



# Advancing inclusive innovation policy in the UK's second-tier city-regions

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**Abstract** The UK exhibits stark regional economic divides which have been a long running concern for policymakers. With the levelling up agenda taking shape, city-regions in the UK are developing innovation and business support policies in seeking to deliver on a range of goals from traditional productivity concerns to wider social and environmental imperatives. Drawing on interviews with key actors in the city-regions of Cardiff, Manchester and Glasgow, this paper points to an emerging directional change in innovation policy, yet we show that capacities to articulate and implement an inclusive innovation approach vary widely. The uneven landscape for innovation policy within each of the city-regions, in terms of the location of innovation assets but also the varied institutional and social legacies shaping innovation policy, is also brought into view. Central to the reshaping of innovation policy in all cases, however, are agents working in networks, fashioning narratives and marshalling data in efforts to mobilise new ways of practicing innovation policy within what remains a centralised approach to sub-national economic development.

**Keywords** Left-behind places · Inclusive Innovation · City-regions

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## 1 Introduction

City-region bodies have emerged as key actors for the implementation of sub-national economic development policy. This stems from the Localism Agenda in 2010 in the UK but exhibits longer legacies in other OECD contexts. The key focus of such decentralising steps is a recognition of the limits of centralised policy orchestration, and a concern for developing and implementing policies that are sensitive to diverse local contexts. In the UK, indeed—though also reflected in the economic development cleavages and rebalancing calls found across the OECD—there is a heightened concern that economic development policy should reflect and be attuned to the sensitivities of place, noted as “place sensitive distributed development policy” by some (Iammarino et al. 2019).

The latest incarnation of this debate in the UK is the political rhetoric around “Levelling Up” (UK Government 2022), which acknowledges long-standing regional economic divides across the UK. However, questions have been raised regarding the government’s commitment to implementing meaningful policies to address these divides (Fai and Tomlinson 2023; Coyle and Muhtar 2023). Mindful of new decentralising steps and gestures, coupled with a new ethos for framing what innovation policy should be for, the focus of this paper is to explore how three city-regions in the UK—Cardiff, Glasgow and Manchester—are seeking to design and implement their respective innovation agendas and, in doing so, are beginning to embrace ideas related to inclusive innovation. The illustrative cases are revealing in that whilst the three city-regions share a common position of having faced stark changes to their economic bases historically—and each currently sits within the broader Levelling Up agenda—they exhibit different local and national/central governance arrangements (reflecting the differing institutional structures in England, Scotland and Wales). We argue that policymakers in the three city-regions are negotiating two tensions: one, the vertical tensions imposed by national (UK and devolved nation) strategies and funding requirements; and two, the horizontal tensions presented by a differentiated city-region context (in terms of outcomes and politics due to the interaction of multiple local authorities within this context). At the core, here, is institutional change and agency operating at the interstices of centralised governance and direction (which nevertheless shape the opportunity for local action), and long running concerns for fairer and more sustainable local economies (the needs that local action is increasingly sought to satisfy).

Through the illustrative case commentaries, the paper engages with emergent concerns in the literature for inclusive innovation, “distribution sensitive innovation policy”, and the wider normative turn in regional innovation policy, which all draw attention to innovation policy serving wider social and environmental goals beyond (but not necessarily discarding) growth. Such a normative turn advocates a more capacious and long-term perspective of regional development that considers a variety of regional assets (not just scientific knowledge), including place-based values and challenges that could constitute market opportunities, and institutional and social agency (Barca et al. 2012). Though inclusive innovation is a term that covers a variety of approaches—varying from a participant to outcome focus, and extending from pro-poor innovations to grassroots innovations—the central idea is to consider

a wider set of participants in innovation practices and a wider set of beneficiaries from innovation projects and investments (such as innovation districts at the city-region scale). This gives a prompt, we argue, for local policymakers to consider city-region innovation agendas in new or otherwise overlooked ways. The paper explores how and in what forms this approach to innovation policy is beginning to emerge.

The story presented in this paper is one of early policy experimentation, where local policymakers are eager to configure innovation policies in new ways, acknowledging a recent shift in innovation policy “from volume to value”, but are less clear, perhaps, on the steps and funding channels to achieve this. We explore how actors on the ground are working to shift negative perceptions and develop narratives that engage stakeholders in a shared commitment and purpose. We also shed light on both the old and new roles that higher education institutions (HEIs) are playing in such endeavours, as convenors and amateurs, and as providers of continuity in a constantly shifting policy landscape. This paper therefore contributes to the nascent inclusive innovation literature in that we examine policymaking and leadership approaches to inclusive innovation—what it means, and who it should and does involve—in the three cases. Future directions for inclusive innovation research are also set out in terms of the scope for wider comparative work and tracing inclusive innovation activities over time.

## **2 Inclusive innovation—what is it and why now**

Inclusive innovation has many definitions, ranging from the parsimonious to the rather complex (Lee 2023), but at its core it can be boiled down to re-considering those who participate in and those who benefit from innovation activities. Underwriting concerns for inclusive innovation, typically, is a view that innovation tends to be undertaken by select, often elite, groups, and this proves problematic for delivering socio-economic outcomes and restricts the range of activities that receive policy support or promotion. A concern for inclusive innovation ultimately runs against a view that innovation activities will necessarily lead to society-wide positive externalities; a tide that lifts all boats, as some may put it. The concern rather sees innovation, in its current form, as a driver of disparities and thus something that needs to be managed, negotiated and directed to support a wider set of social objectives.

A notable contribution to inclusive innovation debates has been the categorisation of innovation according to different framings or phases (Schot and Steinmueller 2018). In the first phase, innovation is seen as a key driver of growth; in the second, a product of national institutional arrangements; in the third, a concern for supporting (or not) wider social and ecological objectives (Tödtling et al. 2022). The latter framing aligns with a new normative turn in the regional innovation literature (Uyarra et al. 2019). Similarly influential, Zehavi and Breznitz’s (2017) notion of “distribution sensitive innovation policy” points to innovation support in areas of the economy with high shares of low and medium skilled workers (so supporting higher incomes for such workers); supporting innovation in relatively “disadvantaged re-

gions” (otherwise known as the left behind places); and developing innovations for those who experience disabilities.

