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Do city region policies neglect rural areas?

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ABSTRACT

A city region established around a smaller city typically has a higher percentage of its region being rural relative to city regions based around larger cities. Appreciation of this observation leads to the realisation that much of the existing literature focuses on city regions based around larger cities with small rural hinterlands. This paper develops a conceptual model outlining linkages within and beyond city regions and identifies that not all city regions embrace their rural hinterlands. To operationalise this conceptual model we draw on UK city region data collated from policy documents and socioeconomic performance indicators to analyse the long-term vision of development policies, evaluate how policymakers integrate rural areas in policy, and assess whether the introduction of city regions represents a change in policy focus and/or a change in the effectiveness of policies affecting rural hinterlands. The advantage of the conceptual model is that it is generalisable across any spatial entity and across an evolving urban-rural development landscape. Our analysis of policy documents and socioeconomic data for three UK city regions with large rural hinterlands (Aberdeen, North of Tyne, and Swansea Bay) reveals the marginalisation and peripheralisation of rural areas due to the direction of city region policies and the socioeconomic flows of resources towards their urban cores. The city region approach to development tends not to be cognizant of the potential of rural areas and our findings suggest the need for development strategies that ensure rural areas are not marginalised because disconnected rural areas experience aggravated core-periphery divisions.

1. Introduction

The city region is now considered the most appropriate geopolitical scale for the formation of economic development policies (Moisio, 2018). Although city regions have been considered since Geddes' (1915) work on *Cities in Evolution*, this century has witnessed increasing emphasis on the benefits of city regions for the concentration of growth opportunities (Beel et al., 2018; Etherington and Jones, 2018; Scott, 2019). While many commentators laud the advantages of city regions in supporting development (e.g., Brenner, 2019), critics claim city regions exacerbate problems of uneven growth (e.g., Etherington and Jones, 2016). Although Waite and Morgan (2018) acknowledge the value of city regions when addressing local issues, they warn of the risks in portraying cities as panaceas for economic and social challenges as they risk overlooking concerns both within and beyond city boundaries.

A growing body of research questions the effectiveness of city region policies in relation to rural spaces (Beel et al., 2018, 2019; Harrison and Heley, 2015), especially when imposing urban policies on

predominantly rural areas. City region research has focussed on core urban areas where city region policies may be most appropriate, such as Hack et al.'s (1996) assessment of several global city regions. Surprisingly little research assesses the appropriateness of imposing city region policies around smaller cities that have higher proportions of rural hinterlands in their city regions relative to city regions based around larger cities, and this is a critical omission from the literature as it assumes city regions based around smaller cities have as much to gain from employing city region policies as do city regions based around major cities. City region policymakers need to be cognizant that rural firms are more likely to report profits, be significantly stronger exporters of goods and services, but less likely to create 'new to the world' products or services relative to their urban counterparts (Phillipson et al., 2019), and this increases in importance for city regions that possess greater proportions of rural hinterlands. In the UK, policies that overlook the impacts of rural areas on broad economic development objectives ignore their £246bn contribution to the national economy (which accounts for 16% of England's economy), employment of 3½ million

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workers, and over half a million registered businesses (Phillipson and Turner, 2019). Appreciation of these statistics leads to the realisation that much of the literature that assesses the effects of city regions focuses on city regions based around larger cities with small rural hinterlands which skews our understanding away from city regions that have smaller cities with large rural hinterlands.

This paper examines policy foresights, futures, and visions and expands the debate that questions the effectiveness of city region deals in supporting development across city regions that are based around smaller cities and have greater proportions of rural hinterlands. We introduce a novel conceptual model that captures linkages within and beyond city regions that is generalisable across spatial entities and across a changing urban-rural development landscape. We demonstrate the strength of this approach by evaluating the impacts of UK city region policies in changing the urban-rural development landscape. Our empirical contribution to the literature stems from a deep analysis of data corresponding to three city regions: Aberdeen City Region (Scotland), North of Tyne (England), and Swansea Bay (Wales). These city regions have similar geographies with a single dominant city, expansive rural hinterlands, and large rural populations, yet differ in industrial base, degree of connectivity to London, and the influence of devolved governments. We analyse the long-term vision of their development policies, evaluate how these policies embrace their rural hinterlands, and assess whether the introduction of city regions represents a change in policy focus and/or a change in the effectiveness of policies affecting rural hinterlands. These regional similarities and differences underscore the importance of the human society (rather than industrial society) as the focus for policy.

Hereafter, the paper discusses literature on city regions as a strategy for rural and urban development and growth. Section 3 presents a conceptual framework and emphasises the importance of the direction of flow of policy initiatives and socioeconomic flows of people, spending patterns, and resources. Sections 4 and 5 present data obtained from policy documents and socioeconomic performance indicators relating to the chosen regions. Section 6 discusses the results and Section 7 draws policy implications and concludes.

2. City regionalism

Rural areas are often found to lag urban areas with their weaker measured economic performance largely associated with lower levels of productivity, education, skills, wages, and job security, which is linked with the persistent outmigration of skilled younger people (Ward and Brown, 2009). Consequently, subnational development is often seen through the lens of urban areas driving innovation and growth, with surrounding areas playing a passive role. City regions have long been considered a strategy for economic development and have become an influential level of governance for spatial planning and development policy, and the literature on city regions has increased significantly since the turn of the 21st century (Scott, 2019). The city region approach recognises interactions between localities within regions and encourages the formation of strategic decisions at appropriate spatial scales (Turok, 2009). Earlier notions of city regions considered relations between core and secondary cities (Turok, 2009) and adopted varied understandings of the patterns of urbanity, including megacities, megalopolises, mega-city regions, mega-regions, and polycentric metropolises. City region literature is global in its focus, with a rich body of research focusing on the UK (e.g., Etherington and Jones, 2018), USA (e.g., Scott, 2019), Brazil (e.g., Kanai, 2014), as well as emerging research in China (e.g., Yeh and Chen, 2020).

City regions enhance the spatial concentration of economic activities and lead to faster rates of growth by improving conditions for agglomeration economies (Nathan and Overman, 2013) with businesses and individuals both reaping benefits through proximity to larger centres. Agglomeration economies enable firms to adapt more easily to changes in the global economy (Deas, 2014) which helps to make city regions

'the ideal scale for policy intervention' since they are based on 'functionally networked, not territorially-embedded administrative geographies' (Rodríguez-Pose, 2008, p.1029). The functionally embedded nature of city region policy interventions integrate networks of firms and peoples across the urban-rural space, and hence this type of governance has the potential to overcome urban-rural divides (Harrison and Heley, 2015).

