 2010. The jobs level is recovered by 2013 in Manchester (as shown in Figure 2) with a rapid post-recession growth rate of 3.7%, more than double the 5 years before the recession. All sub-regions within GM experienced higher growth rates after the recession though the sub-region of Stockport and Tameside (UKD35) experienced a deep double dip recession of -6.4%, only recovering the pre-recession level after 10 years by 2018. The jobs lost within Lancashire and its sub-regions were greater than the national rate with the deepest loss in the Lancaster sub-region (UKD44) which along with the Preston sub-region (UKD45) had not recovered its pre-recession peak levels, with lower growth rates after the recession (see Figure 2).

Figure 1: Greater Manchester and Lancashire Business Cycles

Table 5 presents the results for real productivity and from here we can see that the loss within the North West, GM and Manchester was lower than the national and the post-recession growth rate is much lower than before, apart from the sub-region of Stockport and Tameside (UKD35) which has a slightly higher growth rate than before. The productivity loss for Lancashire is deeper than the national and most sub-regions take longer to recover with Lancaster (UKD44) not recovering its pre-recession level. The Preston sub-region (UKD45) does recover by 2014 and has a 1.5% growth rate after recession and in Figure 2 we can see the productivity level continues to grow after recession, but mainly due to anaemic job growth. The sub-region of Chorley and West Lancashire (UKD47) has a three year recession but the loss of productivity is more resistant than the national, it has a negative rate of productivity growth before the recession but a greater rate of 2% after the recession.