With some links to Zehavi and Breznitz (2017), we can distinguish the inclusive innovation literature according to different geographic dimensions. At a global level, there has been a longstanding concern for the conditions that support innovation practices in the global south, for example (Papaioannou 2014; Pansera and Owen 2018). At the national level, the unevenness of innovation geographies across different regions has come into focus (Forth and Jones 2020). Feldman et al. (2021) argue, for instance, that regional disparities in innovation performance may reflect the monopoly power of major corporations in information-based sectors who tend to agglomerate in certain ‘superstar’ locations. One can also draw links, here, to a literature about the different development groups that can be observed at pan-regional scales across the EU (Iammarino et al. 2019). Within a single region or city-region level, attention has been steered to the consequences of hosting high-tech activities, and its implications for the wider local economies in which they interact (Kemeny and Osman 2018). Others point to the policy follies that can sometimes be observed when policymakers try to attract high-tech activities to localities not exhibiting such activities at present (Breznitz 2021).

Other scholars writing with a particular concern for the intra-urban or regional scale, and the processes that may enable or constrain inclusive innovation, have noted a greater need to consider “who is in the room” when designing and implementing innovation policy, and a need to break down the closed circles that tend to prevail (Schrock and Lowe 2021, p. 183). Lee (2023), meanwhile, posits education, entrepreneurship and employment as key channels to support inclusive innovation objectives. Taking a case study design, Lowe et al. (2021) look at the particular impacts of a manufacturing support initiative in Illinois that realised, the authors claim, benefits for workers in terms of job security and wages. In her contrastive study of Saint-Etienne (France) and Greensboro (North Carolina), meanwhile, Bramwell (2021, p. 259) focuses on “local actor configurations” and who has the power to push ahead and give legitimacy to an inclusive innovation agenda. Roles for mayoral and bureaucratic leadership, intermediary organisations (that connect resources and actors), as well as roles for universities are pointed to.

Concern for inclusive innovation can be observed in policy writing or the grey literature, notably. Nesta’s work on inclusive innovation (Stanley et al. 2018) contrasts inclusive innovation approaches in a range of OECD countries and beyond. The OECD (2015) meanwhile, talks about inclusive innovation from a user perspective in terms of “pro-inclusive” (also termed pro-poor) and “grassroots” innovation. In the former, innovations are pared back to a basic utility so accessible and usable by low-income groups, while in the latter innovation activities (so the production of the innovation) are undertaken by low-income groups. In a report for the UK Innovation Districts Group and the Catapult Places Catapult in the UK—and through an exposition of how innovation districts link to the inclusive innovation agenda—Lee and Metro Dynamics (2022) set out “design”, “delivery” and “diffusion” as proposed core dimensions for inclusive innovation. Here, design refers to participation in innovation; delivery to the direction of innovation; and diffusion to spreading the benefits of innovation across society. Furthermore, the Brookfield Institute (Riv-

iera and Villeneuve 2018, p. 45–46) in Canada, drawing on case study reflections from North Carolina and Finland with a view to informing policy in Ontario, set out five factors that support inclusive innovation: “resilient networks”; demand and supply knowledge; “information sharing”; flexibility to change; “recognizing that any worker can be an engine of innovation”.

We aim to contribute to the inclusive innovation literature by throwing light on three case study city-regions in the UK where attempts at inclusive innovation implementation are being made, albeit at early stages, by policymakers. Our focus on the governance response to inclusive innovation, brings into view economic geographic work on agency (Benner 2023), and, in particular, Grillitsch and Sotarauta’s (2020) concept of place-based leadership which includes working across boundaries and marshalling a range of stakeholder groups to support regional development processes. Our cases studies provide an initial view, indeed, of how local actors are seeking to “orient complex multi-actor processes” (Grillitsch and Sotarauta 2020, p. 712).

Inclusive innovation, as a fledgling policy area, sits within a rapidly changing UK-wide context for local and regional policy. With the localism agenda emerging in the early 2010s, the regional development agencies in England were abolished and replaced with deal-based arrangements and the introduction of Combined Authority Mayors with city-region geographies somewhat privileged. In Wales and Scotland, deal-making has emerged within a context where new forms of local devolution rub up against devolution to national bodies (leading to tripartite governance arrangements) (Waite and Morgan 2019). Our three case studies—situated within England, Wales and Scotland—exhibit different dimensions and stages of maturity with respect to these dynamics.

### 3 Research design and methods

Our approach, based on interviews with key informants, aims to understand how three UK city-regions are seeking to design and implement new forms of innovation policy at regional, place-based levels within the confines of centralised sub-national governance. We focus on three city-regions—Cardiff, Manchester and Glasgow—which, positioned at the centre of the UK’s Levelling Up agenda, have taken novel steps with respect to innovation policy. Participants were drawn from public, private and third sector bodies across each of the city-regions, and interviewees were selected due to their involvement or close proximity to innovation projects and agendas within each context.

Our sample size and selection of participants—which focuses on twenty-three interviews with local government, business and HEI stakeholders across the three regions (seven from Cardiff Capital Region, seven from Glasgow City Region and nine from Greater Manchester City Region)—offers a range of insights but nevertheless contains limitations in terms of the scope of respondents and the typically promotional viewpoint they take. However, the varied institutional settings, and the emergent autonomies confronting leaders in the case study contexts, granted us scope to explore how and in what forms inclusive innovation is emerging on the

radar of policymakers. Of course, whether the steps taken prove to be successful in securing inclusive growth is a matter for future research.

All interviews were conducted by one or two members of the research team between November 2022 and February, 2023 and took place either in-person or remotely via Zoom or Microsoft Teams. The semi-structured interviews each lasted between 45–60 min and focused on capturing the diversity of geographies and objectives of each city-region, reflections on challenges and tensions experienced on the ground as well as examples of best practice and innovative progress in each city-region. Interviews were audio-recorded on a separate Dictaphone and transcribed verbatim using a professional transcription service. These in-depth interviews were supplemented by documentary analysis, including key policies, action plans and reports produced in relation to economic and innovation policy. The content of these documents were directly referred to and discussed within the interviews. Interview data was coded using industry standard ‘Nvivo’ software with emergent themes discussed and agreed iteratively across the project team (online and in person meetings). To aid anonymity, we refer to the participants only by region and stakeholder group.

### 3.1 Case overviews

The three city-regions have all been positioned as candidates for “Levelling Up”; that is, they are seen, by the UK Government, as regions that could be performing more strongly than they do at present. The city-regions also sit within a longer narrative concerning ‘London and the rest’, where the rest, bar a few outliers, is typically associated with economic underperformance (compared with London’s dynamism). A few data points support this claim. For example, for GVA per hour worked, all three city-regions—Glasgow (£ 34.8), Cardiff (£ 33.9) and Manchester (£ 34.3)<sup>1</sup>—lie below the UK average of £ 38.3. The argument is further made that as city-regions in the UK context with relatively large populations—Glasgow (1,849,070), Cardiff (1,522,472) and Manchester (2,868,387)<sup>2</sup>—the cities are not achieving the economic dynamism that one may expect, for example, through agglomeration effects. This is problematic for policymakers, it is claimed, as the UK’s second tier city-regions are seen to underperform relative to second-tier city-regions in many parts of Europe<sup>3</sup>. Recent efforts to address this concern include the 3-year, £ 100 million Innovation Accelerator programme (funded by UK Research and Innovation and the Department for Science and Innovation) launched as part of the 2022 Levelling Up White Paper. This programme aims to accelerate the growth of high-potential innovation clusters in three city regions—Glasgow, Greater Manch-

<sup>1</sup> Current Price (smoothed) GVA (B) per hour worked (£); City Regions—<https://www.ons.gov.uk/economy/economicoutputandproductivity/productivitymeasures/datasets/subregionalproductivitylabourproductivitygvaperhourworkedandgvaperfilledjobindicesbycityregion>. Data are at 2021.

