HOW CAN CHALLENGES IN LEFT BEHIND PLACES BE ADDRESSED?

LEARNING FROM GREATER LILLE, NANTES, THE RUHR REGION, SAN ANTONIO, AND ESTONIA

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Abstract

Addressing issues of regional inequalities and supporting 'left behind' regions is a global issue, but analysis of international regions that have successfully levelled up is limited. Developing and implementing effective place-based policies is critical for recovery from the Covid-19 pandemic but remains an under-explored issue. This paper provides insights into different policies and tools used to support left-behind places. Comparing the experiences of addressing socio-economic challenges in Greater Lille, Nantes, the Ruhr region, San Antonio, and Estonia it discusses what ingredients are required for successfully addressing inequalities, what has worked well, and future challenges. It identifies seven "foundations" for levelling up and stresses the importance of levelling up "within" regions and not just the levelling up "of" regions. In particular, it debates opportunities to support levelling up through financial management and governance tools.

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1. Introduction

1.1. Policy Context

Addressing regional inequalities and supporting 'left behind' regions is a global issue. Factors driving regional inequalities are 'longstanding and complex' (Stuart and Shutt, 2021, p.45). Growing social and spatial inequalities, persistent rates of poverty, limited opportunities, and high levels of discontent have all been linked to the issue of rising populism in so-called 'left behind' places across the world (Rodríguez-Pose, 2018). But areas considered 'left behind' 'vary greatly' in size and geography, (Davenport and Zaranko, 2020, p.325).

The merits of governance reforms, particularly devolution, to address regional and spatial development challenges are contested (Regan et al, 2021). 'Powerful, scale-changing modifications are affecting local governments in Europe and across the world' (Desjardins and Geppert, 2020, p.121). To make regions more dynamic and better suited to modern economic needs there is interest in reforming governance arrangements, including the number of local government areas. For example, the number of French regions was reduced from 22 to 13 in 2015 to decrease waste and make the regions better adapted to modern economic needs.

A longstanding and ongoing debate concerns the merits of people and place-based policies. The International Monetary Fund endorses a 'spatially blind, people-based' approach to development targeting underperforming population groups (Floerkemeier et al, 2021, p.19). Globally, there appears to be a move to industrial policies and a place-based approach to regional policies that are designed to improve well-being and reduce disparities. Global institutions, including the European Commission and the OECD, have emphasised opportunities to use industrial policies to support the delivery of macro- and micro-economic policy goals (Barca, 2009; Hildreth and Bailey, 2014). The Covid-19 crisis has accentuated the need for effective (and different) place-based policies to enable recovery from the pandemic as a consequence of the the differing impacts felt by individual regions and city-regions globally (Beer et al, 2020).

1.2. Aim

This paper responds to this uncertainty and urgency by analysing the policies used by selected international city-regions to address both new and enduring regional inequalities. It explores what can be learnt from how these places have designed and implemented place-based policies to support policy design in other 'left behind' places.

The research questions are:

- Which policy tools have been used internationally to support left-behind places?
- What are the roles of governance and financial structures?

The paper analyses policies addressing regional inequalities in Greater Lille, Greater Nantes, the Ruhr region, San Antonio (Texas) and Estonia. Selected from Europe and the USA, the list draws together examples from countries with centralised and federal systems of government. Estonia, rather than a specific city-region, was chosen because of Estonia's total population of 1.3 million (OECD, 2020a). Figure 1 provides key socio-economic data (population, key industries historically and now, economic development policies, governance structures and progress with levelling up) about each case study place to contextualise the findings.

The paper seeks to identify learning for the UK, and also offers lessons for places across western democracies which are seeking to address regional inequalities. Whilst variations in productivity exist in other countries including France and Germany (Holt and Lyne, 2020), learning from best practice elsewhere is particularly pertinent to the UK as one of the world's most geographically unequal developed countries (Davenport and Zaranko, 2020). Supporting 'left behind' places in the UK is enshrined in 'levelling up' - an ambiguous term used to refer to policies designed to improve productivity across the UK through investment in infrastructure, skills, and innovation. The UK government published a White Paper in February 2022 outlining policy priorities (DLUHC, 2022). Questions remain regarding the role of central, regional, and local government in delivering levelling up and how a focus on 'people' and 'place' can be combined (Shearer et al, 2021).

Table 1 - Socio-economic profile of case study places

	Population (city and wider region)	Key industries historically	Key industries now	Evidence of levelling up	Economic development policies	Governance structure
Greater Lille, France	• Lille: 233,000 • Métropole Européenne de Lille (MEL): 1,174,000 • Hauts-de-France: 6,004,000	• Textiles. • Mining. • Nord-Pas-de-Calais produced 8.3% of French GDP in 1960, 5.6% in 1995.	• Mail order, business services, retail, industry.	• Unemployment in MEL 15.1% in 2000, 9% in 2020. • Extensive tertiary sector development. • Health and agribusiness stimulated.	• City centre redevelopment • International, national, regional and city transport. • Clusters. • Arts and culture	• Nord-Pas-de-Calais, merged in 2016 with Picardie, to form Hauts-de-France. • Lille & 94 neighbouring *communes* (municipalities) formed MEL in 2014.
Nantes, France	• Nantes: 314,000 • Nantes Métropole: 656,000	• Shipbuilding, sugar refining, fishing from 18th century.	• Aerospace, marine/ renewable energy manufacturing & high-end shipbuilding, digital, financial & business services.	• Unemployment 9.5% in 2000, 7% in 2020. • Nantes Métropole's population increased nearly 60% 1968–2018. • 2019 European Capital of Innovation. • Digital sector grew faster than nationally 2009-2019.	• Cultural initiatives. • Technical innovation (advanced manufacturing/ digital) • Public procurement.	• Pays de la Loire was one of the few regions not subject to a merger process in 2016. • Nantes Métropole comprises 24 *communes*, building on cooperation from 1960s onwards.
Ruhr Region, Germany	• Dortmund: 586,000 • Essen: 580,000 • Duisberg: 495,000 • Ruhr region: 5,116,000	• Coal/steel manufacturing	• Service and knowledge-based industries. • Service sector employment rose 77% 1970-2009.	• 52% increase in GDP per capita 1991- 2017. • Strong decline in unemployment in Essen since 2008 but remains above national average.	• Structural policies to develop regional ecological/ cultural landscape and entrepreneurial activity • Re-skilling through ALMP. • University expansion. • Clusters.	• Polycentric region. • *Regionalverband Ruhr* –planning institution financed and politically controlled by cities. • First regional parliament directly elected in 2020.
San Antonio, US	• San Antonio city: 1,547,000 • San Antonio metropolitan area: 2,611,000		• Health/bio-sciences, federal government, military, advanced manufacturing, tourism, education	• Among fastest growing metropolitan areas in the US. • Considerable fall in unemployment and strong GVA per worker growth compared to Texas and US	• QUEST sector-focused training programme. • Regional transport. • Sector-targeted education, re-skilling, internship programmes • Arts and culture	• Council-Manager system • SAEDF (public-private economic development foundation)
Estonia	• 1.3 million	• Oil production.	• ICT, oil.	• Employment rose >20% 2010-2020. • GDP increased by >800% 1995-2000. • Improving digital skills.	• ICT/IT infrastructure development. • Digitalisation of government services. • Sector-targeted education/re-skilling.	• Small, centralised country. • E-Estonia 1996-2000. • e-Estonia Council established 2014.