Table 5: Real Productivity Business Cycle Turning Points and Resilience Measures

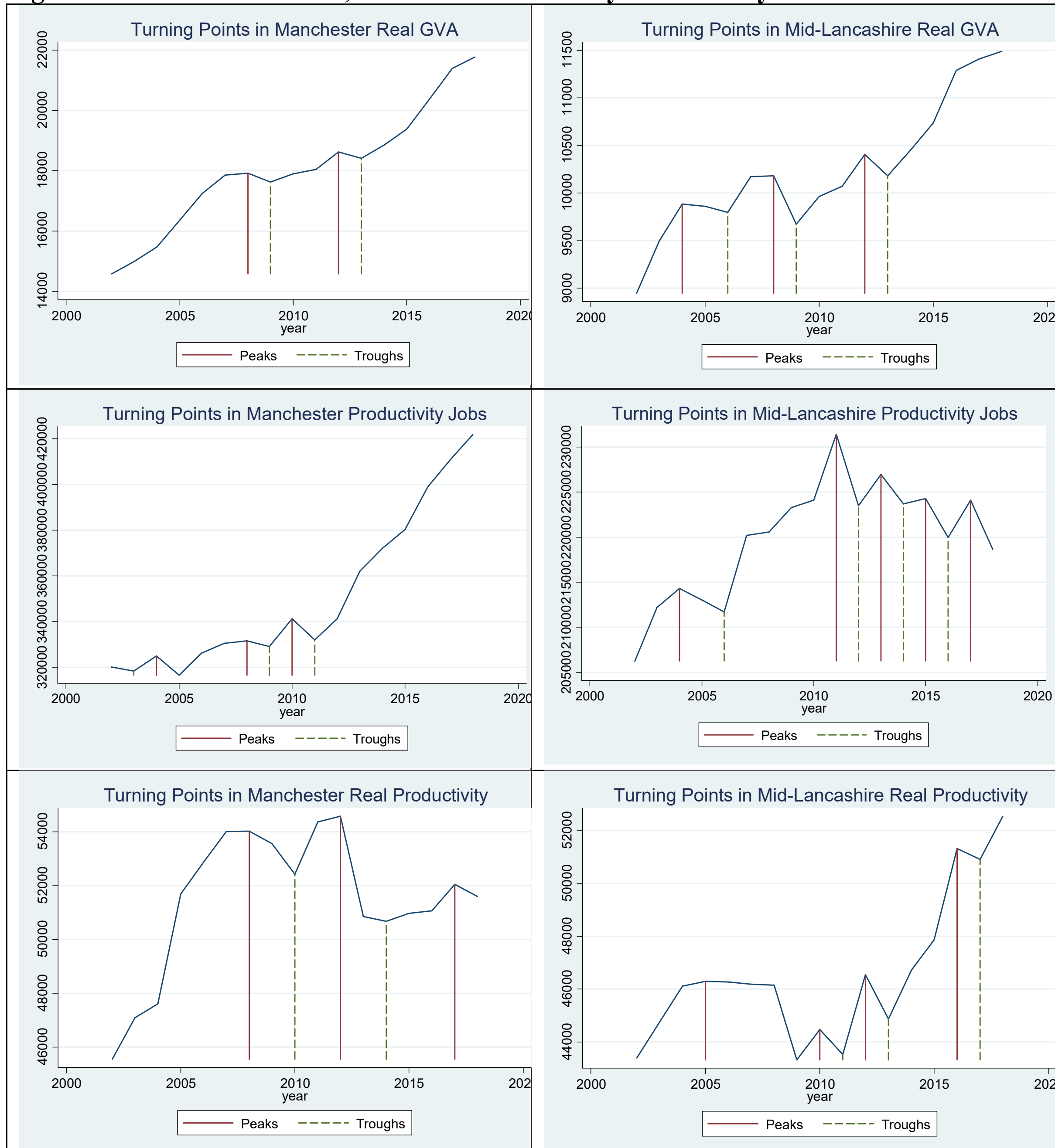
Region	Peak year	Trough year	Loss Peak to Trough	Beta - Resist	Year Recover	EAGR	E2AGR
UK	2007	2009	-3.51	1	2011	2.06	1.13
NW	2007	2009	-3.31	**0.94**	2013	2.27	0.66
GM	2007	2010	-2.51	**0.72**	2012	2.23	0.74
UKD33	2007	2010	-2.96	**0.84**	2011	2.75	-0.56
UKD34	2008	2010	-5.83	1.66	2013	2.11	1.83
UKD35	2006	2008	-2.59	**0.74**	2010	1.5111	**1.5113**
UKD36	2007	2009	-6.59	1.88	2017	1.76	0.33
UKD37	2008	2009	-1.97	**0.56**	2011	1.95	0.16
Lancs.	2007	2009	-7.82	2.22	2014	2.36	1.65
UKD41	2006	2008	-5.32	1.51	2011	3.09	0.71
UKD42	2007	2009	-16.77	4.77	2017	2.78	1.09
UKD44	2006	2009	-17.01	4.84	NR	2.27	2.12
UKD45	2005	2009	-6.41	1.82	2014	2.16	1.51
UKD46	2007	2009	-9.93	2.83	2013	4.69	2.66
UKD47	2008	2011	-1.31	**0.37**	2012	-0.98	**2.03**

In Table 6 we present the total scores for the resilience scorecard in the final column. Based on these measures Greater Manchester (UKD3) scores more points on the resilience scorecard with 7/12 than Lancashire (UKD4) with 2/12. Within GM, Manchester scores highest in the resilience scorecard with 9/12 points in total, giving support to Haughton et al (2016) that the dense city centre has been the most successful with the greater focus of the devolution deal. Points lost for Manchester were due to the growth rate of output and productivity being lower following the recession and employment experiencing a greater percentage loss than the nation. The least resilient region within GM is Bolton and Wigan (UKD36) sub-region which scores 3/12 points for higher employment growth after the recession and for a 2 year recession duration in output and productivity, the same as the nation. Preston (UKD45) scores 4/12 with output the most resilient indicator. Lancaster (UKD44) is the least resilient area within Lancashire with 1/12 points and Chorley (UKD47) is the most resilient with 5/12 points.