However, a critical cluster of scholars exclaim the need to recognise and address rural economic development concerns centred around rural characteristics and merits rather than through their connections with urban areas. Critics, such as Ward (2006), point to city regions as a backward step because they reproduce a rural development problem, create divisions, bring dated notions of centrality to regional economic development, and consign some places to the periphery. Harrison and Heley (2015) emphasise that rural regions struggle to develop effective economic policy when seen as peripheral, stress the need to tackle the 'rural question' in urban policy, and draw attention to the representation of rural spaces within city regions. Woods (2009) also warns against addressing rural areas solely in their relations to urban areas and marginalising rural matters within structures dominated by cities.

Discussions relating to economic development envision conflicts in promoting broad-based growth across all regions (OECD, 2012). Part of this dispute is centred around some urban economists, such as Overman (2012), who promote the need to prioritise the allocation of growth enhancing investments into successful cities that act as 'locomotives' of economic competitiveness and haul rural area 'carriages' along the development path (Shucksmith, 2008, p.63). Notwithstanding this urban-centred engine of growth perspective, rural spaces are recognised as economically valuable and merit closer conceptual focus within the context of city regions (Harrison and Heley, 2015). When rural areas are considered principally in relation to their respective urban connections then there is the potential to create further uneven growth and urban-rural disparities (Shucksmith, 2008) because it overlooks the diversity of ways in which areas outside a city can nurture their own development and growth paths (Harrison and Heley, 2015).

Although the consequences for rural areas have been highlighted in some research on city regions, few studies have sought to conceptualise these issues or address the role of rural areas within expansive city regions (Harrison and Heley, 2015). Limited research exists on rural area adoption of city region policies where no metropolitan areas exists, with a notable exception being the case of the North Wales Growth Deal (Beel et al., 2019) which cautions against applications of this policy to similar types of rural areas. Nevertheless, the literature still omits focussed considerations of urban-rural relationships in economic development within smaller city regions, which typically possess larger rural hinterlands; our paper contributes to developing this understanding.

3. Conceptual framework

The one-size-fits-all approach to regional governance is recognised as a significant factor contributing to the failure of growth policies, particularly in lagging regions where regional development strategies should be tailored according to the conditions of the region (Rodríguez-Pose, 2013). Although regional development has often followed a top-down approach, recent times have seen a shift towards a more bottom-up approach driven by local economic development policies (Pike et al., 2006).

A spatially aware city region development model that supports rural hinterlands will recognise the flows of development funds, tides of commuters, spatial dispersion of consumers with uneven purchasing powers, unequally effective transport corridors, streams of intangible knowledge and innovative ideas, and appreciate spatially correlated patterns of managerial objectives (pro-growth, subsistence, lifestyle, etc.). Fig. 1 advances a conceptual model of a spatially aware city region with significant urban-rural divisions. Assume the presence of two juxtaposing city regions each with their own rural hinterlands, with City

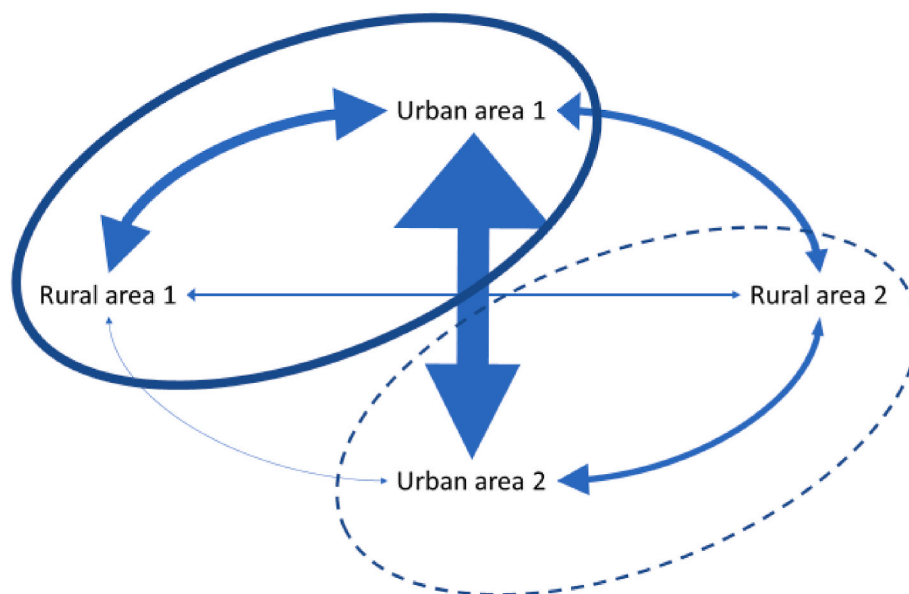


Fig. 1. Conceptualisation of city regionalism. Source: Authors' illustration

region 1 represented by the solid oval border and City region 2 represented by the dashed over border. Investment funds and other types of expenditure flow between the principle urban area (Urban area 1) and its rural hinterland (Rural area 1); when these flows are in balance (depicted by equal sizes of the arrowheads) then the city region and its rural hinterland will support each other evenly. City region 1 is a functionally integrated region and is not reliant on its neighbours (shown by the solid oval border) and benefits from resource inflows from both Urban area 2 and Rural area 2 (indicated by the relative sizes of the connector's arrowheads). City region 2 is not functionally independent – as indicated by the dashed oval – and experiences injections and withdrawals of resources from its neighbours, as reflected in policy documents and socioeconomic flows of expenditures; for instance, City region 2 could be a net loser of consumption expenditures due to commuter patterns with City region 1, so although some commuters travel from City region 1 to City region 2 for work they may actually spend most of their earnings back in City region 1. Similarly, City region 2 could benefit from city region policies that are to the detriment of Rural area 1, as highlighted by the respective size of the connector's arrowheads. The simplicity of this conceptual model enables it to be applied to any city region, is not sensitive to the underlying physical topology of the area (though may reflect it), stresses at a glance the functional and integrated strength of a city region and highlights the dominant direction of resource flows.

An advantage of this conceptual model is that it reflects the need for regional development policies to be based not on a one-size-fits-all approach but instead on an understanding of the resource flows associated with a locality and its community of actors. With rural areas displaying diverse characteristics, as highlighted by various rural typographies, an endogenous networked approach to rural and regional development could be more effective. Indeed, given the discussions of city region policies, Beel et al. (2019, p.729) emphasise that 'the need for alternative economic development approaches, sensitive to the geographies of rural localities, has never been so urgent.'