Source: (AURAN, 2020; Castaños, 2018; Eurostat, 2021; INSEE, 2021a; INSEE, 2021b; Keil and Wetterau, 2012; Landesdatesbank Nordrhein-Westfalen, 2020; Provan, 2015; OECD, 2020a; OECD, 2021a; RegionalVerbandRuhr, n.d.; Schwarze-Rodrian, 2016; USCB, 2020).

2. Literature Review

This section summarises insights from existing studies regarding how challenges in 'left behind places' have been addressed. It draws on explicit studies of 'left behind' places before explaining the relevance of comparative city, city-regional and regional growth; devolution; and reurbanisation studies. Focus is placed on these topics due to their relevance for the case study places.

2.1. Insights from 'Left Behind' Places Literature

Traditionally, urban and regional studies have focused to a limited extent on declining and economically trailing places. However, more recent papers have examined regional inequalities in 'left behind' places. The recent rise in populist discontent across Europe and North America has foregrounded the need to address social and spatial inequalities (MacKinnon et al, 2021). 'Left behind' places are regions, particularly post-industrial regions and rural areas that are experiencing challenges associated with disadvantage and discontent (Florida, 2021; Rodríguez-Pose, 2018). Such places have returned to mainstream discourses (especially in the UK) following the 2016 EU referendum and have been contrasted with 'metropolitan cores' and 'metropolitan elites' (Sykes, 2018). Mackinnon et al (2021) call for 'an expanded neo-endogenous development approach' which is focused on the foundational economy, income and livelihoods, social infrastructure, and social innovation.

2.2. Insights from comparative international studies

Innovation, investment, human capital, economic structure, connectivity, quality of life and decision-making structures have been identified as key drivers of competitive performance in UK urban areas (Parkinson et al, 2006). Drawing on case studies from North and South America and western Europe, Polèse (2020) identifies four categories of factors which influence the wealth and poverty of cities: institutions, people, centrality, and luck. Evidence from international cities that have adopted an inclusive growth agenda indicates that local powers and responsibilities are more limited in UK cities than many international cities. Priorities identified include focusing more on the demand side of the labour market, de-risking transitions into and within employment, and expanding connectivity (Green et al, 2017).

Analysis of experiences in international city-regions that have successfully levelled up is more limited although Taylor et al. (2020) identify six "foundations" for levelling up: collaboration and strong leadership, sustained and appropriate investment in skills and training, infrastructure and culture and tourism, strategic planning to support economic diversification, the need for transparency and accountability in public policy. However, limited attention has been paid to the role of public finance and the tools used by local and regional leaders to bring about change in 'left behind' places. Taylor et al. (2022) examine addressing inequalities through four further international case studies, focusing on the role of differing financial structures. This paper combines findings from Taylor et al (2020) and Taylor et al (2022) to extend analysis of how varying governance structures and public finance tools enable policymakers to address regional inequalities, and connects this research with academic debates regarding 'left behind' places.

2.3. Insights from literature on devolution

A wide existing literature has analysed the benefits and challenges of devolution. For an overview, see Regan et al (2021). Evidence on the impact of fiscal devolution is mixed (Iimi, 2005; Rodríguez-Pose and Ezcurra 2010). However, studies frequently do not consider whether subnational governments benefit from autonomy over their spending, or function in practice as extensions of central government (Davoodi and Zou, 1998). Devolution can have negative effects if not implemented appropriately. Research indicates the importance of justifying differences in power between places (Regan et al, 2021).

2.4. Insights from reurbanisation literature

A rich literature has examined debates on reurbanisation. There is no single agreed definition, but key dimensions include: demographic revival; gentrification, studentification, regeneration; spatial cycle models; the suburbanisation of poverty, and suburban densification. This work provides insights into policies that have helped regenerate urban regions. For example, central government investment in public transport, universities, and urban regeneration projects has supported reurbanisation in some French cities (Dembski et al, 2021). Research in Switzerland on reurbanisation found that it should be understood in the context of housing consumption trends, and the inward migration of international migrants, young adults, non-family households, and parts of the middle to upper class (Rérat, 2011). However, this literature tends to focus on population and spatial trends and urban planning policies rather than the wider policy tools available at the city-regional/regional level to address inequalities.

3. Methodology

This paper develops interlinked research produced for the Industrial Strategy Council and the Chartered Institute of Public Finance and Accountancy (CIPFA) using a three-step approach:

1. Evidence reviews of academic and grey literature.
2. Inventory of key socio-economic indicators for each case study place.
3. Interviewing academic experts and relevant policy officials within the case study places. 32 interviews were conducted between August 2020 and October 2021 and analysed thematically. Interviews included discussions with selected local and regional government officials in each case study place and with representatives from wider institutions which contribute to regional economic development; such as regional development agencies and Chambers of Commerce. The interview guide explored the importance of different factors identified in the evidence review as being important in addressing regional inequalities, and probed interviewees to discuss the roles of additional factors which have supported regional growth, remaining challenges, and the strengths and weaknesses of governance structures

The case studies were selected to cover a range of international examples with different governance systems but sufficient commonality to offer insightful comparison:

- San Antonio: a city within a federal system
- Estonia: a centralised state
- Greater Lille and Greater Nantes: intercommunal structures (comprising big cities and towns) within, respectively, the Hauts-de-France and Pays de la Loire regions. France has a centralised model of governance.
- The Ruhr region: polycentric region in North-Rheine Westphalia composed of 53 cities and four counties (*Landkreise*) each made up of smaller towns. Germany has a federal state system.

Greater Lille and Greater Nantes were chosen to enable insight into how approaches can differ within the same national context and different sized intercommunal structures.

This paper uses cross-national comparisons to identify a broader canvas of learning points regarding how common regional economic development issues are addressed across different places, and the different levers that are available and utilised to tackle these challenges. Conducting and analysing cross-national comparative research creates challenges relating to implicit and explicit comparability, 'symmetry' and incorporating differing 'socio-economic, political and cultural structures' (Dembski et al, 2021; Williams, 1984 and Reimer et al, 2014). In line with Sharpe (1975), this research adopts the principles of '*maximum similarity*' and '*maximum discreteness of focus*' when selecting the case studies. All the case study places are located within western economies which have experienced similar economic development challenges. The following section presents the research findings and contrasts the experiences of addressing regional inequalities in the case study places.

