OECD Territorial Reviews

Northern Sparsely Populated Areas

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Foreword

Rural economies are facing significant changes. Increasing global competition is transforming the nature of production, and rural entrepreneurs and businesses have to adapt quickly to maintain their competitive edge. Rapid technological change is offering new growth opportunities, but this requires investment from businesses, the reorganisation of production processes, more advanced skills, and access to markets. Although the impacts have been uneven, the legacy of the economic crisis for many rural areas is lower growth and productivity and fewer job opportunities for local people. Governments are also facing fiscal pressures, given declining revenues and higher costs due to population ageing and rising unemployment.

The 14 regions across Finland, Norway and Sweden, which make up the northern sparsely populated areas (NSPA), undertook this review to identify strategies to secure future growth and prosperity with national and European Union (EU) partners. Despite their remoteness and harsh climatic conditions, well-being is high in the NSPA, above OECD averages and slightly below national averages. While citizens in the NSPA generally experience lower employment and income outcomes than the country average, other factors such as housing, the environment and accessibility to services are above or close to the national level, indicating potential for attaining higher living standards. Increasing productivity by lifting innovation performance, addressing labour market mismatches, and better connecting firms and communities to cities and external markets will help these regions address future challenges associated with population ageing and decline.

Addressing these challenges will depend upon proactive leadership and joint action by NSPA regions with EU and national government partners. This includes enhancing cross-border collaboration focused on skills, innovation and infrastructure, as well as facilitating partnerships between national governments and NSPA regions in the design and delivery of key sectoral policies such as education and skills, health, transport and broadband infrastructure, and innovation. A joint approach to working with the NSPA regions in each country will help ensure that policies better reflect the unique needs and circumstances of these regions, and encourage greater collaboration between regions and municipalities (including at the scale of local labour markets).

These findings align with the OECD "Rural Policy 3.0", which focuses on identifying specific mechanisms for implementing effective rural policies and practices. Rural Policy 3.0 stresses the importance of an integrated approach through partnerships with national governments. Public investments and services should be adapted to the specific needs of rural areas. Both territorial and sectoral policies are more effective when they are co-ordinated and aligned along similar goals and objectives. In effect, governments should frame interventions in infrastructure, human capital and innovation capacity within common policy "packages" that also complement sectoral approaches.

This review was carried out by the OECD Regional Development Policy Committee (RDPC). The RDPC provides a unique forum for international exchange and debate on regional and rural economies, policies and governance. The RDPC has developed a number of activities, including a series of Territorial Reviews at a national and sub-national level. These studies follow a standard methodology and common conceptual framework, allowing countries and regions to share their experiences and disseminate information on good practices. The *OECD Territorial Review of the Northern Sparsely Populated Areas* makes an important contribution to this work and can provide lessons for other OECD non-member countries which also face challenges and opportunities associated with delivering prosperity and well-being for rural remote regions.

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The review was co-ordinated by Chris McDonald under the direction of Joaquim Oliveira Martins (Head, Regional Development Policy Division) and José Enrique Garcilazo (Head, Rural Development Programme). The review was drafted by Chris McDonald, David Freshwater, and Chiara Allegri within the OECD Secretariat. The review also benefited from comments and input by Isabelle Chatry, Karen Maguire, Stefano Marta and Abel Schumann. Thanks is also due to Kate Lancaster for her editorial assistance. Jeanette Duboys, Joanne Dundon, and Pilar Philip prepared the review for publication.

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Acronyms and abbreviations

ALMP	Active labour market policy
BEAC	Barents Euro-Arctic Council
CAP	Common agricultural policy
CDFI	Community development finance institutions
CLLD	Community led local development
EAFRD	European Agricultural Fund for Rural Development
ELY	Centres for Economic Development, Transport and the Environment
ENI	European Neighbourhood Instrument
ENPI	European Neighbourhood and Partnership Instrument
ERDF	European Regional Development Fund
ESF	European Social Fund
ESIF	European Structural and Investment Funds
EU	European Union
FI	Finland
FUA	Functional urban area
GDP	Gross domestic product
GVA	Gross value added
ICT	Information and communications technologies
LDE	Low-density economy
LLM	Local labour market
NO	Norway
NORA	Nordic Atlantic Cooperation
NSPA	Northern sparsely populated areas
PPP	Purchasing power parity
R&D	Research and development
RDP	Rural Development Programme
SE	Sweden
SME	Small and medium-sized enterprises
SPR	Sami Parliamentary Council
TL2	Territorial level 2
TL3	Territorial level 3
USD	US dollar

Executive summary

The northern sparsely populated areas (NSPA) of Finland, Norway and Sweden are becoming increasingly important to the geopolitical and economic interests of these countries and the European Union (EU). The NSPA regions are located on the periphery of Europe and are part of Europe's gateway to the Arctic and the east of the Russian Federation (hereafter 'Russia'). A changing climate, access to hydrocarbon and mineral resources, and shifts in relations with Russia are changing the political and economic landscape. The sustainable development of these regions is crucial to managing such strategic risks and opportunities.

Within the EU, these regions have unique geographical characteristics and more closely resemble rural regions in countries such as Canada, Australia and Chile. The NSPA has five people for every square kilometre, totalling about 2.6 million people over an area of 532 000 square kilometres, comparable to the population of Rome inhabiting the entire area of Spain. The three NSPA regions share a similar natural environment – a harsh climate, abundant natural resources, relative lack of agriculture, a strong potential for renewable energy, long distances from markets, and high cost of land transport. The natural environment plays a far more important role in the NSPA than in most of southern Europe where high-density settlements are buffered from nature by a built environment that limits the impact of nature on people and firms.