Central to this spatially sensitive perspective is that each region should be assessed on its own merits, as reflected in Fig. 1, and this applies equally to city regions that transcend national borders. Analyses of city regionalism could draw attention to connections between urban or rural areas in one country with urban and rural areas in another. New regional expressions, such as the Øresund Region which encompasses Copenhagen and Zealand in Denmark and Skåne in Sweden, have seen

little informative research within the rural development or city region literatures, particularly in relation to rural areas, and thinking along the lines illustrated in Fig. 1 could fill those gaps. In what follows we assess the policy documents and socioeconomic data of three city regions with large rural hinterlands in three nations of the UK to understand spatial connections and resource flows across city regions and illustrate our findings through an application of the above conceptual framework.

4. Materials and methods

This research follows a pragmatic approach in understanding how city region policies support rural areas. In contrast to previous research that investigates the impact of city regions on development in major urban areas (e.g., Beel et al., 2017; Deas, 2014), or on rural areas with no urban core, such as the North Wales Growth Deal (Beel et al., 2019), this paper focusses on city regions based around smaller cities with larger proportions of rural hinterlands. These city regions merit close investigation, especially where there are significant rural areas within the city region, as there is a need to address the 'rural question' (Harrison and Heley, 2015) in the way rural areas are represented within the city region. This paper undertakes a deep analysis of three city regions: Aberdeen City Region, North of Tyne, and Swansea Bay. These city regions were selected due to their similarities of having a small but dominant city with a significant rural hinterland, a large rural population, and several distinct administrative councils. Summary statistics for each city region appear in Table 1.

Table 1 Profile of the city regions.

	Aberdeen	North of Tyne	Swansea Bay
City region population	489,030	833,167	701,995
Population of main city	208,000	302,820	246,993
Urban population	56.6%	77.7%	56.3%
City region investment	£826m	£600m	£1.3bn
Administrative councils	2	3	4
GVA to UK economy (2018)	£17.47bn	£17.99bn	£13bn
Key industries	Oil, gas, fishing	Financial services	Tourism, energy
City Region created	2016	2018	2017

Sources: Aberdeen City Region (2021), North of Tyne Combined Authority (2021), and Swansea Bay City Deal (2021)

Aberdeen City Region in the North East of Scotland includes the City of Aberdeen and Aberdeenshire administrative councils. Both councils were formerly part of the Grampian council until the reorganisation of administrative councils in 1996, which included the council of Moray. This city region is home to two universities, both located in Aberdeen. While Aberdeen city has an almost entirely urban population of 208,000, the population of the Aberdeen City Region is substantially larger at 489,030 even though the largely rural Aberdeenshire has only 6 towns with more than 10,000 residents.

The North of Tyne city region, located in the North East of England, comprises the local authorities of Newcastle, North Tyneside, and Northumberland, and collectively has a population of 833,167. While Newcastle and North Tyneside locate around the Newcastle city agglomeration, Northumberland is a largely rural area and has the largest population of any of these three local authorities (316,000), with Newcastle a close second at 302,820. This city region is located north of the River Tyne, and excludes Gateshead, Sunderland and surrounding areas, which are functionally integrated with Newcastle. Two universities locate in this area, both in Newcastle.

With a combined population of 688,000, the Swansea Bay city region covers four administrative areas, including the urban areas of the City and County of Swansea, and Neath Port Talbot (which formerly made up the West Glamorgan council), as well as the rural areas of Pembrokeshire and Carmarthenshire (previously part of Dyfed along with Ceredigion). Swansea is by far the most populous conurbation in this city region, at 246,217. The city region is home to two universities, one in Swansea, and the other has campuses in Swansea, Carmarthen, and Lampeter.

Differences exist in the level of investment in the city deal, connectivity to London, and industrial structures across the three city regions. Oil, gas, and fishing are key industries in Aberdeen, financial services in North of Tyne, and tourism and energy in Swansea Bay. With one city region selected from each of England, Scotland, and Wales, our analysis also reflects differences in policies due to devolved governments.

Data were collected and then analysed through document analysis, a systematic process for evaluating text and image data from documents (Bowen, 2009), to enable the development of themes. This method is appropriate when providing an evaluation of policy changes relating to regional development as it permits the comparison of data before and after the introduction of a city region. Official policy documents, reports, and socioeconomic performance data were gathered from official websites of the city regions and relevant local authorities for a period dating back to 2000, and this totalled 14 documents for the Aberdeen City Region (see Table 2), 12 for North of Tyne (Table 3), and 11 for Swansea Bay (Table 4). These documents outline the policies and strategies of each city region and record details of agencies supporting economic development prior to the introduction of city regions. These documents collectively facilitate an analysis of long-term visions and development

policies to evaluate whether the creation of these city regions constituted a change in policy focus, and whether this influenced the effectiveness of policies relating to the development of rural hinterlands.

5. Findings

Application of the document analysis process resulted in the identification of the five themes presented in Table 5, along with explanations of their relations to each city region.

5.1. Main projects/sectors

Across all three case study city regions, the main specified city deal projects align with each area’s existing dominant sectors (Table 1) with the aims of strengthening their main activities, building on local multiplier effects, and developing ‘inclusive growth’ (North of Tyne) or ‘economic acceleration’ (Swansea Bay). For Aberdeen this primarily revolves around the oil and gas sectors and the expansion of Aberdeen harbour (Table 5). The North of Tyne prioritises energy and low carbon sectors, while Swansea Bay focusses on life sciences and energy. North of Tyne is the only city region to explicitly emphasise rural development, although Aberdeen has a project to develop an agri-food and nutrition hub. The energy sector is mentioned in documents relating to all three city regions and has a strong rural element.

5.2. Partnership in governance

Each city region represents a partnership between local authorities and other stakeholders, with close associations held with central and, where relevant, respective devolved Governments. Governance structures differ between city regions, with North of Tyne being the only one with an elected Mayor chairing the Combined Authority Leadership Board. The Aberdeen Joint Committee has nine members, with three from each of the Aberdeenshire Council, the Aberdeen City Council, and the Opportunity North East group. Swansea Bay is governed by a Joint Committee which is made up of the leaders of each of the four local authorities and chaired by one of these members, as well as an Economic Strategy Board of 14 members comprising four local authority leaders, two representatives from life sciences and well-being, two representatives from Higher and Further Education, one private sector board chair, and five further private sector programme board chairs. Hence, governance across these city regions is integrative and diverse to ensure a degree of representation.