4. Findings

4.1. Foundations Driving Local Economic Growth

Based on thematic analysis of evidence reviews and stakeholder interviews, this section argues that seven foundations (cross-cutting themes) have played an important role in driving local economic growth in the case study places. It is structured along the foundations in Figure 2. In so doing it extends existing work (e.g. Taylor et al, 2021) by incorporating the role of financial management in supporting 'left behind' places. For each, experiences are contrasted in two case study places as exemplars of that foundation. The role of each foundation differed by place but was central in all; suggesting that it is necessary for policymakers to combine these varying types of policy to support progress in 'left behind' regions.

Table 2 - Seven Foundations

Scale & Longevity of Investment	Financial management	Collaboration	Attractive Place to Live	Universities, clusters and Innovation	Transport and Digital Infrastructure	Skills and Future Sectors
Ruhr Region	Nantes & Greater Lille	Greater Lille	Nantes	Greater Lille	Greater Lille	Ruhr Region
Estonia	San Antonio	Ruhr Region	San Antonio	Ruhr Region	Estonia	San Antonio

4.2. Scale and Longevity of Investment

Long-term, high-level investment was crucial to both the Ruhr region and Estonia in redeveloping their economies.

With regard to the Ruhr region, substantial long-term funding has been provided by the EU, the Federal Republic of Germany, and the state of North-Rheine Westphalia. Investment totalling €4 billion was delivered between 1989 and 2011 through EU Structural Funding. Regional government invested in, and supported, urban development and addressing social and environmental issues. The state supported the environmental clean-up necessitated by the region's history of steel and coal production (Schwarze-Rodrian, 2016). The success of the approach adopted is demonstrated by Essen becoming the 2017 European Green Capital in recognition of the city's creation of blue and green corridors, new rail links, and improved green infrastructure.

Focusing on digital infrastructure is important in Estonia given how the country is recognised globally for its success in adopting digital technology within the public sector. The evidence review identified the importance of the government's long-term investment in digital infrastructure as a key factor supporting economic growth. The e-Estonia initiative which aims to improve the efficiency and transparency of the Estonian government, boost economic growth, and increase wellbeing, has been running for over 20 years. No official estimation of the overall budget exists; however, between 1994 and 2004 around 1% of the Estonian budget was allocated to ICT development. Estonia has benefited from EU Structural and Cohesion Fund investment; spending on developing the information society totalled €95.4 million between 2004 and 2013. Funding from the EU and Estonian government for implementing the digital agenda between 2014-2020 is estimated at €200 million (Castaños, 2018). Public and private sector funding and large investment in IT infrastructure has also influenced the success of the digital programme. Estonia's IT start-up sector now has a turnover of €3.6 billion (E-Estonia, n.d.).

Despite these high levels of investment, interviews conducted indicated that challenges remain in the Ruhr region and Estonia; emphasising the need for continual high-scale investment. Growth across the Ruhr region has been uneven. Poverty remains an issue; 21% of residents were in poverty in 2019[1] (DW, 2019). Deprivation is concentrated in former coalmining areas. Interviewees pointed to a North-South divide, suggesting the north of the region, where employment was traditionally less skilled, has struggled most to transition to a knowledge-based service economy. Continuing challenges in Estonia include the need to improve digital transformation among firms in non-ICT sectors. This is hindered by limited SME support for technology adoption and change management (OECD, 2019; European Commission, 2020).

4.3. Financial Management

Nantes and San Antonio illustrate three different ways in which regional policymakers can use financial management tools to promote local and regional development.

As identified in the evidence review, Nantes Métropole has focused on public procurement, including professional integration clauses in its municipal contracts, clauses relating to daytime working in its cleaning services contracts, carbon clauses in its road contracts, and Corporate Social Responsibility clauses for service

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1   Germany adopts a relative measure of poverty. A household is 'poor' if it earns below 50 or 60% of the median household income.

delivery. This is innovative in the context of links to contemporary agendas on 'the quality of work', 'good jobs', and environmental issues. The Métropole views procurement as an important lever for supporting local economic activity and stimulating changes in behaviour among local firms (Nantes Métropole, 2020). Learning from the Métropole's experiences of using responsible purchasing to address inequalities has included recognising priorities, defining parameters, and establishing a framework of actions which incorporate feasibility and measurability; internal organisation and dedicated resources for managing public procurement; and acknowledging the time required to verify and define criteria for inclusion in public procurement policy (European Commission, 2017).

Nantes Métropole and the MEL (the inter-communal authority in Greater Lille) have shown how funds can be redistributed across local authorities within *métropoles* through two mechanisms.[2] The French state redistributes funds between local authorities through the *Dotation globale de fonctionnement* (DGF), the main state allocation to regional and local authorities in France. It aims to provide authorities with stable and predictable resourcing, and to implement vertical equalising by supporting authorities confronted by costs which they are unable to cover. It is made up of a block grant and an equalisation component that responds to the challenges faced by different types of *communes* (i.e. rural, urban). The equalisation component takes account of the potential fiscal revenue[3] of *métropoles*. Nantes contributes to the equalisation component (almost €4 million in 2021) as it is comparatively richer than other areas such as the MEL which does not. Nantes Métropole and the MEL raise household and economic taxes. Firms pay a transport supplement to their Métropole based on payroll expenditure. Local tax powers have been criticised for not going far enough (Desjardins and Estèbe, 2018). High levels of funding are redistributed to local authorities within Nantes Métropole and the MEL through operating expenditure. The way in which state equalisation policies incorporate potential fiscal revenue at the local level is an example of how devolving tax powers to sub-regional authorities can seek to prevent entrenching inequalities in low tax areas. The increase in horizontal redistribution mechanisms has been identified as important in limiting fiscal capacity gaps and increasing local autonomy (Desjardins and Estèbe, 2018).

San Antonio provides an example of an interesting financial model which involves both public and private sector funding. The San Antonio Economic Development Foundation (SAEDF), recently renamed the Greater:SATX Regional Economic Partnership, is a private non-profit organisation which was established over fifty years ago. Interviewees identified SAEDF as one of the factors that supports the addressing of regional inequalities in San Antonio. Greater:SATX focuses on job creation and promoting long-term economic growth in the region through supporting business growth, start-up creations, and attracting new businesses. It is funded by government, utilities partners, and over 160 local businesses. In 2021, Greater:SATX launched a new regional economic development strategy focused on Jobs, People, and Place. To implement the plan, Greater:SATX is seeking to raise $38.5 million, having already raised over $1 million, from the regional business community. Interviewees emphasised how the Foundation's status as a non-profit organisation facilitates how it brings together regional partners from public and private sectors.

4.4. Collaboration

Formal and informal collaborations emerged from the stakeholder interviews as being central to promoting economic growth in the case study areas. Greater Lille and the Ruhr region provide contrasting examples of how collaborations at a local and regional level can be facilitated in 'left behind' areas. They also show how governance developments can be counterproductive and how collaboration requires clear governance structures and opportunities for informal collaboration.

In Lille, strong collaboration from the 1970s to the 2000s between the elected Mayor and regional government provided a platform of stability and longevity to drive recovery as regional government made decisions which supported the elected Mayor's agenda (Power, 2018). Pierre Mauroy was Mayor of Lille from 1973-2001 and President of the *Communauté urbaine de Lille* (Lille Metropolitan Community), a predecessor of the MEL, from 1989-2008.