Low-density economies (LDEs) such as those in the NSPA lack the agglomeration benefits of cities that are generated by sharing facilities, inputs, and specialisation, larger labour markets, and knowledge spillovers. However, this report finds that high productivity growth is possible in LDEs and low-density regions can overcome their disadvantages through other mechanisms. For instance, there are a wide range of industries in LDEs, such as forestry or mining, where vertical integration represents an advantage and essentially overcomes the need for sharing facilities. LDEs can also attract workers from other regions and abroad with higher wages or the availability of environmental amenities. ICT broadband can enhance connectivity in remote areas and thus the spread of new ideas.

Realising growth opportunities for these regions is linked to the identification of absolute advantages. These vary by country and region and primarily include minerals and energy, fisheries and aquaculture, forestry, renewable energy, and tourism–related services. These activities are generally connected to an immobile asset such as resource endowments, coastal topography or national parks. The key policy question then is how to add value around unique assets by supporting factors that enable productivity growth such as skills, innovation, infrastructure and the business environment. The concept of "smart specialisation" is therefore a very suitable policy approach for LDEs. If well applied, it can be used to identify and focus on the areas of absolute advantage, and then add value around them through diversification.

Within the NSPA, the regions' economies are becoming more similar and this convergence may increase scope for co-operation in addressing shared challenges. NSPA regions with GDP per capita levels below the OECD level are catching up. This is apparent in the five more eastern and central Finnish regions that experienced above-average GDP per capita growth in 2000-12. NSPA regions that are most developed are growing slower. The

three Norwegian NSPA regions are characterised by low GDP per capita growth in the period 2000-12 but above-average initial GDP per capita levels compared to the OECD average. There is a third cluster, in between the catching-up regions and the low growth ones, with initial GDP per capita and GDP growth close to the OECD average. This includes all the Swedish regions as well as the two Finnish regions of Northern Ostrobothnia and Lapland.

Despite their remoteness and harsh climatic conditions, well-being is high in the NSPA, above OECD averages and slightly below national averages. While citizens in the NSPA generally experience lower employment and income outcomes than the country average, other factors such as housing, the environment and accessibility to services are above or close to the national level, indicating potential for attaining higher living standards. This suggests that if it is possible to increase employment levels, raise productivity, and improve both the functioning and geographic extent of local labour markets in the NSPA there is a higher likelihood that people will remain and a significant part of the demographic challenge will be resolved.

The report sets out policy recommendations at a cross-border, national and regional scale to enhance prosperity and well-being across the NSPA. These policy recommendations are integrated and designed as a complementary package. They include:

NSPA-wide

- Establishing an agreed work programme amongst the NSPA regions which is integrated with national government decision making and addresses shared opportunities and challenges such as improving east-west transport connections, reducing occupational and skills barriers to labour mobility, addressing barriers to business growth such as access to finance, and increasing the use of e-technologies in service delivery.

At the national level

- Strengthen mechanisms to better tailor and integrate national sectoral policies with the particular needs and circumstances of NSPA regions, particularly for skills, innovation, trade and industry, and transport and digital infrastructure. In the cases of Finland and Sweden this also includes strengthening the role of the new regional autonomous bodies and county councils in co-ordinating national and EU regional and rural policy funds at a regional scale.

At the regional level

- Add value to absolute advantages through better engagement with small and medium-sized enterprises (SMEs) via innovation and business support programmes and through regional co-operation to maximise the benefit of relatively small research and innovation assets.
- Improve connectivity to markets through continued investment in broadband as well as stronger east-west linkages to create competition with predominantly north-south infrastructure connections.
- Strengthen labour market and service delivery efficiency through better skills matching with employer needs and through strategies to concentrate population and resources in a smaller number of urban centres.

Delivering on these policy recommendations will depend upon proactive leadership and continuing to strengthen joint action by NSPA regions, with EU and national government partners.

Assessment and Recommendations

Enhancing collaboration to address shared challenges and opportunities

The NSPA forms part of Europe's gateway to the Arctic and Russia and faces particular development challenges because of its particular geographic features and location

The economic and geopolitical importance of the NSPA regions to the EU and member countries has been increasing due to a changing climate, access to hydrocarbon and mineral resources, and shifts in relations with the Russian Federation (hereafter 'Russia') and other Arctic countries. A changing climate is placing new pressures on ecosystems and traditional ways of life, and opening up new opportunities for resource extraction. The NSPA is Europe's gateway to the Arctic and northern Russia, and is important for energy security, food production and technological innovation, which is increasing its geopolitical importance to member countries. This importance is recognised by the EU and the national governments of Finland, Norway and Sweden. The EU, Finland, Norway and Sweden have each released Arctic policies in recent years, which set out commitments for the sustainable development of the northern regions. As an existing (albeit weak) institution the NSPA is an important stakeholder in helping to achieve these strategic policy objectives.

The NSPA regions are different to other regions in Europe because of the harsh climate, strong natural resource endowment, and long distances between settlements and from markets. The particular geography of the NSPA, combined with the small population, makes the region particularly dependent on the export of raw and semi-processed natural resources. Large scale resource extraction and industrial processing associated with mining, forestry, oil and gas, fishing and aquaculture, and agriculture are important to the economic base of these regions. There is also a growing market in international tourism that is once again oriented around natural and cultural assets, which is also an important source of creativity and entrepreneurship. Within these broad parameters there are also important technological innovations occurring within the regions with niche manufacturing and services, and cutting edge research and innovation linked to the Arctic climate and environment. The NSPA generally has productivity levels above the OECD average, although they lag behind other regions in the Nordic countries.

