The Context for Innovation in Peripheral Rural Regions

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Workshop on Innovation in Remote and Peripheral Areas

19 May 2010

Discussion Paper 2
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May 2010

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PREFACE

This paper was written for a workshop on ‘Innovation in remote and peripheral areas’ held at the European Policies Research Centre (EPRC) at the University of Strathclyde in Glasgow, UK, on 19 June 2010. The workshop was part of an exploratory study funded by the UK Innovation Research Centre, which itself is financed by the UK Department of Business, Innovation and Skills (BIS), the Economic and Social Research Council (ESRC), the National Endowment for Science Technology and the Arts (NESTA) and the Technology Strategy Board.

I would like to thank all those individuals in Austria, Finland, Norway, Sweden and the United Kingdom who gave their time and shared their knowledge in interviews. I am also grateful to Jillian MacBryde and Rona Michie for their contributions to the study, as well as to the other researchers (Stefan Kah, Kaisa Lahteenmaki-Smith and Katja Mirwaldt) who participated in the fieldwork. Lastly, I thank EPRC support staff, especially Alyson Ross and David Paul, for their practical help with the study. Any errors or emissions are the author’s responsibility.
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1. INTRODUCTION: IS THE CONTEXT FOR INNOVATION DIFFERENT IN PERIPHERAL RURAL REGIONS?

There has been a strong focus on the context in which firms innovate since at least the early 1990s. Numerous studies have focused on the concept of ‘innovation systems’, or the institutions and organisations that influence innovation in a particular country, region or sector.\(^1\) Policy-makers in different countries and at an international level now use various approaches for analysing and monitoring the innovation context. For example, the OECD and European Union publish an Innovation Scoreboard which ranks countries on the basis of a composite index, made up (in 2008-10) of 31 indicators relating to the context for innovation.\(^2\) These indicators are divided into seven categories, namely human resources, finance and support, business investment, linkages and entrepreneurship, throughputs (e.g. patents), innovators, and economic effects.

This paper provides a qualitative assessment of the particular characteristics of the context for innovation in remote areas compared with other regions. It draws on a model of the innovation context which was developed as part of NESTA’s work on the UK’s Innovation Index which aims to provide a method for comparing the innovation context across countries and over time.\(^3\) The model draws on 35 indicators which are grouped into seven categories, namely entrepreneurship, skills, access to finance, public research, competition, openness, and demand. The final section of the paper outlines some policy reflections and raises questions for discussion.


\(^2\) [http://www.oecdilibrary.org/content/book/sti_scoreboard-2009-en; European Commission (2009)]

\(^3\) N. Miles, C. Wilkinson, J. Edler, M. Bleda, P. Simmonds and J. Clark (2009) *The wider conditions for innovation in the UK: how the UK compares to leading innovation nations*, NESTA.
2. CONDITIONS FOR INNOVATION

2.1 Entrepreneurship

There are two contrasting views of entrepreneurship in peripheral rural areas. On the one hand, low population density means that there are relatively few firms, while small local markets implies that many firms are very small and are overwhelmingly in sectors which are not usually seen as innovative, such as consumer services, tourism, agriculture/forestry/fishing, and environmental conservation and energy. Although some business costs tend to be lower in remote areas (e.g. land, labour), the price of buying many inputs (including energy) and transporting products to market is typically higher and, in some areas, the climate can generate additional costs or difficulties. Moreover, micro firms in remote areas are often seen as more conservative, resistant to change and risk averse.

On the other hand, the lack of job opportunities in larger firms or public bodies means that levels of self-employment are often high in peripheral rural areas. Similarly, it is sometimes argued that businesses in more remote areas are particularly adaptable and self-reliant because it is more costly and time-consuming to call in external assistance. This adaptability may also mean that businesses are better able to weather adversity and adapt to change when needed - as long as they pick up in time on the need to change. Moreover, high quality of life (e.g. in terms of community life, nature, safe environment) may mean that some remote areas are attractive to enterprenurial incomers or returners.