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2   For detail on the development of intercommunal *métropoles* and decentralisation debates in France, see Desjardins and Estèbe (2018).

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Interviewees emphasised Mauroy's influence in building local consensus and securing flagship projects such as Euralille but also indicated that more recent experiences suggest that effective collaboration requires more than strong local leadership and consensus. Governance arrangements in Lille have become more complicated over recent decades with the establishment of the MEL in 2016, an expansion of the number of *Communes* it covers in 2017, and the establishment of the larger Hauts-de-France region in 2015. Interviewees contrasted the ability of Mauroy to drive major projects relatively quickly in a simple and more-directed decision-making context with the competing interests and complexity of current governance arrangements. They suggested that it now takes longer to gain approval for, let alone implement, major projects. The wider region now includes areas with contrasting economic histories and priorities.

Lille also evidences the importance of informal collaboration. In 1993 stakeholders established the *Comité Grand Lille*, an informal think-tank promoting discussion and developing shared solutions to economic issues. The network, which does not have a formal juridical or administrative structure, holds bi-monthly meetings. Membership is diverse, including financial institutions, the Chamber of Commerce, civil servants, elected politicians, local businesses, and social partners. Several interviewees argued that the network was important in fostering ideas for innovative projects including Lille's successful bid to be 2004 European Capital of Culture. Its informal structure has been cited as vital to overcoming institutional barriers that then enabled the area to 'think globally' and 'act locally' (Brachet, 1998). Interviewees suggested that the network has struggled somewhat recently due to greater reluctance to collaborate across party and sectoral lines, and Lille's increasingly complex governance arrangements. One participant argued for a regional version of the network to strengthen relationships and break down barriers across the region.

In the Ruhr region, tripartite, cooperative governance between leading companies, trade unions and local government has reduced political fragmentation which could occur given the polycentric nature of the region (*Landkreise*) (Rehfeld and Nordhause-Janz, 2017). Interviewees associated cooperation with the success of projects including the International Building Exhibition Emscher Park (an innovative management and governance laboratory), Essen becoming the 2010 European Capital of Culture, and Innovation City Ruhr (a 10-year project to revitalise urban areas and promote sustainability).

Some interviewees indicated that, since 2010, there has been a move towards greater independence at the city level in the Ruhr region, with cities establishing city-specific development strategies. Although this has enabled tailored strategy development and implementation in some places, some evidence exists that it has also resulted in the duplication of some industries and projects; hindering the region from maximising its economic potential (Oei et al, 2019). This shows how some governance developments may be counterproductive to redeveloping 'left behind' places. An interviewee pointed to the significance of the establishment in 2020 of the directly elected Ruhr Parliament. They argued that the region pushed for the Parliament to be established "*to coordinate better the activities […] of the cities of the Ruhr region, because the cities of the region are aware that they will have no chance neither in Germany, nor in the European context, when acting alone […]. But as a region, there's a certain momentum of power of GDP, of people, etc, of universities*".

4.5. Place Attractiveness

Making places attractive is important from a local/regional economic development perspective in terms of attracting and retaining high-skilled workers. Nantes Métropole and San Antonio demonstrate how investing in arts and culture can help transform 'left behind' places, attract new residents and tourists, and contribute to economic growth. However, it can also create new issues whilst not addressing pre-existing challenges.

Following the closure of Nantes' shipyards in the 1970s and 1980s, unemployment rose considerably. As stressed by the interviewees, several cultural initiatives were established in abandoned former industrial areas. These include the *Voyage à Nantes* (Journey to Nantes), an 8.5km artistic trail connecting key attractions in the centre of Nantes, and the *Machines de l'île*, a contemporary art gallery located along the Loire estuary. The interviewees stressed how publicly funded cultural initiatives were vital in changing the image of Nantes locally, regionally, nationally, and internationally; encouraging firms to relocate there. Nantes became one of the most sought-after French cities for rental office space. It came top amongst French cities in the 2018

and 2019 Express magazine rankings for employment. Visitors to Nantes Métropole increased by over 285% between 2006 and 2014, bringing an estimated direct economic benefit of €43million in 2014 (AURAN, 2015, Eurocities, n.d.).

Although Nantes was the 2013 European Green Capital as a consequence of its sustainable urban development and climate change mitigation policies, high population growth and increased tourism have created challenges. Interviewees emphasised increased pressure on transport services, housing, childcare and schools and questioned how Nantes can continue to promote itself as green whilst welcoming increasing numbers of tourists through its airport. Griggs and Howarth (2020) contrasted the metropolitanisation and urbanisation of Nantes as methods for sustainable development with a counter movement for slower living and the protection of farmland, - as symbolised by the battle over the construction of a new airport outside Nantes. The economic development model in Nantes Métropole appears to be challenged by two alternative models. Within the city of Nantes sustainability issues are coming more to the fore. Outside of the core urban area, a movement is emerging that seeks an alternative lifestyle.

San Antonio has taken a community-focused approach to arts and cultural investment. In 2005, the city launched the Cultural Collaborative; a 10-year plan for developing San Antonio's creative economy. Interviewees identified Cultural Collaborative as one of the key factors behind San Antonio's recent socio-economic development. The plan, which followed almost two years of research and community outreach, aimed to increase creative community resources, expand access to the arts, and strengthen San Antonio's diverse culture. Between 2010 and 2020, public investment in arts and culture increased by 38% (SA2020, n.d.). San Antonio's creative economy exceeded the US national average, prior to, during and post the 2008 recession, outperforming larger regions (Semen and Carroll, 2017).

Despite this community-centred approach, economic segregation is a key outstanding issue that needs to be addressed in San Antonio. Interviewees highlighted how poverty in minority communities stems from centuries of structural discrimination and that change is a long-term process. In terms of supporting 'left behind' places, this emphasises the importance of holistic, long-term policy that seeks to benefit diverse communities.

4.6. Universities, Clusters, and Innovation

The Ruhr region and Greater Lille exemplify how 'left behind' places can invest in universities, clusters, and innovation to achieve economic growth. However, the Ruhr indicates that the levelling up of university provision nationally can distort widening gaps between large university cities and cities without universities.

Many interviewees identified how the regional knowledge base in the Ruhr has developed considerably over the last four decades. Prior to the 1970s, only mining engineering courses were available at post-secondary level in the region. Between 1965 and 1972 universities opened in the cities of Duisberg, Essen, and Bochum, whilst public and private research facilities were founded in the 1980s to aid the transition to a service and technology-based knowledge economy. The expansion of higher education in the region resulted in a 78% increase in student numbers between 1985 and 2014 (Schwarze-Rodrian, 2016). Today 22 universities operate in the region. The development of the regional knowledge base through the Technical University of Dortmund and the Fraunhofer Institute for Logistics has been 'crucial' to the development of the logistics sector (Rehfeld and Nordhause-Janz, 2017). Interviewees stressed how establishing new universities has improved the attractiveness of the region for individuals and companies, with research contributing to the rise in the number of SMEs. An interviewee argued that public authorities through the Regional Verband Ruhr have played a key role in establishing regional development plans and clusters but stressed "*I think more important was to just build up a critical mass of universities of knowledge, etc, for spin offs*".