Despite challenges associated with peripherality and low density these regions generally have high levels of well-being and prosperity in the context of the OECD

While there are clear challenges for economic growth in future years there is high degree of satisfaction by residents of the NSPA with their overall quality of life.

Although the level of satisfaction is somewhat below that of fellow citizens in the south of each country, it is remarkably high by OECD standards. While citizens in the NSPA generally experience lower employment and income outcomes than the country average, other factors such as housing, the environment and accessibility to public services are above or close to the country level. This suggests that if it is possible to increase employment levels, raise productivity, and improve both the functioning and geographic extent of local labour markets (LLMs) in the NSPA there is a higher likelihood of retaining and attracting people, and a significant part of the demographic challenge will be resolved.

There is significant diversity in economic and social outcomes within these regions. Economic and population growth is increasingly concentrating in a smaller number of larger LLMs somewhat offsetting the broader impacts of population ageing and decline. Further incentivising this process and better linking smaller communities through broadband will help address the demographic challenge. Firms in the NSPA are mainly small and the most common specialisation for small firms is in natural resources whilst for large establishments it is as public sector service providers. Large private sector firms are declining in absolute numbers and as a share of all firms. In some parts of the NSPA there is a fairly strong rate of new firm formation, but in other parts there seems to be a lack of entrepreneurial behaviour by local people. Related to this is a very high rate of employment in the public sector especially in some of the smaller municipalities that are not part of a larger LLM.

Enhancing cross-border collaboration would enable NSPA regions to better address common challenges and opportunities

Addressing the common challenges and opportunities facing the NSPA will require an enhanced approach to cross-border collaboration which is focused on key enabling factors for growth and productivity (skills, innovation and infrastructure). There are already a number of cross-border collaborations supported by the EU and national governments which encompass these issues and there is scope to better co-ordinate and align them to address the key challenges facing the NSPA. The NSPA itself does facilitate knowledge-sharing but primarily functions as a way to engage with the EU and influence EU policy settings including the distribution and use of cohesion funds. As a result, there is a lack of collective approach amongst the NSPA regions to influence the sectoral policies of national governments so they can be better tailored and integrated to the unique challenges and opportunities facing the NSPA. Strengthening this place-based approach to policies would allow the regions to better exploit complementarities (e.g. between food production and tourism, ICT and service delivery, and between urban and rural areas). Identifying how to strengthen this NSPA-wide collaboration and better connect it to national level forums would need to build upon existing institutions such as the Nordic Council and the Barents Euro-Arctic Council.

Recommendations to more effectively address the shared challenges facing the NSPA regions

1. Continue to ensure that the unique characteristics of the NSPA regions (a harsh climate, long distances from markets, and a small number of isolated settlements) are effectively incorporated into national and European level policy settings for regional and rural development, and service delivery. This includes:
   a. recognising the importance of improving infrastructure for connectivity
   b. the need to focus scarce economic development resources in areas of absolute advantage
   c. accounting for the higher unit costs of delivering public services (due to remoteness, low population densities, and the harsh climate).

2. Enhance existing co-operation across the NSPA by better linking this network with the Nordic Council and developing a work programme to help facilitate knowledge-sharing, harmonise policies and regulatory settings where it is appropriate, and monitor the implementation of EU and national policies that have cross-border implications. This work programme should focus on addressing shared challenges and opportunities with objectives such as:
   a. increasing the use of e-technologies, and innovative partnerships with the private and community sectors to drive service delivery innovation
   b. adopting a more integrated approach to infrastructure planning, investment, and maintenance including identifying new ways to work with the private sector (this includes improving cross-border planning and investment co-ordination to facilitate improved east- west linkages)
   c. improving the functioning of labour markets, for example, by harmonising certification and skills requirements for similar occupations, and facilitating co-operative arrangements between educational institutions
   d. working to facilitate greater interaction among local labour markets (LLMs) with common characteristics and opportunities in areas such as higher education, research and innovation, particularly when they are in different countries
   e. encouraging a more co-ordinated approach between NSPA regions to smart specialisation which builds upon core areas of absolute advantage, provides better support for SMEs and start-ups for example by addressing barriers such as access to finance, and facilitates access to external markets
   f. better linking Sami communities with regional and rural development policies to help create new employment and business opportunities for local communities.

3. Strengthen governance mechanisms within each country which facilitate a partnership approach between the national governments and NSPA regions in the design and delivery of key sectoral policies (education and skills, health, transport and broadband infrastructure, and innovation). A joint approach to working with the NSPA regions in each country will help ensure policies better reflect the unique needs and circumstances of these regions, and incentivise enhanced collaboration between regions and municipalities (including at the scale of LLMs).

NSPA recommendations for Finland

The regions of north and eastern Finland make an important contribution to the national economy particularly through the tradeable sector

The regions of north and eastern Finland (Central Ostrobothnia, Kainuu, Lapland, North Karelia, Northern Ostrobothnia, Pohjois-Savo, and South Savo) make an important contribution to the economic growth and well-being of the country. The seven regions constitute 19.6% of the country's economy, 23.9% of the population, and 66.9% of its land area. They are key part of Finland's economy because of commodities and related manufacturing for export (e.g. wood, paper and pulp products, technologies, chemicals and minerals), services (tourism and ICT related), and their significant environmental assets (fresh water and wilderness areas). Growth in exports from north and eastern Finland has significant benefits for the national economy and Helsinki through linkages related to transport and logistics, downstream processing, and demand for professional, scientific and technical services.