Partly due to the importance of micro firms in many remote rural economies, policy initiatives have been set up to support SMEs in these areas, providing advisory services, access to specific grants or loans, or tailored business parks. Some of these instruments focus on specific types of firm. For example, Menter a Busnes (‘Entrepreneurship and Business’) in Wales is a company that was set up in 1989 to provide advice and support to business people through the medium of Welsh, which is the main language of many rural communities. The aim was to develop entrepreneurial skills in these areas, and to embed business development in these communities. The company provides access to funding and a range of advisory services, including hands-on support for would-be entrepreneurs and young people, as well as business clubs, websites and awards for Welsh-speaking business people. Menter a Busnes now also delivers enterprise and innovation support throughout Wales, and contributes to policy development.

Other policy initiatives aim to make remote regions more attractive to businesses from outside. One example is Cornwall Pure Business, which acts as a one-stop-shop for firms moving to the region, and is run by the local development company in cooperation with other agencies. The project attracted 127 micro-businesses to the region in 2000-06, mainly in knowledge-based sectors and often to more remote areas of the region, partly by providing practical and financial support but also by addressing negative perceptions of the business difficulties associated with remoteness.

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4 http://www.menterabusnes.com/english/
5 http://www.investincornwall.co.uk/
2.2 Skills

Remote rural areas typically have a smaller and less diversified labour pool than urban areas, which can act as a disincentive to firms to set up or expand in these regions. In turn, constraints on higher education and skilled employment opportunities mean that many people leave these areas, even in countries, such as Sweden, Norway and Finland, which have well-distributed networks of higher education institutions. A related problem for businesses in remote areas may be the limited number and quality of specialist and producer service firms such as lawyers, accountants or technical consultants. However, the high quality of life in remote areas can facilitate the attraction or retention of highly skilled people, and targeted marketing has been used to this effect in, for example, Scotland’s Highlands and Islands, and Norway.

Those remote rural areas with pools of skilled labour can be successful in attracting or building new businesses. In Norway, there are a number of examples of remote areas which have seen the closure of a local industry and where new industries have been established drawing on existing local skills. Moreover, in some places, limited job opportunities may mean that there are hidden pools of skilled labour because people may choose to leave the labour market or work in a lower skilled job rather than leave the area or become unemployed.

A major strand of policy endeavour in recent decades has been the expansion of higher and further education in remote rural regions, either via the creation of universities, polytechnics and technical colleges, or through the creation of networked universities based on existing colleges and research centres (e.g. in the UK’s Highlands and Islands, Cumbria, Cornwall, and in Finland’s South Ostrobothnia). The aim is to provide better educational opportunities for local people, as well as to bring in new people, and also potentially to raise skills levels for local businesses.

Other instruments aim to improve the quality of broader training courses for employers. For example, Highlands and Islands Enterprise’s Learning Works initiative is a web-based service that provides information on training and education courses in the region. Previously, employers had often sent their staff on training courses outside the region due in part to difficulties in accessing information on local courses. This also meant that little demand for training courses was being voiced by employers, so that the training infrastructure was underdeveloped.

Further policy efforts to raise skills levels focus on increasing graduate recruitment in smaller companies. In Cornwall, the graduate placement scheme ‘Unlocking Cornish Potential’ is perceived to have been very successful in building links with smaller businesses and encouraging them to take on a graduate. This approach is seen, not only to have increased skills levels within these businesses, but also to have helped reduce the out-migration of young people from the region and, in some cases, has improved businesses’ attitudes towards higher education.

6 http://www.hie.co.uk/learningworks
7 http://www.cornwall.ac.uk/ucp/index.php?page=_Home
2.3 Access to finance

Although financial services are in principle equally provided in all parts of a country, in practice there may be fewer options for firms in remote areas to obtain private funding locally from financial intermediaries, whether banks, venture capitalists or business angels. Financial institutions are less likely to have a base in remote regions, so that businesses in these areas may need to travel some distance to meet a lender. Similarly, the sparsity of other businesses and support organisations may mean that it is more difficult for firms in remote areas to obtain obtaining information and recommendations on potential funders. Nevertheless, the situation varies across regions; in Scotland, for example, a specific Business Angel network, Highland Venture Capital, is a syndicate of 40 investors that has been set up to provide equity finance to new or growing businesses in the Highlands and Islands.8

In some remote areas, many businesses may also have characteristics that make them less attractive to financial institutions, for example very small size, lack of own capital, and limited profitability (e.g. because they operate in seasonally restricted sectors such as tourism). Moreover, to the extent that firms in remote areas are more likely to be ‘lifestyle’ rather than ‘growth-oriented’ firms, they may also be both less attractive to external investors and more reluctant to bring in a Business Angel or to take on a loan with stringent conditions.