5.3. The role of rural areas

Relatively few references are made to rural areas across the city regions’ policy documents. North of Tyne is the only city region to set out

Table 2
Frequency of key terms across Aberdeen City region policy documents.

	Total Pages	Rural	Hinterland	Tourism	Agriculture	Food	Fish
Aberdeen City Region Deal	20	1	0	0	6	26	3
Aberdeen City Region Deal Annual Report 2019-20	46	3	0	3	3	32	0
Aberdeen City Region Deal Annual Report 2018-19	46	3	0	3	7	45	2
Aberdeen City Region Deal Annual Report 2018	32	0	0	6	6	34	3
ONE Regional Economic Strategy 2018-33	16	3	1	20	12	28	12
Aberdeen Economic Policy Panel Report 2018	123	2	0	33	16	62	13
Aberdeen City and Aberdeenshire Structure plan 2007-30	26	3	0	1	0	1	0
Destination Aberdeen and Aberdeenshire 2018-23	20	0	0	44	0	14	0
A focus Regeneration Strategy for Aberdeenshire 2013-18	12	6	0	1	0	5	0
The Economic Action Plan for Aberdeen City and Shire 2013-18	16	2	0	11	0	12	0
Aberdeenshire Council Economic Development Annual Review 2016-17	40	6	0	14	14	40	31
Aberdeen local development plan 2017	123	3	0	5	3	13	3
Aberdeenshire Local Development Plan 2012	19	37	0	2	3	0	0
Regional Skills Strategy Aberdeen City and Shire	22	0	0	3	1	4	0

Source: Authors’ calculations

Table 3

Frequency of key terms across North of Tyne city region policy documents.

	Total Pages	Rural	Hinterland	Tourism	Agriculture	Food
North of Tyne Devolution Deal	22	22	0	2	0	0
North East Local Enterprise Partnership Annual Delivery Plan 2020-21	37	8	0	4	0	0
North East Local Enterprise Partnership Annual Review 2019-20	11	9	0	2	1	1
North East Local Enterprise Partnership Annual Delivery Plan 2019-20	33	10	0	0	0	0
North East Local Enterprise Partnership Business plan 2018-19	10	0	0	0	0	0
North East England Regional Economic Strategy 2006-16	73	103	2	24	3	8
Northumberland Economic Strategy 2015-20	79	46	4	39	21	4
Newcastle Upon Tyne Development Plan Policies 2010	90	7	0	16	2	2
Strategic Development Framework Plan for the River Tyne North Bank 2010	146	8	3	15	0	3
North Tyneside Local Plan 2017	231	9	0	32	17	32
River Tyne North Bank Strategic Development Framework Plan Report 2009	24	0	0	3	0	0
Newcastle City Deal 2012	15	0	0	0	0	0

Source: Authors' calculations

Table 4

Frequency of key terms across Swansea Bay policy documents.

	Total Pages	Rural	Hinterland	Tourism	Agriculture	Food
Swansea Bay City Region City Deal	19	4	4	0	0	0
Swansea Bay City Region: A City Deal 2016-35	24	4	4	1	0	1
Swansea Bay Joint Committee Annual Audited Statement of Accounts 2019-20	73	2	0	0	0	0
Swansea Local Development Plan 2010-25	244	164	1	91	7	31
Carmarthenshire Local Development Plan (2014)	11	9	2	10	1	2
Carmarthenshire Local Development Plan 2018-33	35	48	0	2	2	0
Local Development Strategy for Rural Carmarthenshire (2014)	8	30	0	6	3	6
Carmarthenshire Well-being Plan 2018-23	20	9	0	1	0	1
The LDP and the Pembrokeshire Economy (2010)	63	32	4	51	21	12
Local Development Plan: Planning Pembrokeshire's Future (2017-33)	200	117	4	15	4	10
NPTCBC Local Development Plan 2011-26	146	15	1	108	6	8

Source: Authors' calculations

policy through a Rural Productivity Plan, which aims "... to maximise their impact and facilitate a genuinely place-based approach" (North of Tyne Devolution Deal, Government 2018, p.20). That Plan documents 22 references to rural aspects (Table 3), and references key industries of tourism, agriculture, and food production, which are especially significant for their main rural area: Northumberland. The Northumberland Economic Strategy 2015-20 ((Northumberland County Council, 2015), p.5) points to a "... diverse business base across what is a large rural economy where we are establishing a Growth Network to package up deliverable investment opportunities." The North East England Regional Economic Strategy 2006-16 (One North East 2006, p.16) also speaks of rural areas as "... some of our greatest assets." This city region's plans explicitly acknowledge the importance of the rural economy, but the same is not the case for our other city regions.

While Aberdeen City Region policies do not directly address the specific needs of rural areas, it does acknowledge the importance of digital infrastructure in supporting development across all parts of the region: "To make rural areas more competitive will require investment in ultrafast fibre along the development corridors to key employment centres and leisure locations" Aberdeen City Region Deal, 2020, p.14). Recognition of the need for growth in rural areas is documented in the Aberdeenshire Local Development Plan 2012 (Aberdeenshire Council, 2012, p.7), implying that this is an ongoing issue in rural areas of the region: "In more remote rural areas (including areas identified as regeneration priority areas) the greatest need is to promote economic rural development." That planning document outlines sustainable rural development goals relating to housing, renewable energy, and minerals, but also acknowledges opportunities to broaden the rural economy through retail developments of "destination shops" (p.6), including farm shops that act as visitor attractions that play a role in sustainable rural development across Aberdeenshire. Although references to rural areas are limited within Aberdeen City Region documents, rural-based sectors, such as food, agriculture, and fishing, are well represented, including plans for an Agri-Food and Nutrition Hub for Innovation, located in Aberdeen.

Aberdeen City Region's plans therefore have a focus on industry rather than place.