The 'Univercity' concept promotes shared learning and working between local and regional authorities, the private sector, universities, and citizens. Several cities within the Ruhr established technology centres and business incubators in the 1980s and the 1990s. An interviewee explained that adopting this concept led to local and municipal authorities completely changing their perceptions of universities.

Nonetheless, some have criticised the universities for focusing on supporting SMEs rather than achieving broader socio-economic outcomes regionally (Oei et al, 2019; Schwarze-Rodrian, 2016). Another critique mentioned by some of the interviewees concerned how only smaller universities of applied sciences have been established in the northern part of the Ruhr which has historically been more disadvantaged. Although cities in the Ruhr with large universities are slowly catching up with the national average with regard to the percentage share of university graduates in the workforce, cities with smaller universities are falling further behind (Kiese, 2021).

Greater Lille has a much longer history of tertiary level academic institutions. What is particularly interesting is how, over the past three decades, the MEL and its predecessors have established eight *Sites d'excellence* (Centres of Excellence) on former industrial sites, developing clusters of firms in similar sectors to foster innovative product development. They received €30 million of funding between 2008 and 2012, and achieved 'considerable growth' in their industries. Six *Pôles de competitivité* (competition clusters) have been established to promote technical and creative innovation, investment, and local employment. Whilst the number of firms and jobs in each cluster declined over the 2008-2012 period, overall, they increased 'significantly' compared to 2008 (Kuklowsky and Provan, 2011; Provan, 2015). Interviewees pointed to the role of the clusters in transforming the city-region, and identified the health and ICT clusters as having performed strongest. Eurasanté is the third largest healthcare cluster in France. Part of the largest university-hospital campus in Europe, it comprises 170 companies which employ 16,000 health professionals, working in eight hospitals, 20,000 students and 1,800 researchers (Eurasanté, 2021). Several interviewees pointed to the clusters as examples of effective cooperation between national, regional, and metropolitan authorities to support innovation. National government, which subsidises the clusters, sets the focus; regional government incorporated the clusters into a regional development plan; and the MEL provides practical support.

4.7. Transport and Digital Infrastructure

The experiences in Greater Lille and Estonia point to how investing in transport and digital infrastructure in 'left behind' places can have wider economic development benefits, but this is dependent on the continued maintenance of services.

The important transformative role played by investment in transport infrastructure in Lille was frequently mentioned by interviewees. In 1994, a new train station housing high-speed international (Eurostar) and national services opened in Lille. The French state and TGV paid 50% of the development costs, with two-thirds of the remaining 50% paid for by the regional government, and the rest covered by the city (Kuklowsky and Provan, 2011). Redevelopment of the wider neighbourhood included constructing a major commercial/business centre. Establishing a national and international transport hub shifted perceptions of Lille. Power (2018) identifies Lille as one of several cities where investment in high-speed rail infrastructure led to opportunities including employment creation, skills development, and innovation. An interviewee explained that the opening of the TGV and Eurostar lines meant that Lille moved from being a city "*on the edge of France to at the heart of Europe*". Interviewees highlighted how constructing an underground in the 1980s facilitated employment across the Metropole. Nonetheless, the recent reduction in Eurostar services serving Lille, particularly during rush hour, risks hindering cross-border travel and limiting the attractiveness of the city as a strategic link between London, Paris, Brussels, Germany, and north west Europe.

According to interviewees, specialisation in ICT and developing e-services has played a fundamental role in transforming Estonia since its independence in 1991. Policies including the Tiger Leap programme, launched in the late 1990s, provided Estonian schools with IT infrastructure, and developed skills among teachers and pupils. Estonia's digital economy continues to build on the infrastructure and skills created through these policies. Continued innovation is demonstrated by how Estonia has digitalised education materials including Higher Education. It remains the top-ranked country in Europe in the OECD Programme for International Student Assessment.

Another key aspect of policy cited by interviewees is developing the use of ICT in public administration. Within Estonia, digital ID cards were introduced in 2002 as a trailblazer for subsequent digitalisation of voting, public

healthcare, and other public services. Key benefits of using ICT identified in Estonia's 2020 Digital Strategy include enabling taxpayers' money to be used to address 'substantial issues' rather than administrative tasks, and improving communication between public agencies, individuals, and private companies. Estimations suggest that digital signatures permit Estonia to save 2% of GDP per year (EESC, 2017). Accelerating the digital transformation of firms has been identified as having important productivity potential. Cross-country analysis suggests that boosting high-speed Internet connections (30Mbit/s) by 10% would directly increase productivity by 2%, while indirect effects associated with increased adoption of cloud computing, would add 1.5% (Sorbe et al., 2019 cited in Azzopardi et al, 2020).

4.8. Skills and Future Sectors

Experiences in the Ruhr region and San Antonio point to the importance of investing in agile skills policies and developing adaptive training programmes to address skills mismatches and support residents to gain employment in new and emerging sectors.

As the Ruhr sought to transition from the coal industry, active labour market policies (ALMP), including specialist employment promotion and retraining initiatives helped support residents to move into high productivity sectors and skilled jobs. Adaptive training programmes were developed to respond to new market opportunities (LIPSIT, 2020). Over the period 1996-2014, 40,880 individuals employed in the coal mining industry took early retirement, 26,560 undertook retraining obtaining new qualifications, and 2,210 were redeployed (Wodopia, cited in Rehfeld and Nordhause-Janz, 2017). A key successful feature in this approach was how ALMPs complemented other regional employment policies (e.g. attracting new corporations, investing in education and research, and so on).

The Ruhr region has achieved success in developing future sectors without losing its collective past. One interviewee suggested that a key factor in economic redevelopment in the Ruhr has been building on previous expertise for the future *"it's not losing and forgetting what was before, but it's looking at how to learn how to use the knowledge of former times for inventing new things"*. Interviewees pointed to how skilled engineers have been able to effectively move from working in the multinational telecommunications/consumer electronics sector (e.g., Nokia and Blackberry) to the automotive sector (e.g., Volkswagen) as firms moved in and out of the region. They cited the agility of young graduates as important in maintaining this dynamism.

San Antonio has introduced sector-targeted education, re-skilling, and internship programmes. Interviewees suggested that these programmes were one of the key factors in how San Antonio has addressed regional inequalities. SA Worxs, an industry-led strategic workforce development programme, aims to prepare students for good quality employment through apprenticeships, internships, and career events, and raise employer productivity. It has had an estimated $1.2 million impact on entry-level salaries through internships (GreaterSATX, n.d.). San Antonio also shows how economic prosperity can be promoted through building on the skills needs of anchor institutions, such as military bases, universities, and medical centres (Green et al., 2017). Interviews revealed how investment in R&D in the military sector had spilled over into the private sector.