<sup>2</sup> Total resident population—<https://www.ons.gov.uk/economy/grossdomesticproductgdp/datasets/regionalgrossdomesticproductcityregions>. Data are at 2021.

<sup>3</sup> <https://www.ft.com/content/b9372dd0-be20-400c-8b0a-f3f99c4f44d8> [ft.com].

ester, and the West Midlands—by funding targeted research and development pilot projects.

Coupled with concerns over city-region level performance, we can also observe significant pockets of deprivation in each of the three city-regions in our research, which further highlights the need for economic development policy to have reach to those not or not always included. For instance, four out of the ten local authorities in Greater Manchester are among the twenty most deprived local authorities in England according to the government's 2019 indices of deprivation<sup>4</sup>.

In the following paragraphs, we set out the governance landscape in each of the three city-regions, and these crucially differ given the differing nations (and therefore devolved arrangements) the city-regions are located within. Given we are concerned with how local actors are moving to embrace inclusive innovation, this provides crucial context for understanding the empirical material that is presented in the next section.

### 3.1.1 Cardiff Capital Region (CCR)

Cardiff Capital Region (CCR) was formed through a city deal between the UK government, Welsh government and ten local authorities in South East Wales in 2016. The ten local authorities: Blaenau Gwent, Bridgend, Caerphilly, Cardiff, Merthyr Tydfil, Monmouthshire, Newport, Rhondda Cynon Taf, Torfaen, and Vale of Glamorgan cover a range of economic circumstances from some of the wealthiest parts of Wales to some of the poorest parts of the UK. There are three higher education institutions in the region: Cardiff University, Cardiff Metropolitan University and University of South Wales. It is the largest city-region in Wales in terms of population and GDP.

A total of £ 1.3 billion of funding was allocated to the city deal, with £ 734 million earmarked for the development of a new metro system. The CCR has sought to develop an evergreen investment model and unlike other city deals, the funding was not allocated to specific projects apart from the metro system. The CCR is governed by a Regional Cabinet of the ten local authorities which provides leadership, vision and strategic direction for the region.

### 3.1.2 Glasgow City Region (GCR)

The Glasgow City Region was formed on the back of the Glasgow City Region Deal which was signed in 2014 (involving the UK and Scottish Governments). The city-region is comprised of eight local authorities: Glasgow City Council, North Lanarkshire, South Lanarkshire, Inverclyde, Renfrewshire, East Renfrewshire, East Dunbartonshire and West Dunbartonshire which reflect a range of economic circumstances. There are a number of higher education institutions in the city-region, notably the University of Glasgow, Strathclyde University and Glasgow Caledonian University. This is the largest city-region in Scotland.

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<sup>4</sup> <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019>.

The City Deal provided £ 1.13 billion in capital funding, while also supporting labour market and innovation interventions, such as the Tontine centre. The Glasgow City Region Cabinet (GCR Cabinet) is the ultimate decision-making body for the region and is made up of the leaders of the eight local authorities within the city-region.

### 3.1.3 Greater Manchester City Region (GMCR)

Greater Manchester encompasses one of the largest metropolitan areas in the United Kingdom and comprises ten boroughs: Manchester, Salford, Bolton, Bury, Oldham, Rochdale, Stockport, Tameside, Trafford, and Wigan. There are five higher education institutions in the city-region (the University of Bolton, the University of Manchester, Manchester Metropolitan University, the University of Salford, and Royal Northern College of Music), the largest of which are the University of Manchester and Manchester Metropolitan University.

The establishment of the Greater Manchester Combined Authority (GMCA) in 2011 brought together the ten local councils and provided a framework for collaboration and decision-making across the region. Informally however, collaborative arrangements have been in place since 1986 across the Greater Manchester districts. In terms of governance, GMCA is accountable to a cabinet of the ten local authority leaders. Collaboration was further strengthened in 2017 by the creation of a directly elected mayor for Greater Manchester.

## 4 Inclusive innovation developments in the three city regions

Mindful of the governance arrangements in place in each city-region, in this section, and steered in part by Bramwell's (2021, p. 259) suggestion that "actor configurations—who's involved and how—shape institutional capacity for inclusive innovation ...", we present our data from the three cases.

### 4.1 Cardiff Capital Region (CCR)

The CCR Regional Economic and Industrial Plan (2023–2028) sets out a number of actions (Cardiff Capital Region 2023). Specifically, the plan sets out targets for a series of industry-led skills and employability interventions, embedded within priority clusters in order to upskill, reskill and enhance employment opportunities across the city-region. As part of the plan, reference is made to ambitious plans to establish 'end-to-end' data competencies and capabilities to support cluster productivity. However, despite the evidence of progress being made on the ground, the challenges of multi-level governance and policy churn were viewed as significant constraints on further inclusive innovation development across the Cardiff Capital Region. Tensions between UK and Welsh Government were particularly evident in CCR as described by this public sector stakeholder:

“Welsh Government had no say in how the Levelling Up Fund is being created or implemented, so the Welsh Government thinks that this whole move towards Shared Prosperity funding and Levelling Up funding is not going to serve Wales”.

This view was contrasted with a more pragmatic approach echoed by other public sector stakeholders who recognised that progress will need to be made within and around such constraining factors—the role of narrative and the influence of individual actors were again seen as key in driving forward a more optimistic future scenario for Wales.

In order to work towards more inclusive economic development across the entire city-region, stakeholders interviewed within CCR reflected on the specific place-based social and economic legacy within the city-region and country as a whole. Participants stressed the need to develop a new regional narrative for the area whilst also recognising, valuing and building upon the legacy of the place. However, participants acknowledged that the city is building from a low base in some regards:

“I think the innovation challenge is fairly black and white. If you look at any comparison of us versus another city, we don't raise as much capital, we don't have as many tech success stories, we haven't done this, we haven't done that. Any metric you want to think of would make the reality pretty black and white (Business Representative stakeholder).”