The common thread linking the growth dynamics of these regions are a small range of absolute advantages linked to their natural and locational assets. The regions of eastern Finland, close to the border with Russia, share similar advantages. They have the forestry resources, lakes and wilderness areas, and proximity to Russia. To varying degrees these regions have developed value-added services and manufacturing linked to these advantages. Pohjois-Savo (Kuopio) and North Karelia (Joensuu) also benefit from a development dynamic linked to their major urban settlements which has enabled a clustering of economic activity, and research and education institutions. For Central and Northern Ostrobothnia the locational advantages of the Gulf of Bothnia have been important to the historical development of their economies. As trading ports they have developed an industrial base which has evolved into communication and health technologies and steel processing (Northern Ostrobothnia), and chemical manufacturing (Central Ostrobothnia). Lapland shares similarities with the eastern regions but differs because of its location closer to the Arctic and the important role of extractive industries and tourism to its economic base. Finally, it is important to note all regions share a common opportunity for significant growth in nature-based tourism, although in differing forms.

Recent economic performance has been poor due in part to challenging macroeconomic conditions

In terms of levels of GDP capita all the Finnish NSPA regions are below the OECD average of USD 35 812, and the country level of USD 38 359. The gap with the county level ranges from -27% (Kainuu) to -12% (Central Ostrobothnia). Four of the seven regions converged toward the country's GDP per capita level in the period 1995-2012: Central Ostrobothnia (closed the gap by 14%), South Savo (closed the gap by 4%), North Karelia (closed the gap by 3%), and Pohjois-Savo (closed the gap by 1%). The other three regions continue to lag the national level, and fell further behind in the 1995-2012 period: Lapland (by -7%), Northern Ostrobothnia (by -6%), and Kainuu (by -11%). These findings emphasise the importance of increasing productivity for these regions.

The performance of the regions in north and eastern Finland must also be assessed within the context of challenging macroeconomic conditions for the country, particularly

since the financial crisis. The country has been hit hard by three external shocks: decline in markets for electronic exports, lower demand for paper, and the collapse in export markets to Russia due to sanctions. There has been a structural decline in markets for paper and pulp since the early 2000s, which would have had a larger disproportionate impact on the Finnish NSPA regions. These external shocks have had a significant impact on economic performance of Finland. In 2015, output was 7% below the level of 2007. Resource-based export industries have been further challenged by an inability to depreciate the national currency and by rigid wage bargaining processes.

Lifting the economic performance of Finland's NSPA regions will require an integrated approach by national and regional governments to investing in enabling factors for productivity growth at a regional level

The government's economic programme is focusing on improving the cost competitiveness of Finnish industry and the economy's resilience to change including through wage restraint and fiscal consolidation. The government is also initiating a significant reform of the regional level which will result in the creation of new elected autonomous regions with additional responsibilities for health and social care. This economic and reform context will have important implications for the NSPA regions. In the medium term, exports will be important to the recovery of Finland due to slow household income growth and lower public spending. The NSPA regions of Finland will play an important part in this growth strategy because of the export orientation of their economies. However, this requires sustained efforts to develop new products and markets through investment in key enabling factors for productivity growth (innovation, skills and infrastructure). Because regions will have more autonomy and resources it will be important they have greater opportunities to adapt national policy settings (e.g. in education or infrastructure). The impacts of fiscal consolidation on the quality of infrastructure and services within the NSPA regions will also need be carefully considered and managed.

A place-based approach to regional development will be crucial in organising and delivering this approach to investing in key enabling factors in north and eastern Finland. Finland's regional policy, *Competitive Regions and Smooth Everyday Life* (2016-2019) provides a strategic framework for the government's regional development priorities. Each region's development strategy applies this framework to their needs and circumstances. This policy framework is relatively narrow and focuses primarily on business competitiveness, and social and environmental objectives have less emphasis. At a regional level current regional development priorities largely reflect the European Regional Development Fund (ERDF) and European Social Fund (ESF) which focus on priorities such as innovation and entrepreneurship, and skills and workforce participation. However, it is important to broaden this focus. Realising the growth potential of these regions will depend upon broadening the regional development policy framework, for example, by effectively engaging with and influencing national sectoral policies, in particular education and skills, innovation and transport infrastructure. The government's current programme of regional reform provides the opportunity to deliver a broader approach to regional development policies, which will effectively integrate EU Structural and Investment Funds (ESIF), national and local policy areas, such as, infrastructure, innovation, and education and training.

Recommendations at a national level to support the growth of north and eastern Finland