Another longstanding policy is the Project QUEST (Quality Employment through Skills Training) programme. Established in 1993 principally by Communities Organized for Public Service and Metro Alliance to respond to the shift from manufacturing to service and technology industries, it focuses on sectors which reflect the needs of local businesses, training individuals for in demand, living wage sectors, principally healthcare, manufacturing and trade, and IT and cybersecurity. When these roles were created, the local workforce lacked the digital skills required. Funded through public and private investment, QUEST has an annual budget of $5 million (Biediger, 2020). 3,472 students graduated from the programme between 1993 and 2017, of whom 1,381 were not in employment when they joined. The programme generated $19.32 for every dollar invested through increased graduate earnings, the economic impact of increased graduate spending, and welfare savings (estimated at $326.4million over the period) (Project Quest, n.d.). The increased income of graduates of the programme has been found to transfer across generations playing 'a significant role in moving people out of poverty' (Project Quest (n.d.),p.12).

The final section looks across the foundations identified, and summarises the key contributions of this paper, whilst also considering implications for further research.

5. Conclusion

This paper has responded to the need for greater insight into effective place-based policies to support recovery from the pandemic by analysing the tools, especially governance and financial structures, used in four 'left-behind' places that demonstrate evidence of levelling up.

The analysis indicates that supporting 'left-behind' places cannot be achieved through a one-size-fits-all policy. Instead, a range of policies are required to respond to the specific challenges and strengths of each place. This paper has identified seven foundations driving local economic growth:

- scale and longevity of investment,
- financial management
- collaboration,
- place attractiveness,
- universities, clusters and innovation
- transport and digital infrastructure
- skills and future sectors.

Within each foundation, the paper emphasised key stakeholder tools used in each of the four case study areas. In terms of governance, collaboration is fundamental in securing progress under each foundation. The case studies highlight the importance of facilitating 'informal' alongside 'formal' collaboration to support innovative policy across policy, business, culture, academic and third sector stakeholders. Creating and maintaining clear and lean governance structures appears vital in supporting the crucial role of vision and leadership at national, regional, and local levels. Transparency helps ensure public support and engagement. The experiences noted in Greater Lille indicate that whilst creating new governance structures can stimulate new ideas and collaborations (e.g. uniting stakeholders in urban areas around Lille), it can also generate challenges for existing relationships and complicate policy design and implementation. When creating new structures consideration should be given to how the geography of institutional structures relates to economic needs. The case studies indicate that universities have a broad role to play in regional economic development beyond start-up support and incubators.

In relation to financial management, this paper stresses the need for sustained high levels of investment to support progress in 'left behind' places. In the case study places, this came primarily from the public sector, but San Antonio illustrates the role that the private sector can play in maintaining funding, as well as how R&D investment in anchor institutions can spill over into the private sector. The French *métropoles* demonstrate how central government funds can be redistributed across local authorities with an equalisation component incorporating potential fiscal revenue. Procurement is an increasingly important way in which public sector organisations can support local economies. However, to be effective, sufficient resourcing is important to effectively identify the parameters of public procurement and manage contracts.

While this paper has identified seven foundations for addressing challenges in left behind places across the case study areas, not all foundations were emphasised directly in both the evidence reviews and the interviews. The evidence reviews and interviews conducted point to the role played by collaboration, the attractiveness of place, transport and digital infrastructure, and universities, clusters, and innovation. The evidence reviews demonstrated the importance of high levels of long-term funding. This was rarely emphasised directly by interviewees, perhaps reflecting how it had become established in the case study places. Financial management was generally only cited by interviewees who occupy roles directly related to local and regional government funding, possibly due to the complexity of local government finance.

Some of these foundations correspond to factors that were identified as determinant in existing literature. The importance placed on transport and digital infrastructure by interviewees reflects the concepts of connectivity and centrality identified by Parkinson (2006) and Polèse (2020). The role of skills is also demonstrated by Parkinson and Polèse, however their work focuses on current demands for skills, whereas the evidence reviews and interviews analysed in this paper pointed to the importance of policy being designed to support future skills development.

Scale and longevity of investment, financial management, and collaboration are not identified as key elements in Parkinson or Polèse's frameworks. Parkinson recognises the role of investment, but focuses on the role of private investment, rather than broader public investment. Polèse emphasises the importance of the 'wise parent' institution (202020, p.9). This includes sound macro-economic management but does not stress the role of financial management as a tool to promote regional development. Parkinson suggests that development can be aided by devolving decision making powers to cities. This paper extended this analysis by demonstrating how informal and formal collaboration can be transformative.

The analysis suggests that there is a need to level up 'within', and not just 'between', regions. Whilst policy has focused on overall progress compared to national averages (or the EU average for Estonia), certain groups within each case study place remain 'left behind', exemplified by disparities in poverty levels across the Ruhr region. This paper draws attention to the importance of understanding the challenges facing people in different place contexts. The continued existence of structural discrimination towards certain communities in San Antonio emphasises the value, when designing economic growth policies, of adopting an holistic approach which addresses whether people can share in economic growth. Experiences in Nantes point to the need to balance economic growth from tourism with ecological considerations.

When conducting cross-national policy analysis there is a danger of overgeneralisation (Brenner, 2009, cited in Nurse, 2017). Nonetheless, this paper offers opportunities for policy learning as the UK defines and implements Levelling Up. The range of policies required to achieve economic growth in the case study places indicates the importance of adopting a flexible and holistic, rather than purely infrastructure-focused, approach to respond to regional and sub-regional inequalities. Blanket regional public spending targets are unlikely to significantly drive levelling up unless places are given more freedom to flexibly invest in their relative strengths and areas of need. 'A revolving door of competitive bidding funds' over recent years has limited the ability of local authorities in the UK to 'prioritise and bid for funds' (Forbes et al, 2022, p.5). The continued use of competitive bidding models in the UK's levelling up agenda (for example in allocating the 'Levelling Up Fund' and the 'Towns Fund') creates 'major problems at the local and national level' by engendering 'short-term rather than long-term planning, competitive rather than collaborative relations, and fragmented rather than cross-sector policymaking' (Newman et al, 2021, p.5). To enable places to effectively bid and invest money, local institutions need to be given longevity, stability, and fair funding for their own operation. Levelling up will not be possible without levelling up of local institutions (Romaniuk, et al. 2020).

Several future research avenues are important. We need to better understand the potential to expand the use of the tools identified in this paper in different policy contexts. For example, what are the challenges to public sector organisations expanding the use of their public procurement processes to support local workers? Further insight into the need to level up 'within' regions could be developed through analysing the extent to which the existing populations in the case study places feel that recent policy directions have worked for them. How do feelings of inclusion and civic pride differ according to the extent to which mayoral authorities have pursued citizen engagement policies? There is also a need for reflection on how stronger evaluation cultures can be developed both regionally and nationally. A lack of robust longitudinal evaluation studies of economic development policies in 'left behind' places presently hinders assessment of whether interventions achieve their objectives and why.