Because of these difficulties, many remote rural areas benefit from targeted public grant, loan or venture capital schemes. In Sweden,9 for example, a number of instruments provide support to firms in northern or other remote, rural regions. Regional investment aid funds business investment projects in the so-called A and B areas (respectively the northernmost, and selected other, mainly central areas), with higher aid rates in A areas. In addition, the Employment grant provides support to firms that create new and lasting jobs in A and B areas, and the Regional grant for business development can fund investment, training or marketing projects by SMEs in rural and sparsely populated areas throughout Sweden. Further instruments are focused solely on the northernmost regions, notably the Transport grant (which aims to compensate for the additional transport costs faced by firms in taking goods to market) and reduced social security contributions (which will however be phased out in 2010). Further, the Norrlandsfonden (the Norrland Fund) provides flexible loans for investment projects, mainly by SMEs, in the five northernmost counties, with a particular focus on businesses which are innovative or have strong growth potential.10 Loans are provided in cooperation with other public bodies (e.g. county administrations, local authorities and ALMI, a public loan company) and private financiers (e.g. banks and venture capitalists).

8 http://www.highvc.co.uk/
10 http://www.norrlandsfonden.se/english/
2.4 Public research

Although public R&D centres or universities have been set up in some remote areas, public research expertise generally remains limited in these areas so that, if firms want to access public research, they are likely to have to go outside the region. One major difficulty in establishing public research centres in remote rural areas is the need for ensure that public sector funding is focused on research excellence and niches, or the impact of funding is likely to be weak. In Norway, for example, there are university colleges in all regions which provide higher education and undertake some R&D but the main national technology, science and engineering university is located in Trondheim in central Norway. Similarly, in the UK, government faces the need to ensure a balance between supporting global R&D excellence on the one hand and encouraging innovative businesses everywhere on the other.

One solution is to build on local strengths where these exist. For example, there is marine science research specialisation at Bangor University in north-west Wales, at the Scottish Association for Marine Science in western Scotland, and at Tromsø University in Norway. This approach can be facilitated by ensuring that public research in remote areas is rooted in the region’s natural or cultural resources, and to encourage cooperation with researchers elsewhere, not least given addressing funding constraints and maximising outputs.

Another solution involves network arrangements, such as the network universities being established in the Highlands and Islands, Cumbria and Cornwall in the UK. A further example is Finland’s South Ostrobothnian University Network (EPANET) which is based on a formal agreement between six universities in the region, and aims to create a larger research community and to stimulate cooperation between researchers.¹¹ Research projects focus on the following themes: IT applications; economics and business administration, marketing the food industry; and regions and welfare.

A third approach is to focus on helping local businesses to access public research, whether located within the region or elsewhere. The challenge of bridging the cultural divide between businesses and universities may be greater in remote rural areas where firms are typically very small and self-reliant, and where a business person might need to travel considerable distance to visit the only university or college in the area (whereas an urban business might be located close to a number of universities or colleges). In Scotland, the HI Links scheme aims to help businesses in the Highlands and Islands to find research or advisory partners in a university, either within the University of the Highlands and Islands, or in other universities in Scotland or internationally.¹²

¹¹ http://www.epky.fi/epanet_eng/68.html
¹² http://www.hilinks.uhi.ac.uk/
2.5 Competition

The drive to innovate is typically seen to be stronger and more continuous in large urban markets with intense competition between clusters of competing firms, and more limited in small local markets with fewer firms. However, improved transport links and internet networks have the dual effect of opening up more distant local markets to greater competition, and also of enabling firms in remote areas to compete on larger markets. This may mean that some firms in remote areas may lose market share to more competitive outsiders but could also spur some local firms to become more innovative and more active on external markets. It could also mean that firms will be able to locate in remote areas while servicing distant, larger markets, particularly in knowledge-intensive service sectors where firms in remote areas are less disadvantaged by higher transport costs.