This perhaps contributes to the widely held view that the city-region lacks confidence, with one public sector stakeholder commenting “*We're not confident in saying 'we're good at this' ... we downplay it ... we don't celebrate success particularly well*”. The need, therefore, for a more positive and optimistic self-view of the region as a whole and its potential, based on regional strengths, was widely acknowledged. However, as this public sector stakeholder observed, within CCR “*even the cream of our cream needs to get better*” and thus, a lot of work remains to bring the region, as a whole, up to a higher-level playing field. Simply put, economic growth, of any kind was seen to be a critical starting point on which to build more inclusive innovation strategies going forward.

In addition to increasing the social and economic base across the city-region, stakeholders within CCR recognised the need for an ‘outward-looking perspective’ through which to inspire and shift mindsets by looking outside the confines of the historical legacies of Wales. Participants drew comparisons from both international clusters and examples of best practice that are seen as relevant to the circumstances of the region (for example, the Basque Country) but also from best practice across the three case studies within this paper. For example, CCR stakeholders were keen to learn from the Innovation Greater Manchester initiative. This interest in learning was two-way, as GM Public Sector stakeholders also expressed an interest in learning from others, including what the CCR and more widely Welsh Government are doing in applying challenge-oriented approaches to inclusive economic growth. Specifically, a more innovative approach towards both the Foundational Economy and public sector innovation in CCR were viewed as providing an opportunity to work towards a more integrated, inclusive economy. Here, for example, the Welsh

Government's Foundational Economy Challenge Fund and the Cardiff Capital Region's Local Wealth Building Challenge Fund were highlighted by participants as exemplar cases of challenge-based approaches which have supported innovation in healthcare provision, decarbonization of local authority fleet vehicles and local food supply and resilience amongst others. The Local Wealth Building Challenge Fund and its sister programme, Infuse—an EU-supported programme to develop innovative capability in the public sector, were also intended as interventions to promote the economic development of the broader CCR ecosystem.

Alongside these novel approaches to developing an inclusive and networked innovation approach, the Compound Semi-Conductor (CSC) Foundry, in Newport is an example of more conventional and targeted investment in a priority sector which also has the intention of producing wider benefits across the Cardiff Capital Region. The CSC foundry provides a cluster development opportunity on the periphery of the Cardiff Capital Region in Newport which connects supply-chains across the city-region and acts as an anchor organisation attracting investment and other SMEs to the area;

“[At] the Compound Semiconductor, the focus is predominantly in Newport and Chepstow with research strengths here in Cardiff and also in Swansea. But what we are seeing is, off the back of that, there's a couple of start-ups that have come and new businesses that are being attracted to the region ... and there's companies in the Heads of the Valleys that are critical to it, and what our investment is going into is to help their supply chain to grow to meet their demand, otherwise, it will lose all the business from the region because ... they'll probably take it somewhere else. So ... that's part of the thinking. I don't think the traditional, you know, trickle-down stuff really works, so you've got to work and think about it differently” (Public Sector stakeholder).

In addition to the importance placed on networks, having a clear narrative was seen as a key element in driving inclusive innovation development across CCR. Stakeholders recognised, however, that this takes time—to build relationships across the city-region, bring the right stakeholders together to work towards shared commitments that benefit the whole region and to shift mindsets towards newer ways of working (for example, partnership working and joint-bids). As this public sector stakeholder explained, in Wales, this is taking some time and actors are at different points with some waiting for others to catch up;

“I think our organization understands that sometimes it can be three, four or five years of relational building before something happens, and that's got to be okay ... we're also very patient. It doesn't have to be in the next five minutes, it doesn't have to be next year. We're quite happy to hold the course.”

Key actors such as these have a role to play, therefore, in building and communicating the narrative of a more inclusive innovation direction for the city-region. Foremost, participants pointed to the 'safe' convening space higher education institutions provide in bringing the right stakeholders, from disparate sectors, disciplines and industries to work together towards such shared commitments. For example, CCR stakeholders reflected on the 'triple helix' partnership model which has been

extended through Innovation Greater Manchester as a particularly effective institutional arrangement for such an approach and one which they would like to see replicated within CCR. However, the efficacy of such an approach within Wales has been questioned historically (see Pugh et al. 2018) and participants within our study also recognised the need to bring in a broader range of stakeholders beyond the triple helix of government, higher education institutions and business so as to represent the needs of the whole city-region. For example, participants suggested that business and schools should work together more and that parents and teachers needed help to better understand what the “jobs of the future” might look like in order to be able to equip future generations of innovators with the right skills required to further the economic performance of the city-region. This was seen as particularly important with regards to intermediate, technical skills which may be required for future jobs created in advanced manufacturing—jobs that typically are more likely to be located in peripheral areas of the city-region;

“You’re creating a pathway, so suddenly now, not only have you got a leading industry that’s going to maintain and grow, because we know that the build of the chip is going to be there forever now. Then we can look at how do we support that with a value chain proposal. How then can we put in a pathway that schoolchildren, from primary school to secondary school can have visibility, the parents and the teachers have visibility” (Business Representative stakeholder).

It was felt, therefore, that a regional innovation ecosystem approach was required, one that would provide a joined-up network of all of the “*talent and access to capital in some way, shape or form*” (Public Sector stakeholder) across the city-region. Participants stressed the need for this regional innovation ecosystem to be visible so that stakeholders can see where they currently, or potentially *could* fit into that ecosystem and so that education providers and policymakers can identify the gaps that need to be filled in the talent pipeline and plan for skills development accordingly.

Participants across CCR also spoke of the ways in which the city-region was actively looking for ways to gather better data on the particular characteristics of their priority clusters and skills needs. For example, participants expressed a desire to be able to produce heat maps showing decision makers ‘what is out there’ in the region—creating a more open data-sharing culture that incentivises places to collaborate rather than compete with each other. However, participants identified capacity and capability issues as regards the effective use of data for evidence-based innovation policy design and evaluation<sup>5</sup>. For some public sector stakeholders, it was not a matter of having the data, it was a case of not having the capacity and capability to turn the data into useful intelligence;

“I think personally, data still continues to be one of the weaknesses really of how Wales acts as a whole. I think it’s not so much that we’re data poor in any of our core areas, we’re flooded with the damn stuff. It’s the conversion

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<sup>5</sup> It is perhaps worth noting that Welsh Government partnered with Nesta on an innovation mapping project in 2016–17 (Arloesiadur), producing an initial website that has not been maintained.

of that into meaningful information, you know, we're data rich, not quite so information rich. So, our conversion of data through analytics into meaningful information isn't strong, or as strong as it could be" (Public Sector stakeholder).