1. Improve outcomes for the transport network in north and eastern Finland by:
    a. working with some pilot regions to prepare a long-term infrastructure plan (integrated and aligned with their regional development and land-use plan) to provide a common framework for guiding the decision making of the national government, local municipalities and private sector actors in regards to transport and communications networks, and water and energy infrastructure (and rolling them out to other regions in subsequent years)
    b. strengthening co-operation across NSPA regions to develop shared priorities for investing in the transport network which is integrated within the national transport planning cycle (recognising their unique status as sparsely populated regions), co-ordinating with neighbouring countries, and seeking to influence European level infrastructure policies (e.g. the European Commission`s TEN-T Projects)
2. Support better entrepreneurship and innovation outcomes in north and eastern Finland by:
    a. improving incentives and support through national programmes for engaging rural SMEs in north and eastern Finland in innovation initiatives (particularly related to the bioeconomy), and ensuring this is complementary to initiatives funded through the European Regional Development Fund (ERDF), and the European Agricultural Fund for Rural Development (EAFRD)
    b. providing capacity and technical support for start-ups and SMEs to access financial instruments (subsidised loans and guarantees) through the ERDF to complement grants based funding
    c. continuing to support initiatives (such as regional clusters) which enable local micro-enterprises and SMEs to build scale and access opportunities in external markets, and support them in accessing national research and innovation resources (this is particularly important in specialised services and niche manufacturing within the forestry supply chain)
    d. elevating the role of northern Finland (Lapland, Kainuu, and Northern Ostrobothnia), and Lakeland as international tourism destinations within the national strategy for tourism growth and development, and providing support for regions to undertake joint planning and prioritisation of tourism development across these areas
    e. encouraging NSPA regions to collaborate on joint opportunities related to their smart specialisation strategies (e.g. in relation to the bioeconomy and niche manufacturing), and linking with research and higher education institutions in urban centres such as Oulu, Tampere and Helsinki (and internationally)
    f. establishing a mechanism to include the NSPA regions in Finland in a dialogue about the design, delivery and monitoring of national innovation policies.
3. Develop measures to promote service delivery innovation in north and eastern Finland by:
    a. establishing an on-line portal or clearing house of innovative service delivery and public procurement practices which can be shared and disseminated amongst public and private service providers at a regional and local level
    b. ensuring continued support through the EAFRD for co-investing with regions to extend broadband access for rural remote communities (e.g. to share service points) and firms to improve access to services and markets
    c. providing support and incentives for innovative on-demand transport services for rural remote communities.

Recommendations at a national level to support the growth of north and eastern Finland *(continued)*

4. Deliver better policies for the development of north and eastern Finland as part of the implementation of the forthcoming regional government reform by:
   a. ensuring that the new regional autonomous authorities have the policy and technical expertise to take a leadership role in regional development policies with municipalities and other private, public, and third sector actors at a regional and cross regional scale
   b. developing a partnership based approach to intergovernmental co-operation, for example, by broadening the scope of the Regional Development Programme prepared by each region to include initiatives and commitments from key national Ministries (e.g. Education and Culture, Transport and Communications, Agriculture) that achieve mutually agreed productivity enhancing outcomes
   c. strengthening the role of the new regional autonomous authorities in setting priorities and co-ordinating EU and national regional and rural development funding at a regional level
   d. establishing more effective governance arrangements to align education and training provision with the needs of firms at a regional scale, and better addressing skills mismatches (for example by looking at lessons from the cases of Regional Competency Platforms in Sweden or Vocational Training Boards in Norway).

NSPA recommendations for Norway

The regions of northern Norway play an important role in efforts to diversify the country's export base

The three northern counties in Norway (Finnmark, Nordland and Troms) constitute 7.7% of the national economy, 9.4% of the population, and 35% of Norway's land area. A significant proportion of the country's natural resources, amenities, heritage, and indigenous culture are also located in this part of the country. Petroleum related products makes up two-thirds of Norway's exports. A significant proportion of recent and planned offshore activities are located in the north of the country in the Norwegian and Barents Sea. The northern regions also play an important role in the national energy sector with hydroelectricity and wind power. As the exchange rate has depreciated in recent times due to lower oil prices it is important that the country continues to diversify its economy. Northern Norway is competitive in fisheries and aquaculture and tourism, which are two areas where Norway has opportunities in a global context.

In spite of the structural challenges of population ageing, the location of these regions and their small scale, they have high levels of prosperity and well-being within the context of the OECD. These regions have a small range of absolute advantages primarily related to their resource endowments. They have been able to diversify activities related to these advantages in terms of processing and the provision of specialised professional and technical services. All three regions share a

common strength in fisheries and aquaculture, renewable energy, and various forms of natural and cultural based tourism activities. Finnmark is the smallest in terms of population size and the most peripheral. Its economy has a strong dependence upon extractive industries. Nordland and Troms have larger economies but quite different growth dynamics. The economy of Nordland is shaped by the historical relationship between extractive industries, processing and energy production. The public sector plays a more important role in Troms with the presence of the university and hospital, and other public administration functions.

Although growth performance is strong in an OECD context, productivity is lagging behind the country average

Despite relatively high levels of prosperity and well-being in the context of the OECD the regions of northern Norway are lagging compared to the country average. Compared to the OECD average of USD 35 812, levels of GDP per capita are relatively high in the northern regions (USD 49 869 in Finnmark, USD 49 490 in Troms, and USD 48 883 in Nordland). The percentage gap with the national level in terms of GDP per capita is -16% for Finnmark, -17% for Troms, and -18% for Nordland. In the period 1997-2012 GDP growth for Finnmark was 0.9%; Nordland was 0.56%, and Troms 0.41%, which is on average 1% lower than the rate of growth for the country. The strongest economic performer in the north has been Finnmark with productivity growth at the same level as the country and higher growth in the employment rate. As a result, it has been closing the gap in GDP per capita with the country level. Nordland and Troms have experienced productivity growth rates lower than the country average, and have diverged from the national average in terms of GDP per capita.

The northern regions are lagging the country average in relation to key enabling factors for productivity growth (skills, innovation and business environment, and infrastructure). The only region close to the national average in terms of high skilled workers in Troms, which would be due to the presence of the university and regional hospital. In terms of innovation there is a mixed picture. Given the industry structure, lack of research presence, and remote location the patent levels would be expected to be low relative to the country. However, start-ups are also low, and there is probably scope to increase this, particularly for activities related to tourism. Internet capacity may be a binding constraint in this sense, which is lower than the national average, and there is also a significant range between the regions, which indicates regionally specific geographic and policy factors. Future prosperity will depend upon building new business opportunities linked to areas of absolute advantage, which can be realised through support for existing SMEs and for entrepreneurs. Continuing to mobilise private and public sector actors through collaborative processes such as smart specialisation strategies will be important. Bottlenecks and gaps related to transport and communications infrastructure will also need to be addressed. Addressing skills mismatches and improving workforce participation for at-risk groups should be a future priority particularly given the impacts of an ageing population.