One strand of policy related to competition focuses on finding ways of increasing the exposure of local firms to external competition. This may include investment in high quality transport infrastructure and broadband connections, which allow local businesses to compete in external markets and also to be better informed about their competitors’ strategies and about changes in the external environment. Similarly, policy can help local businesses to gain more information about their external competitors by funding small grants for travel, market research and participation in national or international or business associations. Policy-makers can also increase flows of information about broader trends and events that shape competition in specific sectors by organising physical and web-based events, with participants from outside the region. For example, Highlands and Islands Enterprise regularly organises lunch seminars with high profile speakers, which have a live audience but are also streamed on the internet so that businesses throughout the region can participate, including by asking questions both during and after the session.13

A second strand of policy support aims instead to stimulate more intense competition between local firms. Although policies for clusters or networks of firms are often seen as a way of improving cooperation between local firms, they can also encourage greater competition between local firms and thus potentially promote more innovative products and processes. Cluster policies have been adopted in a number of countries and regions, and in some cases include a focus on some remote areas, for example under Norway’s Centres of Expertise and Arena programmes, and Finland’s Centres of Expertise and Regional Centres programmes.14

13 http://www.hie.co.uk/learningworks/vc-archive.html
2.6 Openness: infrastructure networks

Good transport and broadband links not only increase potential for firms in remote areas to reach large distant markets, but also enhance opportunities for businesses and individuals to access information from elsewhere. Openness to ideas from outside the region is seen as an important stimulus to innovation, and the likelihood that a sparse population will lead to thinner knowledge exchange may be a major constraint on innovation in remote areas.

The quality of transport infrastructure and services vary considerably across remote regions, although some have seen improvements due, for example, to the expansion of lower cost air travel in recent years. The additional cost of transporting physical inputs and goods to market still imposes constraints on the growth of industrial and manufacturing sectors in many remote areas, although in service sectors, it is often the quality of broadband connections which is particularly important for business. However, broadband is often slower and less reliable in remote rural areas than in cities, particularly as services are usually upgraded sooner in more populated areas; in addition, some small areas lack any broadband access.

One recent project to improve transport connections in Scotland involves the allocation of funding to reduce ferry fares to selected islands, with fares now being based on the cost of road transport over the same distance (‘Road Equivalent Tariff’). A study of the 3-year pilot scheme suggests that, in the first year, passenger travel rose by 19 percent and car traffic by 30 percent compared to the previous year, and that tourism businesses saw a significant increase in trade. The Government is assessing the costs and benefits of extending the scheme across Scotland’s ferry network.

Improvements in broadband connections to remote areas are often seen of particular importance, although there is a need to ensure that public investment does not displace private sector activity, and that State aid and public procurement rules are respected. A leading project in the UK is being developed by Cornwall Council with the aim of introducing ‘Next Generation Access’ broadband, so that businesses and households benefit from faster and more reliable connections. Cornwall is seen as unattractive to private sector telecommunications investors due to its relatively sparse population, so the Council is funding the ‘gap’ between the cost of the infrastructure and the return to private investors. EU approval is being sought, both for the allocation of over £50 million of Structural Funds resources to the project, and in the context of State aid and public procurement rules.

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16 [http://www.actnowcornwall.co.uk/home.asp](http://www.actnowcornwall.co.uk/home.asp)
2.7 Openness: human networks

A further dimension of openness relates to the intensity of connections between individuals. The sparsity of businesses and population in remote rural areas may mean that firms are more isolated and that there are fewer knowledge sources within the region, so that businesses are slower to pick up on changes in the external context and on best practices, compared to those in urban areas. For example, in some remote areas, firms are less likely to participate in formal events, such as conferences and workshops, due to the time and costs of attending.

Conversely, the low population density of remote areas may increase scope for connections between individuals in different sectors, including between community and business activities. In addition, social capital (in terms of civil society organisations or community-based cooperation) is often seen to be particularly strong in remote areas, and to underpin economic activity and the provision of local services.

Moreover, many firms and policy organisations in remote areas are aware of the risk of isolation and therefore work hard to build and maintain connections with actors located elsewhere, as well as to exchange information with colleagues or other organisations within the region. This work may involve extensive travel to events in other locations and also the provision of hospitality and help with travel arrangements to visitors to the region.