Whereas for other business representative stakeholders, there was perceived to be a distinct lack of data being collected and shared across the region. This was specifically seen to be the case with regards key clusters or sectors where there may be opportunities for growth. Here the effective use and distribution of data was perceived as a key enabler of inclusive innovation policy design and development. One business representative stakeholder spoke, for example, of the opportunity for value chain mapping to provide evidence of "*economic prosperity working hand in glove with social prosperity*" as data provides the opportunity to map how SMEs are moving up the value chain in the region.

## 4.2 Greater Manchester City Region (GM)

Greater Manchester is often heralded as 'leading the way' in devolution in the UK (LGA 2023; Harding and Peake-Jones 2023; Hodson et al. 2020), since 2014 reaching a series of devolution agreements with government focused on areas such as transport, skills and employment, health and social care, and housing and planning, and the introduction of a directly elected Mayor (in 2017).

This success is built on decades of collaboration and institution building across the city-region, underpinned by strong and consistent political and executive leadership (Harding and Peake-Jones 2023). As one public sector interviewee argued, "*if you look back to 1986 when the Greater Manchester County Council was abolished, the potential for the sorts of fragmentation you've seen in most places that had a metropolitan county were huge, and Greater Manchester has resisted that*". Over that time, there has been a conscious strengthening of place-based innovation policy through a practical, evidence-based approach to local economic growth policies and programmes. This was demonstrated by the 2009 Manchester Independent Economic Review (MIER) and the Greater Manchester Independent Prosperity Review informing the 2019 Local Industrial Strategy, published jointly with central government.

Having made significant advances in developing place-based policies in the past years, there is a growing awareness among many GM stakeholders that a shift in focus is needed to ensure that innovation initiatives are not just focused on advanced activities but also deliver social value more broadly. The agglomeration model embraced in the MIER (see e.g. Deas et al. 2021), which assumed that economic development was best achieved by supporting geographically proximate clusters of advanced industries, started to be challenged after the 2016 Brexit vote (where the majority of voters in all but the three more affluent districts of the conurbation voted to leave the EU). The vote starkly highlighted the geographical disparities within the greater Manchester region, which were subsequently amplified by the Covid-19 pandemic and the rising cost of living crisis. The spatial differences across the city-region became a political issue, with a stronger recognition of the need for a more balanced economic growth strategy that supported not just the parts

of GM perceived as ‘economically booming’ but also the less prosperous parts of the metropolitan area. As one public sector stakeholder put it *“it is no longer assumed that the only worthwhile project in terms of innovation has to happen in the Oxford Road Corridor, which links our major universities together”*

For instance, the 2021 Greater Manchester Strategy (GMS) adopted a more inclusive vision for the city-region “to become greener, fairer, more prosperous, driven by opportunities in all localities across the conurbation” and sought greater citizen engagement through efforts such as the Places for Everyone plan informing regeneration efforts. The 2021 GM Innovation Plan, led by the newly created Innovation GM, identified a number of ‘growth locations’ representing opportunities for economic change across the conurbation. These included high performing innovation zones located around Manchester Oxford Road Corridor and the Salford Innovation Triangle (including MediaCityUK), but also areas of lower productivity including plans for the creation of ‘Atom Valley’ in Rochdale and Bury in the north of the city region. Atom Valley is a public-private partnership with plans to build an advanced manufacturing hub and create 20,000 jobs across three separate sites in Bury, Rochdale and Oldham. It seeks to build upon and celebrate the legacy of the manufacturing past in these areas and replace the “*low wage economy*” of the area with one based on more highly skilled work.

Connectivity between the different growth locations, particularly between the centre and those located on the periphery of the city-region such as Rochdale and Oldham, was seen as an essential means *“of ensuring that people feel they are part of the whole economy and connected to different opportunities”* (Public Sector stakeholder). Interviewees hinted at a need for place making efforts to try to shape the locational choices of firms and organizations.

“... the aim there [Atom Valley] is to say, well, okay, if you have high productivity manufacturing-based businesses, they need space. You know, that’s the thing that Oldham, Bury and Rochdale have got that central Manchester hasn’t got—space and connectivity. So [...] if we can rebuild a more manufacturing-based economy in those parts of the city-region, you know, outside the city centre, then that will produce jobs at all levels, and I think there’s reasonable evidence linking the innovation activity of manufacturing companies to the wages that they pay at all levels, not just at professional levels” (Business Representative stakeholder)

Current plans to develop an Innovation District in the recently vacated University of Manchester North Campus is another example of how local stakeholders are trying to curate spaces that are open and accessible to the neighbouring communities. The ID Manchester site is immediately proximate to some of the UK’s most underprivileged areas, and the challenges of driving innovation while combating inner city deprivation was encapsulated in the question posed by a HEI stakeholder: *“how can we make the ten-year-olds that are living in that site now the innovators and entrepreneurs who are working in the district in twenty years’ time?”*

This shift to a more inclusive approach requires, according to our interviewees, a broader view of innovation beyond so-called ‘frontier’ sectors (such as advanced materials) in order to improve the quality of jobs and the quality of businesses and

business models across the whole of the city-regional economy. As one business stakeholder put it; “... *we are quite good in this country at probably servicing and stimulating part of what’s required in the frontier economy, we might not distribute that as well as we could in terms of place-based policy making.*”

The foundational economy has been identified as a key opportunity to take a more inclusive approach towards innovation, with the launch of pilot initiatives such as the Foundational Economy Innovation Fund (inspired by similar schemes in Cardiff and Amsterdam). This initiative seeks to support sectors (such as retail, hospitality, leisure and tourism, early education, and care) that have less opportunities to access innovation funding, but which were nevertheless particularly impacted by the COVID crisis. Its rationale was explained by one of our interviewees;

“If you’ve got a more innovative foundational economy, you’re more likely for people to be able to make those steps and move around between different careers, different jobs. So, it creates a more integrated economy and helps to overcome that sense that there’s this high tech, science bit of Manchester and Salford and that’s for some people, but not for everybody. It’s just trying to create a more integrated, inclusive economy, and an economy where people feel like everybody’s got a stake in it” (Public Sector stakeholder).

Interviewees also highlighted the importance of supporting ‘related variety’ (the idea that innovation can emerge from cross-sectoral arrangements with shared knowledge bases (Content and Frenken 2016)) through connecting existing businesses with new and advanced activities, for instance technical textiles and chemicals. To do so they suggested a shift in policy, away from a more supply side R&D focus to a greater emphasis on new demands and challenges such as health and sustainability, paying attention to *market opportunities and regulatory frameworks and how you aggregate that demand and those needs* (HEI stakeholder). Initiatives such as ID Manchester are seen as providing such spaces for collaboration and experimentation, “*where people could come together and share some ideas from different industries and different disciplines*” (Business Representative stakeholder).