The country's regional and rural policy is narrow in scope and reflects a largely top down and sectoral approach to national policies

Norway's regional policy provides considerable support for rural areas and the north of the county through the tax system, and through specific economic and community development programmes. In addition, the government has a High North Policy which provides specific investments to strengthen growth and competitiveness in Arctic areas. These policies are designed to meet the goal of balanced national development and maintain the existing settlement structure of the country. Overall, the focus of the government's regional policy is relatively narrow (regional planning, broadband infrastructure, and support for business), which reflects the portfolio of responsibilities of the Department of Local Government and Modernisation.

The northern counties take a broad and inclusive approach to regional planning which encompasses a wide range of sectoral policies. However, national sectoral policies are not well adapted or integrated with regional plans. Realising policy objectives at a county level will be dependent upon co-ordination and alignment with sectoral ministries at a national level. Beyond specific programmes funded by the Ministry of Local Government and Modernisation, national policies related to innovation, research and higher education are not well connected to the regional level. Similarly, bodies responsible for regional development have an inconsistent engagement with transport planning and prioritisation. The regional level also lacks influence over the design and delivery of key social services, which is apparent in the education and skills system.

The government is currently preparing a new white paper on regional policy, and is considering other reform measures to improve vertical and horizontal co-ordination

Improving the governance of regional development will go some way to addressing these issues. Norway currently has a strongly sectoral approach to policies with the national government setting the priorities and funding arrangements. Local municipalities play a strong role in the delivery of public services and infrastructure, however; they are relatively small and this generates complexity in service delivery at a regional and local level. The government is currently preparing a new white paper on regional policy. There are also two white papers that have been prepared on regional and municipal reform which propose some measures to give more power and autonomy to counties and municipalities, and improve mechanisms for vertical and horizontal co-ordination. These reforms should provide the scope for a more integrated place-based approach to regional and rural development.

Recommendations at a national level to support growth in northern Norway

1. Support entrepreneurship and innovation in the northern regions of Norway by:
   a. enhancing initiatives that build scale and link together SMEs to access external markets, and R&D and innovation opportunities (particularly niche value adding in relation to fisheries and aquaculture, the processing industry, and tourism)
   b. facilitating linkages and complementarities between the smart specialisation strategies being developed by each of the three counties, including scope to link related firms, and building relationships with research institutions in southern Norway and across the NSPA
   c. improving access to finance for local start-ups and SMEs through a combination of brokering and facilitating relationships with investment funds in the south of the country, and investigating the viability of a venture capital fund for the north based on a community development finance model.
2. Improve transport and accessibility for northern Norway by:
   a. providing targeted regional incentives and support for rural areas (where there is a lack of sufficient scale for private providers) in the northern regions to address broadband gaps, extend e-services initiatives for rural communities, and share good practices (particularly in terms of providing choices and transition support for school students in remote areas)
   b. supporting the three northern counties to develop a joint position on transport priorities which can be considered and responded to within the process of setting priorities in the national transport plan (a more integrated approach for these regions is justified because of the unique mix of issues related to climate conditions, coastal and island communities, low population densities, and cross-border transport linkages).
3. Strengthen the role of county councils to co-ordinate skills and education in partnership with relevant stakeholders. This includes setting strategic priorities for education and training, increasing the scope for adapting and tailoring courses to local needs, and working proactively with businesses (particularly the SME sector) to address skills mismatches.
4. Ensure the rural and regional policy white paper includes an assessment of how national sectoral policies can be better adapted to support enabling factors for productivity growth in northern Norway (e.g. skills, employment, higher education and research, and transport).
5. Improving the governance of regional development in the northern regions by:
   a. supporting municipalities to organise planning and service delivery at the scale of LLMs, particularly to enhance linkages with urban areas
   b. further supporting and incentivising collaboration and joint ventures between the three northern counties in the design and delivery of national policies (for example in relation to the prioritisation and delivery of improvements to the transport network)
   c. aligning the geographic boundaries of administrative offices of national ministries at a regional level to provide a better platform for co-ordination between levels of government
   d. strengthening mechanisms to engage national sectoral ministries in regional and rural development planning and decision making
   e. strengthening the regional dimension in the government's High North Policy by ensuring northern counties are engaged in the prioritisation and design of initiatives developed under this policy.

NSPA recommendations for Sweden

The economic performance of the regions of northern Sweden has been strong, particularly those areas with extractive industries

The NSPA regions of Sweden (Jämtland Härjedalen, Norrbotten, Västerbotten, and Västernorrland) constitute 8.6% of the national economy, 9.1% of its population, and 54.6% of its national land area. Wood and paper, chemicals, minerals and basic metals are all major exports for Sweden and important to the overall economic performance of the country. These industries are mostly located in the north of the country. The economic performance of northern Sweden is important for the country as a whole. In northern Sweden iron and wood is extracted and then processed in larger centres in cities such as Lulea, Umea and Sundsvall along the coastal corridor. These processed products (e.g. steel products, wood and pulp) are transported further afield to locations in southern Sweden and across Europe. This provides critical inputs for the manufacturing sector in southern Sweden, and for professional and technical services located in the capital. The transportation of these goods reinforces the importance of the capacity and efficiency of the transport network for northern Sweden. The northern regions also play an important role in the national energy sector with over half of the country's energy production coming from hydroelectricity.