City region policy documents for Swansea Bay contain very few references to rural areas or sectors. The Swansea Local Development Plan 2010-25, published by Swansea Council, contains references to rural areas and acknowledges the importance of tourism in the local area: a "buoyant rural economy is needed to support the overall growth of the County, and to help sustain community life. Sustainable tourism provides a key means of delivering this growth and providing good quality local jobs" (p.14). However, tourism is a notable and surprising omission from economic development projects within this city region's policy documents, especially as tourism is a major part of the Swansea Bay rural economy, particularly in Pembrokeshire and the Gower Peninsula. No reference is made to agriculture or food production, which again are important aspects of this city region's rural economy, particularly in Pembrokeshire and Carmarthenshire. Although the energy theme traverses the rural landscape, particularly in developing more sustainable sources of energy, the Pembroke Dock marina energy project is the only rural-based energy project, with no mention of other sources of sustainable energy development progressing across rural parts of the city region, such as wind, hydroelectric, or solar. The omission of these locally important sectors – tourism, food, agriculture, and the breadth of energy – seriously questions the inclusiveness of rural areas within this city region's projects. It can only be concluded therefore that the recognised importance of rural areas is inconsistent across city regions.

5.4. Dynamics

Most projects detailed in the different case study city regions are found in and around the city region's core city. As few projects are in rural areas it is necessary to explore their evolving urban-rural connections, and this is mostly manifested through evaluating transport connections and commuter flows.

Geographically, the city of Aberdeen is at the heart of its city region

Table 5
Thematic analysis findings.

Theme	Aberdeen	North of Tyne	Swansea Bay
Main projects/ sectors	Oil and Gas, agri-food and nutrition, biotherapy, digital infrastructure fund, expansion of Aberdeen Harbour, and a strategic transport appraisal	Education and skills, employment, energy and low carbon, internationalisation and competitiveness, housing and land, rural growth and stewardship, digital infrastructure and 'smart data'.	Economic acceleration, life science and well-being, energy, smart manufacturing and digital
Governance	Joint Committee (9 members) with 3 seats each for Aberdeen City council, Aberdeenshire council, and the Board of Opportunity North East.	Elected Mayor, who chairs the North of Tyne Combined Authority Leadership Board, comprising 2 members from each local authority.	Economic Strategy Board (members from public and private sectors), Joint Committee (of the 4 council leaders).
The role of rural areas	Very limited focus on rural areas in the city region document, but some focus on rural sectors, such as food, fishing, and agriculture. References to these sectors are more prominent in local authority documents.	The city region document outlines the rural productivity plan, although few references are made to rural sectors. More references to rural sectors are evident in other policy documents.	Very limited focus on rural areas and rural sectors in the city region deal. Local authorities acknowledge the importance of tourism, food, and agriculture.
Dynamics	Strong focus of city region policies towards Aberdeen city, or its close vicinity. Outer parts of the city region see little policy focus, but transport connections are relatively good.	Most city region policies are targeted towards the wider Newcastle city area, but most of the region has transport links to some remote rural areas.	Strong focus of policies in urban areas around Swansea. Limited transport links across the region with some remote rural areas in the North West of the region.
Collaboration beyond the region	Cooperation with the Scottish and UK governments, as well as the Opportunity North East private sector group.	Cooperation with the UK government, and close associations with the North East Local Enterprise Partnership, North East Combined Authority, and Northern Powerhouse.	Cooperation with the Welsh and UK governments. References to links with the 'Growing Mid Wales' deal.

Source: Authors' calculations

and has good connections to its wider region. Projects to upgrade rail links across this region, develop the Aberdeen Western Peripheral Route, and improve Aberdeen airport should all improve transport links within the region and internationally. As both local authorities had previously been part of the same council area, cooperation between Aberdeenshire and Aberdeen City councils and transport links across the wider region are commendable. These strong associations are reflected in commuting flows: although Aberdeen City had over 122,000 resident workers in 2001, there is a significant number of commuters into the area (37,710), mostly from the rest of Aberdeenshire (Scotland Census, 2006) due in part to the physical typology of the city region and the distances

between competing conurbations. Fig. 2 summarises the direction of development initiatives and flows of spending connected with the Aberdeen City Region, with an important issue here being the strong effective city region boundary partly reflecting limited leakages but also significant inward investments in the oil industry. Aberdeen City Region's policy documents, transport network, geospatial topology, and commuting patterns reflect the operation of this city region as a functionally appropriate geopolitical scale for the formation of economic development policies.

The same deduction cannot be made for the Swansea Bay city region. While road and rail infrastructure link the most significant towns of the region to Swansea, less well connected are the northern parts of Carmarthenshire and Pembrokeshire which have no motorway, dual-carriageway, railway lines, or regular public transport, and thus lie outside of the travel to work area of Swansea. The ports of Fishguard and Pembroke Dock in Pembrokeshire have international ferry services to Ireland, leading to strong connectivity outside of the city region. Market towns across the region represent important hubs for retail, leisure, and local services, particularly in rural areas of Carmarthenshire and Pembrokeshire, and also act as important transport hubs. The city region recognises that "the region is large and diverse containing both urban centres and a wide array of rural locations with distinctive yet inter-connected economies and communities" (Swansea Bay City Region City Deal, Government, 2017, p.6), but it makes no reference to these market towns.

Fig. 3 depicts the direction of development initiatives and flows of spending connected with the Swansea Bay city region. In addition to the policy documents discussed above, this figure draws on Experian (2018) data and highlights that the flows of investments and people is very low in Pembrokeshire which has a net-outflow of commuters and an inflow of only 1860 commuters; the physical geography, topology and road network of this area means that the main destination for out-commuters from Pembrokeshire is Carmarthenshire. Similarly, Carmarthenshire has a dominant outflow of commuters with 50 percent more outflowing than inflowing. The main transport artery out of Carmarthen is eastwards along the A48 and onto the M4 towards Neath and Swansea. Neath has 44 percent more out-commuting than in-commuting, which is mainly into Swansea, Port Talbot, or Cardiff. Swansea city has 21,640 in-commuters but it also has a large outflow of 13,970 commuters who travel to either Neath, the Port Talbot steel works, or Cardiff, which itself attracts nearly 60,000 in-commuters and is the dominant neighbouring city. Gower is well-known for its commuters into Swansea, including the associated road congestion, but also the inflows of tourists to this Area of Outstanding Natural Beauty. This city region's policy documents and the commuter- and tourist-driven spatial patterns of spending lead to the inference that the Swansea Bay city region is dysfunctional, with a weak geopolitical scale for the formation of economic development policies, and limited recognition of or support for its rural hinterland.