It was acknowledged that these represented long term efforts that required complex partnership work. An example of efforts to support such ‘triple helix’ partnership is the formation of Innovation GM, a private-public partnership with a remit to “drive forward progress and deliver Greater Manchester’s 2030 innovation vision”<sup>6</sup>. However, interviewees acknowledged a tension between Innovation GM adopting a long term, holistic view and the short-term, centralising, political forces that inhibit those ambitions. As put bluntly by a public sector stakeholder “*we are a very top-down nation, you know, we’re incredibly centralised. ... [...]. So, we’re in a situation and phase where I think we recognise the critical need to evolve and empower localities, but we’ve got a government that I think, in practice, appears to be doing pretty much the opposite.*”

The short-termism of policy initiatives was also seen as creating difficulties on the ground, resulting in stakeholders expressing a conflict in doing “*fast and slow at the same time*” (Public Sector stakeholder). They recognised that the time taken

<sup>6</sup> <https://gmbusinessboard.com/wp-content/uploads/2022/11/IGM-Exec-Summary-Nov-22.pdf>.

to develop and implement innovation programmes such as the UK Government's Innovation Accelerator Programme and to see the fruits of such initiatives directly conflicts with short-term funding cycles.

“We've got a programme that is essentially going to be a two-year programme, by the time it's up and running, we will probably be down to eighteen months for delivery; how on earth can you deliver a transformational innovation programme in that period of time? It's absolute madness” (Business Representative stakeholder).

HEIs were identified as a key actor within this ‘triple helix’ and were viewed as particularly valuable in addressing tensions arising from short-term funding and policy cycles, providing longer-term planning horizons and preparedness that could eventually secure innovation investment in the city-region.

“The funding stuff is frustrating. I think as a university we can take a long-term view and that's one of the strengths of the organisation, some people say universities don't take as long-term view as they should do ... but longer term than politicians. So, we set out a vision for ID Manchester linked to Atom Valley end of 2019 [...]. For us, is that purposeful vision, and we don't have a road map to how we're going to get there because it will be subject to whatever funding decision is made by government” (HEI stakeholder).

Participants recognised the increasingly important place-making role of universities, yet also acknowledged challenges, notably a lack of incentives for academics to engage in applied research beneficial to the city-region, in other words “*you have to be a very brave academic to do stuff you think is important rather than stuff you think will advance your career*” (Public Sector stakeholder). On the other hand, the pandemic in-particular strengthened the civic role and collaboration among HEIs in GM, resulting in the signing of the Civic University Agreement between the five universities in the city-region and the combined authority. This agreement outlines a commitment to work together on a range of priority areas, such as convening citizen panels to address community needs. In addition, participants recognised that further education (FE) and schools are under-represented and increasingly important stakeholders to engage with, particularly as regards the development of a ‘skills pipeline’ within the innovation ecosystem.

There were also clear reflections about the considerable time and effort required to develop a coherent narrative around innovation policy and building durable relationships among stakeholders so that they coalesce around a shared purpose.

“One of the challenges in the early days of my job was to try and find a way of keeping all ten of our districts on side in terms of the narrative around change, and the way I chose to do that was through using the notion of inclusive growth and trying to think about what that meant in strategic terms for Greater Manchester” (Public Sector representative).

Stakeholders across GM also argued that there is still a lot of work to be done across the city-region, particularly in periphery areas like Oldham, to challenge negative perceptions (see also Deas et al. 2021). To support this, further efforts

are needed to capture good news stories but also to improve the use of data and evidence to support innovation policy making and evaluation. As one public sector representative noted “*part of what we want to do is to really develop our evaluation offer[to the question of] what impact has devolution had on Greater Manchester? we don’t have the evaluation evidence to ... to demonstrate that*”. They also recognised the difficulties in measuring performance in areas such as the foundational economy, which emphasize quality and not just productivity. Participants recognised that while significant advances have been made to support innovation in the city region, much more needs to be done to provide “*real support of ordinary people and ordinary businesses*” (Public Sector representative).

### 4.3 Glasgow City Region (GCR)

The Glasgow city-region, as an institutional concern, exhibits a more recent emergence vis-à-vis Greater Manchester and hinges on the City-region Deal announcement from 2014. From the Deal itself, and spawning from wider city-region working, there is now a diverse and multi-faceted innovation landscape emerging. As with the Cardiff context, the innovation landscape in Glasgow is fashioned from tripartite policy influences. That is, to understand innovation policy for the Glasgow city-region we need to consider the roles of the UK Government, Scottish Government and local authorities.

In terms of the UK Government, Levelling Up funding for an innovation accelerator was recently announced. More innovation projects may potentially emerge courtesy of the UK Government backed “investment zone” that was recently announced in 2023. The Scottish Government (SG), meanwhile, has developed an innovation strategy (Scottish Government 2023) while recent work by the entrepreneur Mark Logan for the SG seeks to develop a tech ecosystem (Scottish Government 2020). Glasgow City-region’s latest “innovation action plan” (Glasgow City Region 2023)—released after the interviews were undertaken (November, 2023)—refers to “inclusive innovation”. Wrapped up under existing work on “civic innovation”, the action plan points to an extension of enterprise hubs in underserved areas (to support entrepreneurship) and engaging with minority groups in innovation activities. With respect to governance arrangements, it was noted, by participants, that it is easier to work together where there is shared alignment between national, local and regional policy and this is an area which, according to one stakeholder, Glasgow fared comparatively well: *I think that there’s quite a strong alignment ... within the policy field, I think when I meet Scottish Government civil ‘servants, there’s a generally assumed foundation of a shared policy* (Public Sector stakeholder).

Perhaps drawing on a heritage of cluster-based policymaking in Scotland (which the Scottish Government’s recent innovation strategy reemphasises), key features of the innovation landscape in the GCR are the three officially designated innovation districts, while other sites, such as the Barclays campus, exhibit similar characteristics<sup>7</sup>. Two of the official innovation districts are located in or close to the city centre, while the Advanced Manufacturing Innovation District Scotland

<sup>7</sup> <https://glasgowcityregion.co.uk/accelerating-our-innovation-economy/>.

(AMIDS) is located in Renfrewshire. For some, a key issue concerns the role of these innovation districts in spreading economic benefits across the city-region: *If you look at our higher education R&D performance, you know, we're at the top of the rankings, so we've got lots of talent, knowledge and capability within the university sector. The innovation district is an investment to try and translate that more into the wider community* (Business Representative stakeholder).