Table 6: Resilience Scorecard for NUTS 2 & 3 regions

	GVA				**Jobs**				**Productivity**				
RS	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**Sc**
UKD3	1	1	1	0	0	1	1	1	1	0	0	0	7
UKD4	0	1	0	0	0	0	0	0	0	1	0	0	2
UKD33	1	1	1	0	0	1	1	1	1	1	1	0	9
UKD34	0	1	1	0	1	1	1	1	0	1	0	0	7
UKD35	1	0	1	0	0	0	0	1	1	1	1	1	7
UKD36	0	1	0	0	0	0	0	1	0	1	0	0	3
UKD37	0	0	0	0	0	0	0	1	1	1	1	0	4
UKD41	0	1	0	0	0	0	0	1	0	1	0	0	3
UKD42	0	0	0	0	0	0	0	1	0	1	0	0	2
UKD44	0	1	0	0	0	0	0	0	0	0	0	0	1
UKD45	0	1	1	1	0	1	0	0	0	0	0	0	4
UKD46	0	1	0	0	0	0	0	1	0	1	0	0	3
UKD47	0	1	1	0	0	0	0	0	1	0	1	1	5

Figure 2: Preston Real GVA, Jobs and Productivity Business Cycle Measures



In Table 7 we compare a range of alternative indicators that consider quality of life and rank these for our sub-set of areas, in the second column we include the ranking of areas from the resilience scorecard (where 12/12 points is the 1st rank and 1/12 ranks 12th). In the third column we list the Inclusive Growth (IG) score from the Centre for Progressive Policy (CPP, 2019) using a range of 2016 data on five key outcomes including consumption, healthy life expectancy, leisure, inequality and unemployment. Higher scores in this indicator point to local economies that provide all round good quality of life. The Centre for Thriving Places (2020) Index (TPI) show the latest measures for a range of factors that affect individual and societal well-being within the three categories of equality (health, income, gender, ethnicity and social), sustainability (energy use, waste and green infrastructure rated) and local conditions (covering many indicators for example: transport, housing and social cohesion).

Table 7: Resilience with CPP Inclusive Growth and Thriving Places Indices

Region	Res. Rank	IG CPP	R	TPI Equality	R	TPI Local Conditions	R	TPI Sustainability	R	T
Manchester (UKD33)	4	0.52	11	5.45	6	3.72	11	6.28	2	34
Salford (UKD34)	6	0.6	9	5.36	8	3.99	8	6.9	1	32
Trafford (UKD34)	6	1.25	1	5.41	7	5.75	1	5.11	10	25
Stockport (UKD35)	6	1.04	2	4.17	11	5.49	2	5.55	5	26
Tameside (UKD35)	6	0.59	10	5.95	3	4.04	7	5.82	3	29
Bolton (UKD36)	10	0.8	6	5.3	9	4.18	6	5.51	6	37
Wigan (UKD36)	10	0.82	5	5.28	10	4.62	5	5.43	9	39
Bury (UKD37)	9	0.92	4	5.99	2	5.03	3	5.49	8	26
Oldham (UKD37)	9	0.67	7	5.73	5	3.97	9	5.5	7	37
Rochdale (UKD37)	9	0.66	8	5.82	4	3.86	10	5.59	4	35
Preston (UKD45)	9	0.94	3	6.1	1	4.93	4	4.81	11	28

Note: Ranks (R) in columns 2, 4, 6, 8 and 10, higher ranks signify better outcomes. Indices in columns 3, 5, 7 and 9, higher numbers signify better outcomes. Total (T) score last column.

We find that Manchester has scored highly in the resilience scorecard but ranks the lowest of all the GM districts for inclusive growth and local conditions, with the lower rates of healthy life expectancy pulling down this measure as also discussed in Lupton, et al (2019). Here we find that Preston has a higher outcome for the equality ranking, this is helped by having lower health inequalities, but scores lower on sustainability with a lower score for green infrastructure. The sustainability measures put Salford ahead and this is helped with a higher scores for waste recycling and green open spaces. We rank the scores for each indicator in the column next to the index and in the last column of Table 7 we sum all the ranks to give a more balanced measure of societal well-being. From this summation we find that Trafford ranks the highest out of the GM districts and this is driven by the best local conditions and inclusive growth, other districts that perform well include Stockport and Bury with Preston ranking in third place of the total scores adding resilience to well-being.