An important characteristic of the North of Tyne city region is its unusual spatial reach. The North of Tyne city region encompasses areas north of the River Tyne, including Newcastle, North Tyneside, and Northumberland, but not the proximate conurbations of Sunderland (population of 278,000 in 2020 and only 10 miles from Newcastle), Gateshead (connected by seven bridges to Newcastle), or the two-million square feet of the regional shopping centre (MetroCentre) which is less than a kilometre south of the city region. Four councils south of the river (County Durham, Gateshead, South Tyneside, and Sunderland) make up the North East Combined Authority, which cooperates closely with North of Tyne. Northumberland's Local Transport Plan 2011–2026 (Northumberland County Council 2010, section 2.13) reminds us that "Northumberland's economy cannot be divorced from that of Tyneside – almost a third (28%) of the workforce commute to Tyne and Wear on a daily basis." It is easy to conclude that the functioning of the North of Tyne city region is far from independent of the functioning of the wider North East region.

This city region's policy documents refer to collaborations between

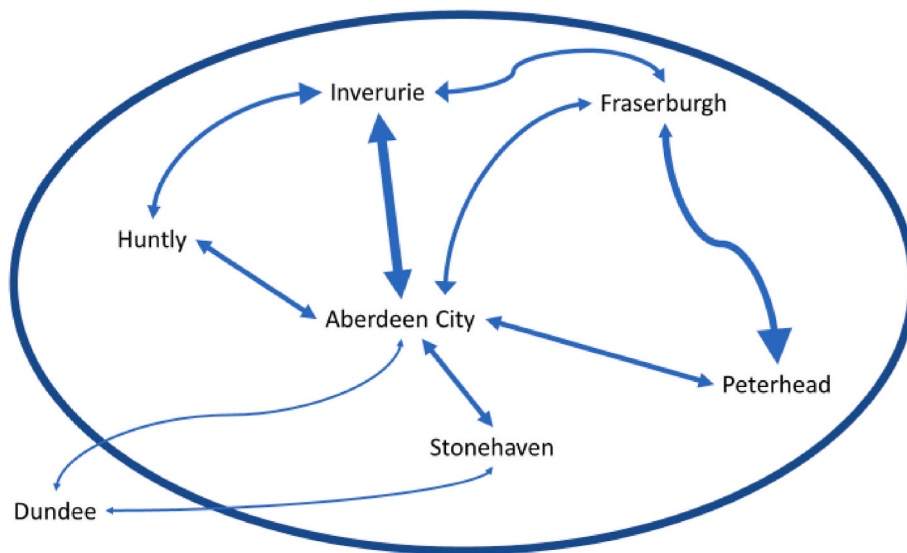


Fig. 2. Functionally integrated Aberdeen city region. Source: Authors' illustration

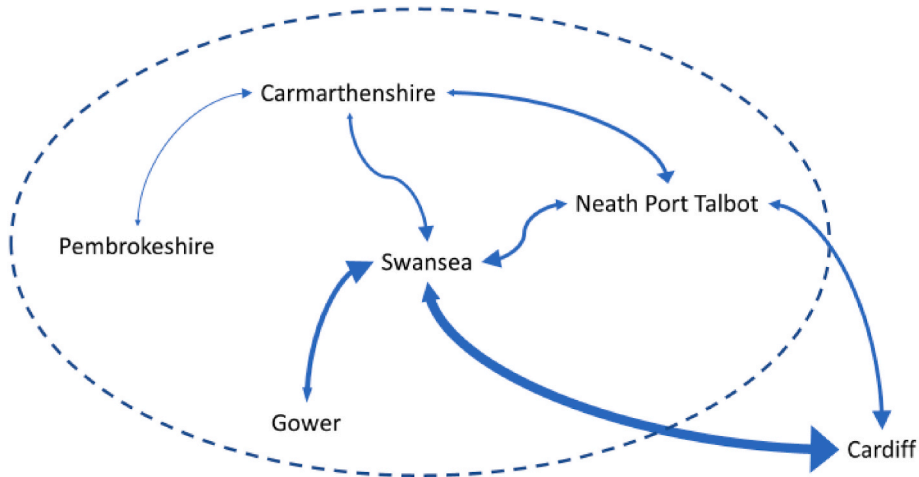


Fig. 3. Swansea Bay's social construction of a city region. Source: StatsWales. Source: Authors' illustration

these contiguous geographical areas and others across the north of England in what is referred to as the Northern Powerhouse. These juxtaposing areas have a long history of policy linkage, such as the Northumberland Local Transport Plan 2011–2026 (Northumberland County Council 2010, section 2.11) stressing the need for “Accessibility within and between city regions – improved access by public transport” and the initial city region policy document from 2012 set out a city region plan for a Newcastle-Gateshead Accelerated Development Zone. The creation of the North of Tyne city region marked either a change in strategy for enhanced division or an extra layer of governance to take advantage of contemporary governmental policy favouring city regions. Fig. 4 depicts the overlapping ties between the North of Tyne city region with its surrounding areas, with the most important being the porous boundaries (injections and withdrawals) that make the city region a subset of a wider functionally strong geopolitical powerhouse. So, although North of Tyne city region recognises the importance of its rural hinterland, it is far from being functionally independent and relies heavily on the dynamics of its wider region.

5.5. Collaboration beyond the region

Collaborations beyond city region boundaries are emphasised in

Figs. 2–4 but to different degrees. The Aberdeen City Region aims to connect with other city regions across Scotland and develop an international focus partly driven by the need to capitalise on the oil and gas sectors though in relative terms this is quite weak with relatively low resource flows as summarised in Fig. 2 by the solid oval border and the thin arrows out of the city region. This city region aims to “... work with the Regional Economic Strategy Group that is comprised of and draws expertise and collaboration from the Strategic Development Planning Authority, the Regional Transport Partnership, NESTRANS, Scottish Enterprise, Skills Development Scotland and Aberdeen and Grampian Chamber of Commerce” (Aberdeen City Region Deal, 2020, p.9). The location of Swansea Bay in the south west corner of Wales means that connections with the Cardiff Capital Region are extremely pertinent, though possibilities exist to link the city region with Ireland through ferry services, and references are made in policy reports to collaborating with the Mid Wales Growth Deal. The Swansea Bay city region is therefore functionally interdependent with areas outside of the city region, as shown in Fig. 2 by a dashed oval border and with strong outflows to Cardiff.