References

AURAN (2020) *Le numérique reste un marqueur fort de l'emploi dans la métropole nantaise.* [Online] Available from: https://www.auran.org/chiffres-cles/le-numerique-reste-un-marqueur-fort-de-lemploi-dans-la-metropole-nantaise [Accessed 30/08/2021]

AURAN (2015) *540 000 visiteurs au cours de l'été 2014 à Nantes Métropole.* [Online] Available from: https://www.auran.org/dossiers/540-000-visiteurs-au-cours-de-lete-2014-nantes-metropole [Accessed 30/08/2021]

Azzopardi, Damien, Patrick Lenain, Margit Molnar, Natia Mosiashvili. and Jon Pareliussen. (2020) *Seizing the productive potential of digital change in Estonia.*

Barca, Fabrizio (2009) *An Agenda for a Reformed Cohesion Policy: A Place-based Approach to Meeting European Union Challenges and Expectations.* Brussels: EC.

Beer, Andrew, Fiona McKenzie, Jiří Blažek, J. Markku Sotarauta and Sarah Ayres (2020) *Every Place Matters: towards effective place-based policy.* RSA. London: Routledge.

Biediger, Shari (2020). *With workforce measure on ballot, Project Quest read to help mend economic wounds.* San Antonio Report. [Online] Available from: https://sanantonioreport.org/with-workforce-measure-on-ballot-project-quest-ready-to-help-mend-economic-wounds/ [Accessed 28/11/2021]

Castaños, Virginia (2018) *Case Study Report e-Estonia.* EC.

Davenport, Alex and Ben Zaranko (2020) *Levelling-up: where and how?* Institute for Fiscal Studies.

Davoodi, Hamdid and Heng-fu Zou (1998) Fiscal decentralization and economic growth: a cross-country study, *Journal of Urban Economics,* 43(2), pp.244-257.

Dembski, Sebastian, Sykes, O., Couch, C., Desjardins, X., Evers, D., Osterhage, F., Siedentp, S. and Zimmermann, K.(2021) Reurbanisation and suburbia in Northwest Europe: A comparative perspective on spatial trends and policy approaches. *Progress in Planning,* 150, pp.1-47.

Department for Levelling Up, Housing and Communities (2022) *Levelling Up the United Kingdom (high-res version).* Available from: https://www.gov.uk/government/publications/levelling-up-the-united-kingdom [Accessed 07/11/22]

Desjardins, Xavier and Philippe Estèbe (2018) La décentralisation : comment faire revivre le projet émancipateur ? *Revue d'économie financière,* 132(4), pp.21-37.

Desjardins Xavier and Anna Geppert (2020) Governance Rescaling and Regional Planning in France: Is Big Really Beautiful? In Lingua Valeria and Balz Verena. (eds) *Shaping Regional Futures.* Springer, Cham, pp.121-132.

DW (2019). *Germany: Poverty gap widens between rich and poor regions.* [Online] Available from: www.dw.com/en/germany-poverty-gap-widens-between-rich-and-poor-regions/a-51637957 [Accessed 15/09/2020]

EESC (2017) *Advantages of digital society.* [Online]. Available from: https://www.eesc.europa.eu/sites/default/files/files/qe-06-17-193-en-n.pdf [Accessed 28/11/2021].

E-Estonia (n.d.) *E-Estonia guide.* [Online] Available from: https://e-estonia.com/wp-content/uploads/easeestonia-vihik-a5-180404-view.pdf [Accessed 21/09/2020]

Eurocities (n.d.) *From a wasteland to a triple-helix creative cluster at the heart of Nantes.* http://www.cultureforcitiesandregions.eu/culture/resources/Case-study-Nantes-Quartier-de-la-Creation-WSWE-9XZHT2 [Accessed 25/09/2021]

European Commission (2020) *The Digital Economy and Society Index.* [Online] Available from: https://ec.europa.eu/digital-single-market/en/digital-economy-and-society-index-desi [Accessed 22/09/2020]

European Commission (2017) *Promoting responsible purchasing in Nantes.* [Online] Available from: https://ec.europa.eu/environment/gpp/pdf/news_alert/Issue74_Case_Study_148_Nantes.pdf [Accessed 14/09/2021]

Eurasanté (2021) *Le parc Eurasanté.* [Online] Available from: https://www.eurasante.com/parc-eurasante/presentation/ [Accessed 05/01/2023].

Eurostat (2021) *Main GDP aggregates per capita.* [Online] Available from: https://ec.europa.eu/eurostat/databrowser/view/NAMQ_10_PC__custom_1621809/default/table?lang=en [Accessed 22/11/2021]

Florida, Richard (2021) Discontent and its geographies, *Cambridge Journal of Regions,* Economy and Society, 14, pp.619–624.

Forbes, Cameron, Liddle. J. and Shutt, J. (2022). *Levelling-Up in the North East Region. What has been achieved in the last three years? An Assessment.* Northumbria University Newcastle. Available at: https://northumbria-cdn.azureedge.net/-/media/news_duplicate/documents/pdf/working-paper-final.pdf?modified=20220928032148 [Accessed 05/01/2023].

Greater:SATX (2021) *SA WORX* [Online] Available at: https://greatersatx.com/workforce/programs/ [Accessed 28/11/2021]

Green, Anne, Francesca Froy, Erika Kispeter and Paul Sissons (2017) *How do cities lead and inclusive growth agenda?* [Online] Available from: https://www.jrf.org.uk/sites/default/files/jrf/files-research/international_cities_nantes.pdf [Accessed 02/06/2020].

Griggs, Steven and David Howarth (2020) Two images of Nantes as a 'Green Model' of Urban Planning and Governance: The 'Collaborative City' Versus the 'Slow City'. *Town Planning Review,* 91(4), pp.415-436.

Hildreth, Paul and David Bailey (2014) Place-based economic development strategy in England: filling the missing space. *Local Economy,* 29(4-5), pp.363–377.

Holt, Richard. and Tim Lyne (2020). *Why levelling-up is unlikely to solve regional disparities.* [Online]. Available from: https://onlinelibrary.wiley.com/doi/pdf/10.1111/1468-0319.12478 [Accessed 28/11/2021]

Iimi, Atsushi. (2005) Decentralization and economic growth revisited: an empirical note, *Journal of Urban Economics,* 57(3), pp.449-461.

INSEE (2021a) *Comparateur de territoire. Commune de Nantes (44109)* [Online] Available from: https://www.insee.fr/fr/statistiques/zones/1405599 [Accessed 22/11/ 2021]

INSEE (2021b) *Dossier complet. Intercommunalité-Métropole de Nantes Métropole (244400404).* [Online] Available from: https://www.insee.fr/fr/statistiques/2011101?geo=EPCI-244400404#tableau-POP_G2 [Accessed 30/09/2021]

Keil, Andreas and Burkhard Wetterau (2012) *Metropolis Ruhr A Regional Study of the New Ruhr.* [Online] Available from: www.geographie.uni-wuppertal.de/uploads/media/Metropolis_Ruhr-1_02.pdf [Accessed 24/09/2020]

Kiese, Matthias (2021) *Levelling Up in the Knowledge Economy: Can the Ruhr Shake off its Rust?* [Online] Available from: https://blog.bham.ac.uk/cityredi/levelling-up-in-the-knowledge-economy-can-the-ruhr-shake-off-its-rust/ [Accessed 28/11/2021]

Kuklowsky, Céline and Bert Provan, (2011) *Lille City Report.* CASE Report 71: LSE.