There is mixed economic performance compared to the national average. The strongest performers have been the northernmost regions of Norrbotten and Västerbotten. In the period 1995-2012 these regions grew at a rate of 2.23% and 1.87% compared to the national average of 2.43%. Norrbotten, in particular has benefited from its strong mining base. Both of these regions have also combined increasing productivity and jobs growth at levels above the national level. The weaker performers have been Västernorrland and Jämtland Härjedalen. In the same period the economies of these regions grew at an annual average rate of 0.97% and 0.98% respectively. However, Västernorrland also has had an impressive productivity performance with a significant proportion generated by shedding labour. Jämtland Härjedalen has experienced weakening productivity and jobs growth, particularly after the crisis. Youth unemployment is also rising more rapidly in these regions in the aftermath of the crisis compared with Norrbotten and Västerbotten.

There are different growth dynamics in these regions based on their resource endowments, location, industrial industry, and population size and density. These regions are in the far north, which generates challenges (e.g. in terms of road maintenance) but also significant opportunities (e.g. data centres and technology testing). Norrbotten benefits from iron ore mining and to a lesser extent forestry and related value adding. Västernorrland and Västerbotten have large forest industries but have also been able to develop urban economies based around the provision of public and private services and value-adding manufacturing. Västerbotten also benefits from a significant higher education presence and also from mining activity. Jämtland Härjedalen has a strong focus and history of tourism development, and on engineering intensive manufacturing.

Better engaging the regional level in national sectoral policies would aid in delivering the objectives of Sweden's national strategy for regional growth

A place-based approach to regional and rural development will be crucial in organising and delivering this approach to investing in key enabling factors. Consistent with OECD good practice the national regional policy framework *Sweden's National Strategy for Sustainable Regional Growth and Attractiveness* provides a framework for investing in these enabling factors and guides the use of the European Regional Development Fund (ERDF) in the country. Each region's development strategy applies this framework to their needs and circumstances. However, this funding is relatively small and realising the growth potential of these regions depends upon effectively engaging with and influencing national sectoral policies. Different governance bodies are also responsible for delivering the ESF and EARDF at a regional level which increases the risk of a fragmented approach to investment which is not aligned with a coherent growth strategy for each region.

In Sweden, national sectoral policies and services tend to be designed in a top down way for the whole national territory. Beyond some capacity building measures and access to national programmes, the national innovation agenda is not well connected to the regional level. The national policy focuses on frontier technologies and funding support on larger scale R&D connected to them, which does not match with the innovation profile of many businesses in the northern regions. Bodies responsible for regional development have a weak and inconsistent engagement with transport planning and prioritisation, which is also the case for spatial planning. The regional level also lacks influence over the design and delivery of key social services, which is apparent in the education and skills system. As such, national sectoral policies are not effectively tailored or adapted to the unique and varied circumstances facing the four Swedish NSPA regions.

Transitioning to a single model of governance for regional development would help enable a more bottom-up approach

Improving the governance of regional development will go some way to addressing these issues. There are currently three different governance models for regional development across the four NSPA regions in Sweden. Two of the regions (Norrbotten and Västernorrland) still rely on national agencies, through County Administrative Boards that take a lead role in regional development. From 1 January 2017 directly elected county councils will take over this in the two regions. Region Jämtland Härjedalen and Västerbotten have respectively established directly, and indirectly, elected bodies with a mandate for regional development. Of the three approaches, the directly and in-directly elected models provide the best scope for greater cohesion in setting regional scale priorities, and for more effective co-ordination with the EU, national policies, and at the municipal level.

Recommendations at a national level to support growth in northern Sweden

1. Increase the productivity and competitiveness of the northern regions by:
    a. supporting these regions to facilitate new economic opportunities by linking smart specialisation strategies with areas of absolute advantage (including niche manufacturing and services associated with resource extraction, energy production, and forestry, and leveraging the Arctic climate and know-how)
    b. facilitating access for SMEs related to these core areas of absolute advantage to build scale, and connect them with opportunities to access external markets, and R&D and innovation opportunities (particularly specialised services related to the primary sector and health technologies)
    c. ensuring that the national tourism strategy includes clear measures to better link and co-ordinate existing marketing and destination management efforts across the northern regions (for example better linking-up efforts along the coast of the Gulf of Bothnia), and facilitate a co-operative approach with regions that have complementary assets in Norway and Finland
    d. increasing the scope of Regional Competency Platforms to adapt vocational training and education and employment services within their region (including at the scale of LLMs).
2. Improve connectivity and access to services by:
    a. providing better incentives and support for the northern regions to extend e-services initiatives for rural communities, and share good practices such as the provision of e-health services in the region of Västerbotten
    b. reducing barriers and disincentives for service delivery innovation in rural communities, including sharing resources and involving voluntary organisations in the design and management of services (e.g. more flexibility in how schools can share teaching staff and other resources).
3. Improve the governance of regional development in the northern regions by:
    a. strengthening the role of county councils in setting priorities and co-ordinating projects under the ESIF
    b. improving alignment of the administrative boundaries of state agencies at a regional level to provide a better platform for co-ordination between levels of government
    c. ensuring that proposals for regional and municipal mergers properly consider the costs and benefits of these changes for communities in low-density/sparsely populated areas
    d. allocating a competency for spatial planning and transport planning and co-ordination to the body responsible for regional development in the region, and ensuring these regional spatial plans are integrated with planning for regional transport and communications infrastructure (thereby helping to facilitate urban-rural linkages and complementarities in land use and infrastructure between different rural municipalities)
    e. ensuring the relevant regional level body with competency for regional development has a lead role alongside the County Administrative Board in the development of the National Transport Plan.