The North of Tyne region is positioned near to cities across the north of England, such as Leeds and Manchester, and associations are made to a Northern Powerhouse. Connections are evident to the north with the Borderlands growth deal in southern Scotland and with the city of

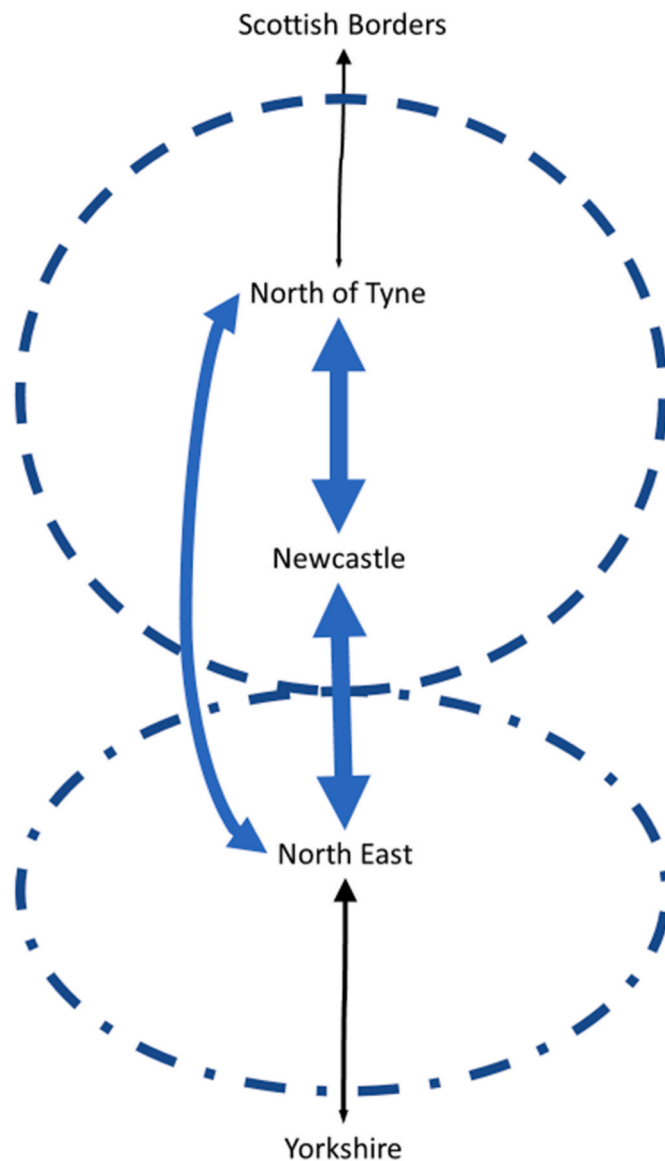


Fig. 4. North of Tyne city region's porous boundaries and collaborative flows. Source: Authors' illustration

Edinburgh. North of Tyne references collaborations with the North East Local Enterprise Partnership and with the North East Combined Authority: “The NTCA will also work with other partners across the North of England to promote opportunities for pan-Northern collaboration, including Transport for the North, to drive northern productivity and build the Northern Powerhouse” (North of Tyne Devolution Deal, Government 2018, p.6). The North of Tyne city region is therefore also highly functionally interdependent with external areas, as shown in Fig. 3 by a dashed oval border and with strong outflows to the North East city region and further afield.

In Scotland and Wales, the devolved national governments develop regional development initiatives: both the Swansea Bay and North of Tyne regions are part of larger NUTS2 regions that recently received EU structural funds. These forms of multilevel governance question how city region governance structures fit with other governance layers and how these city regions could sustain a clear identity and functionality, both locally and outside the region.

6. Discussion

The five themes presented in the previous section underline differences between the case studies on the ways in which these city regions are governed, their policies, their inter-region dynamics, links beyond the region, and the role of rural areas. These observations show that most of these city regions' policies are directed at urban parts of their regions, particularly the urban core city. City region policy documents for Aberdeen City Region and Swansea Bay contained few references to rural matters, whereas the North of Tyne deal contained a Rural Productivity Plan but with other strategies focussed on urban parts of the region. Tourism, which was prominent in local authority documents, was overlooked in city region deals. Here the findings support discussions of governance in city regions by Harrison and Hoyler (2014), and more notably in the context of the ‘rural question’ by Harrison and Heley (2015), as rural areas remain largely overlooked in city region policy.

Although the documents reference notable rural-based industries, such as agriculture and food, these were considerably less frequent than in policy documents for individual local authorities, inferring that localised issues are best served on a local level where localised issues are better understood. It seems that city region governance structures quieten rural voices, as city region policies aim to serve general needs across their whole region.

While city regions are considered ‘locomotives’ of economic competitiveness that haul their rural ‘carriages’ (Shucksmith, 2008, p.63), our findings question whether this is actually the case, as it is unclear whether rural areas are integrated into city region policies. Rural integration is present in Aberdeen City Region's policies, but they are conspicuous by their absence for Swansea Bay. These findings corroborate Ward's (2006) criticisms of city regions in bringing dated notions of centrality to regional development and creating further core-periphery division.

Evidence from these case studies underlines ambiguity of the ‘rural question’ in urban policy (Harrison and Heley, 2015). The marginalisation of peripheral regions is consistent with Woods' (2009) and Harrison and Heley's (2015) findings that regions fail to develop effective economic policies for peripheral areas, underscoring that areas such as Pembrokeshire and rural parts of Northumberland may not be suited to a city region approach. The relational networking of rural areas to an urban core could create uneven growth for rural areas (Shucksmith, 2008), either by intent or by design. Indeed, Beel et al. (2019) question the viability of applying urban growth models to areas where no metropolitan core exists, as seen in the North Wales Growth Deal.

Although the city region may be considered ‘the ideal scale for policy intervention’ (Rodríguez-Pose, 2008, p.1029) for some areas, observations of the city regions in this research reveal that a city region approach will not suit every region. Differences exist in the way a city region approach applies to each area, particularly in the ways that rural areas are integrated into city region policies. While each city region may promote attractive industries with potential for high-value job development, their foci do not always align with the region's resources.

Our analysis shows that some regions did align policies with industries that were dominant in their rural areas, such as energy in Swansea Bay and fishing in Aberdeen City Region, but these represented only a small part of a city region's strategy. Cooperation with local universities was a notable part of each city region policies, but these universities are located in core cities which may reduce the potential for engagement with more peripheral areas and limit opportunities for innovation and knowledge exchange (Rodríguez-Pose, 2013) with more rural areas. Findings from this research underscore that a one-size-fits-all approach appears less effective in regional development (Tödting and Trippel, 2005) and the need for alternative approaches to develop regions sensitive to rural geographies (Beel et al., 2019).