An important role for policy organisations in remote regions is to facilitate access to sources of information outside the area, as well as to encourage cooperation and knowledge exchange within the region. One example of such activities is the creation of regional management offices in Austria since the mid 1990s, which are local offices that provide services to local firms and other organisations, with the aim of stimulating a collaborative approach to local economic development, not least by facilitating access to information and services from outside the region.\(^{17}\) The Waldviertel Management, on the north-eastern border with the Czech Republic, for example, acts as a local coordination centre for rural development and has initiated or supported over 1000 projects since 1982.\(^{18}\) It focuses in particular on support for specialist tourism, broadband access in rural areas, and collaborative and cross-cutting projects.


\(^{18}\) http://www.waldviertel-management.at/page.asp/233.htm
2.8 Demand

Because markets in remote rural areas are typically small, the scale of local demand may not be sufficient to stimulate innovation. If local firms focus solely on local markets, they are likely to stay small, to lack resources to fund investment and to undertake only limited innovation. Low levels of local demand are a particular concern in those remote rural areas (e.g. in northern Sweden and northern Finland) which are experiencing ongoing net out-migration, particularly of younger people.

Small market size also means that innovating firms in remote areas need to be attuned to customers outside the region, particularly as many forms of innovation are driven by customers rather than technological developments, with market research and customers’ buying preferences being used to inform business innovation.

Policy-makers in a number of regions help firms to develop branding or marketing strategies in consumer-oriented sectors that link into a regional image linked to remoteness, quality of life and local identities. In Orkney, Scotland, for example, the local authority and Highlands and Islands Enterprise have worked with producer groups to gain agreement for a marketing strategy based on a strong island brand, with the aim of ensuring that the name ‘Orkney’ was associated with high quality products. The branding and marketing strategy was initially implemented for a range of foods but has since been extended to locally-produced jewellery and crafts.

A larger example concerns the work of Innovation Norway in stimulating demand for innovation. The agency has 20 regional offices which help innovative SMEs to find private or public sector customers for their product, and to adapt and develop new product ideas to fit the customer’s specific needs. Innovation Norway has assisted firms to gain contracts of up to NOK 15 million (€1.8 million or £1.6 million), and provides a range of services, including hands-on help in relation to legal issues, contracts and intellectual property rights, as well as funding to the supplier firm to develop its product.

19 http://www.orkneythebrand.co.uk/orkney-branding/
20 http://www.innovasjonorge.no/Om-oss/Innovation-Norway/
3. POLICY REFLECTIONS AND QUESTIONS FOR DISCUSSION

Despite differences in the peripheral rural areas examined in this study, this paper has argued that there are a number of aspects of the innovation context which are characteristic of these regions, when compared to urban or peri-urban regions. Many of the challenges facing businesses in remote areas relate to geographical distance and sparseness of population, and these factors need to be taken into account if policy is to support innovation effectively in remote areas.

One dimension which shapes other distinctive characteristics of the context for innovation in remote areas is openness. Strong networks are needed that link peripheral areas to other regions, both via hard transport and broadband networks and via support for human interactions. Such networks can help to overcome some of the gaps in the innovation context that are associated with sparseness of population, for example by allowing strengths in education and public research to be shared and built on within the region and also better connected with external sources of skills and expertise. Openness can also help to stimulate stronger competition within remote regions, and to allow firms in these areas to tap into and engage with larger external sources of demand. It can also make peripheral areas more attractive both to incoming entrepreneurs and to potential collaborators.

A further important dimension relates to the structure of businesses in remote rural areas, notably in terms of the sparseness of business population, as well as the greater prevalence of micro firms in these areas. For example, in areas where the population of firms is scattered, traditional cluster policies are less likely to be successful. Similarly, different approaches will be needed for training programmes, advisory services and conferences, as it will not be possible to depend either on a concentration of firms or on easy access to facilities in all areas. Similarly, while business support policies often aim to respond to firms’ voiced demand (as a means of ensuring effectiveness), this may be more difficult in remote regions with many micro firms, who may lack a single coherent voice and may be more subject to short-term market pressures.

Questions for discussion include:

1. Do you agree that conditions for innovation are different in remote areas? What are the most important differences?

2. Are certain conditions especially important for attracting or generating innovative firms in particular sectors (e.g. knowledge-based services, tourism, engineering) in remote areas?

3. Could policy do more to improve conditions for innovation across a range of sectors in remote areas?