Landesdatesbank Nordrhein-Westfalen (2021) *Bevölkerungsstand nach Geschlecht - Gemeinden* [Online] Available from: https://www.landesdatenbank.nrw.de/ldbnrw/online;jsessionid=FBC481AAC50656B8CA9E933111BC242A.ldb2?sequenz=tabelleErgebnis&selectionname=12411-31iz#abreadcrumb [Accessed 22/11/2021]

LIPSIT (2020) *Ruhr Valley Case Study.* LIPSIT working paper.

MacKinnon, Danny, Kempton, Louise. O'Brien, Peter, Emma Ormerod, Andy Pike and John Tomaney (2021) Reframing urban and regional 'development' for 'left behind' places, *Cambridge Journal of Regions, Economy and Society.*

Nantes Métropole. (n.d) *Nantes Innovative City By And For All.* [Online] Available from: https://nws.eurocities.eu/MediaShell/media/ICapital_Awards_2019_-_synthesis_Nantes__application.pdf [Accessed 24/11/2021]

Nurse, Alexander, Chia-Lin Chen, and Xavier Desjardins (2017) *The Northern Powerhouse: a comparative perspective.* Town Planning Review, 88(4), pp.383-400.

OECD (2021a) *Regions and Cities Data Visualisation.* [Online] Available from: https://regions-cities-atlas.oecd.org/metroregional/FUA/FRA/FR009/UNEM_RA_15_64/2020/1 [Accessed 22/11/2021]

OECD (2020a) *Population.* [Online] Available from: https://data.oecd.org/pop/population.htm [Accessed 22/11/2021]

OECD (2019). *OECD Economic Surveys: Estonia.* [Online] Available from: www.oecd.org/economy/estonia-economic-snapshot/ [Accessed 22/09/2020]

Oei, Pao-Yu, Hanna Brauers. and Philipp Herpich (2019) Lessons from Germany's hard coal mining phase-out: policies and transition from 1950 to 2018. *Climate Policy,* 20(8), pp.963-979.

Parkinson, Michael, Tony Champion, James Simmie, Ivan Turok, Martin Crookston, Bruce Katz and Alison Park (2006) *State of the English Cities. A Research Study.* Volume 1. Office of the Deputy Prime Minister.

Polèse, M. (2020). *The Wealth of Poverty and Cities. Why Nations Matter.* New York: Oxford University Press.

Power, Anne (2018) Regional politics of an urban age: Can Europe's former industrial cities create a new industrial economy to combat climate change and social unravelling? *Palgrave Commun,* 97(4).

Project Quest (n.d.) *25-Year Economic Impact Report.* [Online]. Available at: https://questsa.org/wp-content/uploads/2021/08/QUEST25YearEconomicImpactStudy.pdf [Accessed 22/11/2021]

Provan, Bert (2015) *Lille City Story.* CASE Report 104: LSE.

Regan, Amy, Quinn, Martin, Romaniuk, Anna Skye Sampson, Tom Stratton, Ben Brittain and Abigail Taylor (2021) *Devolution and Governance Structures in the UK.* ISC.

RegionalVerbandRuhr (n.d.) *Wirtschaftsleistung und innovative Branchen im blick.* [Online] Available from: https://www.rvr.ruhr/daten-digitales/regionalstatistik/wirtschaft-und-innovation/ [Accessed 24/09/2020]

Rehfeld, Dieter and Juergen Nordhause-Janz (2017) 'Integration—fragmentation—reintegration? Studying cluster evolution, regional path development and cluster policies in the Ruhr Area' in Fornahl, Dirk and Hassink, Robert. *The Life Cycle of Clusters.* A Policy Perspective. Cheltenham: Edward Elgar.

Reimer, Mario, Panagiotis Getimis and Hans Blotevogel (2014) Spatial planning systems and practices in Europe: A comparative perspective. In Mario Reimer, Panagiotis Getimis, and Hans Blotevogel (Eds.) *Spatial planning systems and practices in Europe: A comparative perspective on continuity and changes* (pp.1-20). Abingdon: Routledge.

Rérat, Patrick (2011) The New Demographic Growth of Cities: The case of Reurbanisation in Switzerland. *Urban Studies* 49(5), pp.1107-1125.

Rodríguez-Pose, Andrés (2018) The revenge of the places that don't matter (and what to do about it), *Cambridge Journal of Regions, Economy and Society,* 11(1), pp.189–209.

Rodríguez-Pose, Andrés and Roberto Ezcurra (2010) 'Does decentralization matter for regional disparities? A cross-country analysis', *Journal of Economic Geography,* 10(5), pp.619-644.

Romaniuk, Anna, Catherine Osbourne, Emily Rainsford, and Abigail Taylor (2020) *Understanding the policy-making processes behind local growth strategies in England.* ISC.

Schwarze-Rodrian, Michael (2016) 'Ruhr Region Case Study' in Carter, Donald . K. (ed.) *Remaking PostIndustrial Cities. Lessons from North America and Europe.* New York: Routledge.

Semen, Michael and Michael Carroll (2017) The Creative Economies of Texas Metropolitan Regions: A Comparative Analysis Before, During, and After the Recession. *Growth and Change,* 48(4), pp.831-852.

Sharpe, L. J. (1975) Comparative planning policy: Some problems. In M. J. Breakell (Ed.), *Problems of Comparative Planning* (pp.26-32). Oxford: Oxford Polytechnic.

Shearer, Eleanor, Paul Shepley, and Teresa Soter (2021) *Levelling up Five questions about what the government means by the phrase.* [Online] Available from: https://www.instituteforgovernment.org.uk/sites/default/files/publications/levelling-up.pdf [Accessed 28 November 2021]

Stuart, Mary and Liz Shutt (2021) *Catching the wave: harnessing regional research and development to level up.* Higher Education Policy Institute.

Sykes, Olivier (2018) Post-geography worlds, new dominions, left behind regions, and 'other' places: unpacking some spatial imaginaries of the UK's 'Brexit' debate, *Space and Policy,* 22(2), pp.137-161.

Taylor, Abigail, Anna Romaniuk and Skye Sampson (2021) *What does it take to "level up" places?* ISC.

USCB (2020) *QuickFacts* [Online] Available from: https://www.census.gov/quickfacts/fact/table/sanantoniocitytexas,US/PST120219 [Accessed 24/09/ 2020]

Williams, R. (1984) Cross-national research: Translating theory into practice. *Environment and Planning B: Planning and Design,* 11(2), pp.149-161.

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