Inter-region relations are crucial for rural development and limited focus on rural areas of city regions preserve core-periphery challenges. This is prevalent in Swansea Bay, where parts of Pembrokeshire and

Carmarthenshire possess little connection to the city region, and in North of Tyne, where remote areas of Northumberland are more closely aligned to Scottish Borders than to Newcastle. While rural areas can benefit from city region spillovers, this is conditional on the non-marginalisation of those rural areas (Pemberton and Shaw, 2012).

Collaboration with other regions appears crucial for rural and urban development. In Aberdeen City Region and Swansea Bay, collaboration is seen on a national level within Scotland and Wales respectively, and be associated with national identity and the role of devolved governments. The geography of Swansea Bay in the western corner of Wales means that it would naturally gravitate towards Cardiff to the east, but with no adjoining region to the west, closer connections between Swansea Bay and eastern parts of Ireland are explored to stimulate development. Globalisation has drawn regional development away from the nation state (Tomaney and Ward, 2000) and enabled cross-border city regionalism, such as the Øresund Region between Denmark and Sweden. Although the Aberdeen City Region is relatively distant from other major city regions, policy documents refer to opportunities for the region through international flights and its global role in oil and gas production. These inter-regional linkages support the conceptual framework outlined in Fig. 1 and applied in Figs. 2–4, which presents a model of internal and external links between urban and rural parts of each region. While development in rural areas is often supported by urban areas, this support may not be from their nearest urban area, or even the urban area within their city region, as links exist across regional dimensions.

6.1. Towards a typology of city regions

Our analysis of the three case studies enables the initiation of a categorisation of city regions into a typology according to context. Distinctions based on differing regional dynamics, governance structures, cohesion, and collaboration beyond the region (Table 6) lay the foundation for a typology based on whether the city region is either ‘logical’, ‘improper’, or an ‘amalgam’.

Aberdeen City Region is a ‘logical’ city region, as it represents both the city of Aberdeen and its hinterland, with the two local authorities of Aberdeen City and Aberdeenshire having developed combined policies. Aberdeen is located relatively centrally within its city region, which facilitates connections across the region through a structured transport network. Aberdeen City Region policies are an extension of existing policies, which aim to build on the assets of the region.

North of Tyne is an ‘improper’ city region, as the region does not represent a logical collaboration between all parts of the region, especially since the main agglomeration around Newcastle-Gateshead is divided. The Newcastle-Gateshead agglomeration is a more natural combination due to its geography and integrated metro system. This connection is evident in the collaboration between the North of Tyne and the North East combined authorities. Despite the division of this

Table 6
City regions typographies.

Typography	Description	Case study	Other examples
Logical	City region based on logical linkages across the region	Aberdeen	Greater Manchester, West Midlands
Improper	City region created for the purpose of creating a city region, bringing together different areas into a region	North of Tyne	Leeds city region, North East Combined Authority
Amalgam	City region created with some parts of the region that naturally link together and others that are included due to geographical proximity.	Swansea Bay	West of England, Liverpool city region, Edinburgh and South East Scotland City Region

Source: Authors’ calculations

agglomeration, the North of Tyne deal focusses on relevant policies for the whole city region, including a growth strategy for some rural areas.

Swansea Bay is an ‘amalgam’ city region, as it combines not only urban and rural areas that are naturally linked to Swansea through transport links and the travel to work area, but also isolated rural areas of Pembrokeshire and northern parts of Carmarthenshire that possess poor connections with the city region. Indeed, these parts of the city region have largely been overlooked in the Swansea Bay city region’s policies, and it is difficult to recognise that people and businesses located in these rural areas have any tangible benefits from being part of the Swansea Bay city region.

7. Conclusion

This paper contributes to discussions of the rural question within city regions policies, adding weight to debates of the value of city regions to rural areas. This is critically important because not being cognizant of the beneficial roles of rural firms, such as being more likely to report profits and being more frequent exporters relative to their urban counterparts, could result in inferior government policies that are to the detriment of residents’ quality of life and standard of living. This study augments understanding of the effectiveness of city region policies and specifically evaluates whether city regions support their rural hinterlands when the city region is established around a smaller city that typically has a higher percentage of its region being rural relative to city regions based around larger cities.

Our first contribution comes from conceptualising a model that corresponds to city region policies and resource flows. We sourced information from policy documents and socioeconomic data for three UK city regions based around smaller cities with larger rural hinterlands. These city regions possess similarities in some physical geographical attributes but naturally possess a variety of idiosyncrasies including industrial bases, connectivity to centres of population, and the influence of devolved governments.

Applications of document and thematic analyses to policy documents illustrate unambiguously that not all city regions fully embrace their constituent areas, with rural areas often overlooked. While the core city of a region may understandably be the focus of city region policies as the centre of population and economic activity in the region, policies should seek to ensure a balance of development across all parts of its region. Rural areas may benefit from spillover effects when integrated into a city region, but suitable development strategies should be established to ensure that parts of the city region are not marginalised.

Findings reveal that each city region adopted projects with foresight and visions of the future that targeted strategically important local industrial sectors, but which were mainly confined to urban areas. Spillover effects to rural hinterlands were considered in passing but mainly through chain reactions rather than through the implementation of directly beneficial policy interventions; this questions whether the city region acts as a veil in attempting to be inclusive. The supply focused lens of city region policies based around foresight and visions of the future typically fail to fully comprehend the interconnectivity of demand and supply factors that together alter the dynamism of territorial development. We conclude that city region policies fail to develop new spatial imaginaries and refine strategic policies to enhance development and adequately redress their core-periphery divide.

Although the varying availability of policy documents across the three city regions may limit the depth of possible analysis, analysis of policy documents is a valid method and effectively reveals more nuanced depth of insight than quantitative expenditure indicators alone. The ever-increasing amount of policy documents permits greater future exploration, reflection, and learning from past experiences, and this type of in-depth analysis can be replicable. Future research could build on this approach to investigate the rural question from a city region perspective given the expectation of an expansion in the number of city regions globally. However, this research emphasises that although city

regions based around larger cities with smaller percentages of rural hinterland with more natural connectedness, our findings illustrate that city regions based around smaller cities that typically have higher percentages of its region being rural and have few practicable connections to their urban core experience an aggravation of core-periphery divisions with the city region governance structure.

CRedit authorship contribution statement

Robert Bowen: Conceptualization, Data curation, Formal analysis, Validation, Writing - original draft, Writing - review & editing. **Don J. Webber:** Conceptualization, Investigation, Methodology, Resources, Writing - original draft, Writing - review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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