Conclusions

In this paper we have reviewed the literature on regional economic resilience and discuss how it interrelates with systems of governance, local sustainability and inclusive growth. Resilience is a complex and multifaceted phenomenon shaped by pre-existing structural conditions, networks as well as institutional and governance configurations. We compared the economic resilience and recovery of Greater Manchester and Preston from the global financial crisis and compared the devolution and municipal socialism styles of governances that have evolved over the 10 years since the crisis. Our key empirical finding from our economic resilience scorecard is that Manchester has been the most resilient sub-region, particularly in the recovery of jobs

since the crisis. Peripheral areas, like Bolton and Wigan, have suffered and probably will continue to until austerity measures are reversed and they received targeted investment and support. Tentatively, we conclude that policies targeted at dense agglomerations (like city deals and the Northern Powerhouse devolution settlements) have not benefitted surrounding areas. When we widen our analysis to examine indicators for societal well-being Manchester ranks poorly for inclusive growth, particularly with poor health and life expectancy outcomes, so even within Manchester the proceeds of growth are not being shared equitably to improve life chances of its poorest citizens. Peripheral areas that score well include Trafford and Stockport which were already prosperous and they have shown average resilience in recovery from recession and good well-being scores. Preston has enjoyed increasing output and a recovery in productivity but at the expense of falling levels of employment. It has scored better on good growth measures in that it has reduced unemployment and the number of people earning less than the real living wage as a direct result of the community wealth building policies. It ranks highly for measures of health and income equality and local conditions which contribute to inclusive growth.

In recovery from the current crisis local and national policy should be directed at regenerating sustainable and equitable regional economies and to continue with a meaningful levelling up agenda. Government should prioritise lifting the wages of the lowest paid workers to the real living wage as in times of crisis they have become the indispensable "key workers" (these include health and social care workers, local and national government workers, teachers and child care providers, food processing, retail and delivery drivers, policy and utility workers[4]). These workers in the foundational economy are less able to work from home and have therefore put themselves on the frontline in times of crisis and have been more exposed to coronavirus contagion. Local councils need to see a reversal of austerity cuts so they have greater capacity and revenue funding to plan and react faster during a crisis as they are on the front line of emergency response with local resilience forums.

Future local industrial strategies (that are being rolled out in regions across England) should include measures to enhance firm capacity, particularly those rooted within communities. More collaborative and co-operative approaches are needed, as followed in Preston, which share the proceeds of growth more equitably and the structures for community finance need to be enhanced by increasing the capacity of credit unions or introducing community banks. Green innovation vouchers could be offered to firms during the crisis similar to those distributed in Germany during the financial crisis which helped companies in the automotive sector in Stuttgart continue to innovate during the downturn to allow them to bounce back in the recovery, Wink et al (2018). These will enhance the capacity of related and unrelated variety firms to pivot so they can respond during a crisis, these could also be directed towards green infrastructure investments to respond to the climate crisis.

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[4] See UK Government advice at https://www.gov.uk/government/publications/coronavirus-covid-19-maintaining-educational-provision/guidance-for-schools-colleges-and-local-authorities-on-maintaining-educational-provision

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Appendix

Table A.1: Region Codes and Names

Code	Region Name
UKD	North West
UKD3	Greater Manchester
UKD4	Lancashire
UKD33	Manchester
UKD34	Greater Manchester South West (Salford & Trafford)
UKD35	Greater Manchester South East (Stockport & Tameside)
UKD36	Greater Manchester North West (Bolton & Wigan)
UKD37	Greater Manchester North East (Bury, Oldham & Rochdale)
UKD41	Blackburn with Darwen
UKD42	Blackpool
UKD44	Lancaster and Wyre
UKD45	Mid Lancashire (Fylde, Preston, Ribble Valley & South Ribble)
UKD46	East Lancashire (Burnley, Hyndburn, Pendle & Rossendale)
UKD47	Chorley and West Lancashire