With respect to the non city-centre innovation district, there is a recognition that AMIDS is reliant on good transport links to connect people with jobs:

*"[... Transport connections] ... bring into play areas of the region which are not as economically active as they might be. And I think the argument would be that if that ultimately linked the airport with Paisley Gilmore Street [railway station] with the Queen Elizabeth Hospital with AMIDS ... If it also came through Govan, it's going to affect people in terms of their ability to get networked and get to jobs because, at the moment, they might have to make two or three bus journeys to get to a job which is, in some cases, precluding them from actually working. Whereas, that link would actually bring them back into, you know, economic play ..."* (Business Representative stakeholder).

A participant reflecting on another local authority area, where there is no innovation district, further commented on spatial peripherality as follows: *we'd recognise that we are here, you know, we don't have a university, we're [one of the largest] ... local authority[ies] here in Scotland, there's no university here, there's no city, you know, we're obviously attached to Glasgow ... how do we ... create a sort of hub of excellence that ties into that* (Public Sector stakeholder). There was an acknowledgement here that manufacturing activities in the area, for example, meant economic development policy would need to work in different ways compared with the city centre. The upshot is that the character of inclusive innovation, even within a city-region, needs to give scope to support varied sectoral bases.

Additionally, spatial peripherality is not the only concern for inclusive innovation, as there are deprived communities close to the city centre. For example, the Glasgow Riverside Innovation District (GRID) will be located in Govan—an area close to the city centre which contains some of Scotland's most deprived neighbourhoods—so an important issue for this initiative is how (and if) this investment will lead to benefits for existing local communities.

Overall, there is an acknowledgement from stakeholders that innovation policy needs to reach to wider communities across the city-region: *So the thing that we recognise is that there are communities whereby [it has been difficult to include] ... it's how you then start to include, you know, other groups, you know, ethnic minority groups ... or communities from low-income areas* (HEI stakeholder). Here, wider work from the UK connected places catapult on inclusive innovation (Metro Dynamics and Lee 2022) may provide a potential network for Glasgow-based policymakers to plug into.

In terms of the mechanisms by which to achieve inclusive innovation, skills are often referred to. There was a recognition in the GCR that investing in skills development not only provides a means of 'future-proofing' the economy so as to

remain competitive, it also presents an opportunity to reskill and upskill those who face disproportionately higher barriers to good jobs:

“Obviously, education and skills is going to be massive ... we need to ... future-proof the workforce and there’s some lovely examples of agencies that are looking at reskilling and upskilling of refugee communities ... and I think we need to build that into ... our skills programmes ... early years all the way through, tackling leaky pipelines in certain industries, looking at all sort of inequalities” (Business Representative stakeholder).

There was also a sense from participants, however, that activating mechanisms to support inclusive innovation is hard to achieve given time lags and political pressures:

“So [concerning an innovation district in the Govan area of Glasgow], I think there has to be a real dedicated resource within the community in terms of that journey ... So, how do you put extra resource into schools when people are six, seven years old? And that journey has to be followed right the way through. Because ten years goes by in a blink of an eye. You have a seven-or eight-year-old, and all of a sudden, a decade later they’re going to hopefully, start training for apprenticeships, going onto university, going onto college as well ... we have a democratic mandate, we go for low-hanging fruit sometimes because every leader, every executive member, every Member of Parliament wants the spade in the ground moment, they want to ... you know, to cut the ribbon. This is a much longer commitment and that requires funding, political commitment over a longer period” (Public Sector Stakeholder).

A further channel for inclusive innovation, pointed to by respondents, is a form of neighbourhood effect. Indeed, participants spoke of the desire to be a ‘good neighbour’ in the places where innovation districts exist, through, for example, utilising local supply chains for catering services and ensuring that an innovation district or like precinct is accessible to the local community. The case of the Barclays Campus, on the south bank of the River Clyde opposite the city centre, was referred to here by a respondent:

“They’re totally embedding themselves in local. So, to give you an example, all the coffee they use in the campus is a locally sourced ethical coffee grinder who’s within a mile of this sort of Govan area ... They have beer on the campus, in the bar, and the beer is another local beer, which was from within a mile I was told this morning. But they’ve got the Barclays Eagle Lab there, which is an innovative coworking space for companies, start-ups and scaleups, that’s interesting. They’ve got an outdoor event space and they’re doing things like farmers markets and things to encourage the local community to use it. So, they really do see themselves as being almost part of the local community ...” (Business Representative stakeholder).

An acknowledgement of the role of policy evaluation and monitoring capabilities was further considered by respondents, and an inclusive innovation approach—and the various mechanisms through which this may emerge—further underscores the

need for this. A key point made by GCR participants is that even where data exist, the capability to collate and analyse data is crucial: *We need a much bigger picture of how all that gets influenced. It's a huge minefield ...* (Public Sector stakeholder). GCR policymakers are looking to gather granular data on the particular qualities and characteristics of the local economy, and an intelligence hub has been set up in the city-region in order to address some of the issues aforementioned (indeed aspects of the hub's work informs the recent action plan released).

## 5 Discussion

In each of our three cases there was a conscious strengthening of inclusive, place-based innovation policy. Each city-region is at a fairly early stage of development of the structures and processes that support inclusive innovation and economic growth; at this point the agency of individual actors is central and this means that current developments are fragile. And, as we have documented, each of the regions has distinctive histories, contexts and constituencies that shape how the vertical and horizontal governance tensions are negotiated. At the same time, there are a number of areas where patterns may be discerned in how the key actors are approaching the challenges of inclusive innovation. It is important to recognize that there are sectoral and spatial components to this endeavour.

The first is with regard to the development of emergent networks alongside investment in more mature and established clusters (the more conventional focus of innovation policy). These networks broaden innovation policy in sectoral terms and we are now seeing the developmental narrative embrace Foundational Economy sectors, which dwarf the Knowledge Economy sectors in employment terms. Alongside Foundation Economy-centred initiatives, there are moves to support innovation in public services. For example, the CCR investment in a fund to support challenge-orientated innovation in the public sector. This may be seen as a complement to the support for the compound semi-conductor cluster in south-east Wales but we should explicitly acknowledge that the scale of support for the latter is much greater than the former. Nonetheless, and while they are distinctive in nature, both such initiatives are reliant on developing collaboration across a variety of actors. In seeking to generate the trust and transparency that is crucial to creating and sustaining collaboration, a lack of consistency and clarity in policy across multiple levels (the vertical tension) can be regarded as a challenge in all the city-regions.

A second and related point is the common concern to identify ways in which the various intra-regional differences (the horizontal tension) could be addressed in inclusive ways, that is the spatial aspects of inclusive innovation within city-regions. This can be seen, for example, in the approach of GM which seeks to combine support for innovation zones in Manchester city centre and Salford with plans for new developments in the northeast growth corridor in Rochdale and Bury. The three cases each exemplify the need for tailored policy mixes in meeting the heterogeneous needs of the respective city-regions.

Third, the cases support the emergent literature on the role of narratives in shaping regional policy change (see for example Ornston 2021), thus highlighting the

potential for a coherent and perhaps ambitious narrative to help inform and sustain more inclusive innovation developments across the city-regions. Interlocutors involved in the research spoke to the importance of projecting a positive story, notably in Cardiff, while, in the Manchester context, narrative was seen as important for policy coherence around inclusive growth. Of course, the role of narratives in securing resources is perhaps worthy of further consideration (particularly against the backdrop of austerity) and the three cases we consider appear to exhibit different proclivities with respect to collaborative storytelling.

Fourth, it is important to note that wider investment priorities in infrastructure are key in producing the conditions for inclusive innovation activity and seeking to ensure the peripheries are not excluded. This refers to both physical infrastructure, for example with regard to transport and facilities, but also the institutional capabilities and skills of the city-region as in GCR's concerted efforts on skills and social mobility. This is a central aspect of the triple helix approach in all three regions. Here, established relationships between local government and higher education remained important but there were signs of change, for example with an increasing recognition of the role of further education in an inclusive approach, and also in questions over the capacity of universities to deliver to an evolving agenda.

Fifth, in all three regions the need for better data was cited. Data were seen as crucial in at least two ways: to guide choices regarding investment and to evaluate outcomes. One might argue that the inclusive innovation agenda adds an additional datapoint: who is participating in the production of innovation (Lee 2023). Sustainable action will require individual actors—drawing on data that both informs their direction of travel and gives them the necessary insight, legitimacy and influence—to build structures and processes and embed these features of inclusivity in (new) institutional forms. In undertaking such endeavours, actors in all three regions bemoaned the lack of a learning mechanism across city-regions, identifying a possible policy development need. The evidencing of how the policies and policy mixes are working, the opportunity to share experiences and learn from each other and even to engage in comparative experimentation across regions all speak to the need to develop the data and evidence capacities of the regions in support of inclusive innovation.

## 6 Concluding remarks

The analysis presented in this paper indicates that all three city-regions studied have started on a road towards ensuring that innovation policy and subsequent activity is more inclusive across their respective jurisdictions. Across the three city regions we find that innovation policy is broadening (albeit yet timidly) beyond support to more established clusters, and the policy mixes being considered. We also observed how regional narratives shape policy change for inclusivity, while concerted infrastructure investments are required to avoid excluding peripheries. Finally, better data is required to guide investment and track inclusive innovation participation.

Such emergent policy shifts echo a more general policy trend acknowledging that inclusive growth, particularly in the urban context (Waite and Roy 2022), re-

quires the innovation underpinning this growth to diffuse across cities and their city-regions (Lee 2023). This paper contributes empirical evidence of this trend but also highlights the critical challenges this agenda faces. It indicates that city-regions are constantly required to negotiate and coordinate relationships in a vertical sense when managing the governance of emergent innovation policy with national, regional and local government. Furthermore, there is a need to engender, foster and manage relationships in a horizontal sense with other agents of innovation within their jurisdiction. As other contributions have found, perhaps unsurprisingly, it is that power matters when seeking to establish new and experimental inclusive innovation policies and programmes (Bramwell 2021). Innovation, especially technological innovation, is often considered to be dominated by the strategies of the local private sector, universities and the like, particularly in more left behind places (Zehavi and Breznitz 2017; Schrock and Lowe 2021).

Breaking down these barriers, which are often both real and a perception, is clearly no easy or straightforward task, with the result being that effectively embedding a culture of inclusive innovation in city-regions, such as those based around Cardiff, Glasgow and Manchester, remains a fragile endeavour that requires careful, sensitive and sustainable intervention. Much of this will rely on the capability and capacity of the agents—both human and organisational—involved to create the types of change that will engender a socio-spatial widening of innovation in all its forms. Therefore, success will rest on the long-term engagement of agents that are able to generate the behavioural change leading to establishment of the type of open and inclusive networks that are known to be at the heart of effective innovation-led path development in lagging places (Huggins and Thompson 2023).

Fundamentally, the more city-regions are able to build flat and equitable networks the more likely they are to succeed, but as indicated they also need sustained empowerment (Bramwell 2021; Lee 2023). Such empowerment is usually equated with resource and finance, and clearly this is true across the case study city-regions. For inclusive innovation to flourish it will need to be granted the status and some of the resources that are allocated to conventional technology-led innovation activity. However, a highly salient finding from this study is that empowerment is equally related to having the necessary data to convincingly establish and enact new inclusive innovation policies. Of course, a lack of relevant subnational data is a well-rehearsed argument within urban and regional studies but it is of additional relevance when addressing experimental policy interventions.

Finally, our three city-regions provide insights into the specific challenges presented by the complex governance arrangements that are germane but distinctive in each. To tap the potential of the sectoral and the spatial dimensions of inclusive innovation, the city-regions will need more resources, more capacity and likely more flexibility from the centre, which inevitably turns attention to multilevel governance arrangements (Barzotto et al. 2020). Arguably, this is the major factor that stymies local development in the UK.

In the UK, the key factor in how inclusive innovation is able to develop at city-region level is the likely change in government in 2024. An incoming Labour government is expected to adopt strategies to boost devolution capacity in the nations and regions of the UK, and, should this come to fruition, this may help all three

city-regions to access more resources, to build more institutional capacity and secure more flexibility with respect to the way local funds are spent. At the very minimum the city-regions will need multi-annual funding along the lines of the ERDF pots and away from the short-term competitive funds that are limited by the 3-year Spending Reviews currently set by UK Treasury. This will give the city-regions more stability and clarity and more relative autonomy to design policies that are better attuned to local circumstances.

Lee's (2023, p. 10) call that "as cities take responsibility for innovation policy, it is important for them to think through how inclusive strategic choices are, who is participating in the production of innovation, and how the consequences of innovation develop", provides an obvious direction for future research. First, researchers may play a useful role in the co-design of inclusive innovation activities. That is, researchers can bring into play ideas on how inclusive innovation works in other contexts to inform initiatives local to them. Second, there is an important role for monitoring and evaluation, and testing what works and does not work (in the spirit of experimental governance (Coenen and Morgan 2020)). Beyond the more practically engaged roles aforementioned, opportunities for wider research, such as international case comparisons and analysing how different local governance arrangements shape inclusive innovation approaches, exist. There is also a need for future research to consider a wider range of stakeholder voices as concerns the promises and pitfalls of inclusive innovation, and opportunities exist for further exploration of the ways in which narrative and storytelling can inspire and motivate collective action towards this shared ambition. This paper provides a starting point, and lays bare some key dimensions for such follow-on endeavours.

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