PART I

Northern sparsely populated areas in Finland, Norway and Sweden

PART I

Chapter 1

Addressing the shared policy challenges of the northern sparsely populated areas

The purpose of this chapter is to provide recommendations about shared policy challenges facing the northern sparsely populated areas (NSPA) and how to more effectively address them through enhanced cross-border co-operation. It begins by setting out a framework for understanding the growth of low-density economies followed by a diagnosis of the growth performance of the NSPA regions and factors influencing economic growth, productivity and well-being. The second part identifies the common policy challenges facing NSPA regions which shape future opportunities for growth and development. The third part of the chapter discusses how to improve institutional arrangements to enhance a co-operative approach to addressing these challenges.

Key findings and recommendations

Key findings

- **The economic and geopolitical importance of the NSPA regions to the EU and member countries has been increasing due to a changing climate, access to hydrocarbon and mineral resources, and shifts in relations with the Russian Federation (hereafter 'Russia') and other Arctic countries.** A changing climate is placing new pressures on ecosystems and traditional ways of life, and opening up new opportunities for resource extraction. The NSPA is Europe's gateway to the Arctic and northern Russia, and is important for energy security, food production and technological innovation, which is increasing its geopolitical importance to member countries. This importance is recognised by the EU and the national governments of Finland, Norway and Sweden. The EU, Finland, Sweden and Norway have each released Arctic policies in recent years, which set out commitments for the sustainable development of the northern regions. As an existing (albeit weak) institution the NSPA is an important stakeholder in helping to achieve these strategic policy objectives.
- **The NSPA regions are different to other regions in Europe because of harsh climate, strong natural resource endowment, and long distances between settlements and from markets.** The particular geography of the NSPA, combined with the small population, makes the region particularly dependent on the export of raw and semi-processed natural resources. Large scale resource extraction and industrial processing associated with mining, forestry, oil and gas, and fishing and aquaculture are important to the economic base of these regions. There is also a growing market in international tourism that is once again oriented around natural and cultural assets, which is also an important source of creativity and entrepreneurship. Within these broad parameters there are also important technological innovations occurring within the regions with niche manufacturing and services, and cutting edge research and innovation linked to the Arctic climate and environment.
- **The NSPA generally has productivity levels above the OECD average, although they lag behind other regions in the Nordic countries.** There is a general trend of convergence within the NSPA meaning their economies are becoming more similar which increases the scope for co-operation to address these challenges. In the context of an ageing population, future growth will need to come from increasing productivity and lifting workforce participation. In terms of demographic structure there is a common problem of an ageing and shrinking population which has implications for: replacement of workers, higher costs for providing health care and senior services combined with a shortage of workers to deliver these services, and falling local tax revenues. In most LLMs there are significant mismatches between available skills and what employers require that lead to reduced production, significant unemployment and high outlays on social welfare. Economic and population growth is increasingly concentrating in a smaller number of larger LLMs somewhat offsetting the impacts of population ageing and decline.
- **There is a high level of dependency on the public sector, which is a risk for future growth and prosperity.** Firms in the NSPA are mainly small and the most common specialisation for small firms is in natural resources whilst for large establishments it is public sector service providers. Large private sector firms are declining in numbers and as a share of all firms. In some parts of the NSPA there is a fairly strong rate of new firm formation, but in other parts there seems to be a lack of entrepreneurial behaviour by local people. Related to this is a very high rate of employment in the public sector especially in some of the smaller municipalities that are not part of a larger LLM. The over-representation of the public sector is also a symptom of a weak private sector economy, and is a risk for the future as fiscal consolidation and population decline in some areas will most likely lead to reductions in public sector employment.
- **While there are clear challenges for economic growth in future years the NSPA regions have high levels of well-being in an OECD context.** Although levels of well-being are somewhat below the level of fellow citizens in the south of each country, it is remarkably high by OECD standards. While citizens in the NSPA generally experience lower employment and income outcomes than the country average, other factors such as housing, the environment and accessibility to services are above or close to the country level. This suggests that if it is possible to increase employment levels, raise productivity, and improve both the functioning and geographic extent of LLMs in the NSPA there is a high likelihood that people will be more likely to remain and a significant part of the demographic challenge will be resolved.

Key findings and recommendations *(continued)*

- **Addressing the common challenges and opportunities facing the NSPA will require an enhanced approach to cross-border collaboration which is focused on key enabling factors for growth and productivity (skills, innovation and infrastructure).** There are already a number of cross-border collaborations supported by the EU and national governments which encompass these issues and there is scope to better co-ordinate and align them to address the key challenges facing the NSPA. The NSPA itself does facilitate knowledge-sharing but primarily functions as a way to engage with the EU and influence EU policy settings (particularly the European Fund for Regional Development, and European Social Fund). As a result, there is a lack of collective approach amongst the NSPA regions to influence the sectoral policies of national governments so they can be better tailored and integrated to the unique challenges and opportunities facing the NSPA. Identifying how to strengthen this NSPA-wide collaboration and better connect it to national level forums would need to build upon and strengthen existing institutions such as the Nordic Council and the Barents Euro-Arctic Council.

Recommendations

1. Continue to **ensure that the unique characteristics of the NSPA regions** (a harsh climate, long distances from markets, and a small number of isolated settlements) **are effectively incorporated into national and European level policy settings** for regional and rural development, and service delivery. This includes:
   a. recognising the importance of improving **infrastructure for connectivity**
   b. the need to focus scarce economic development resources in areas of **absolute advantage**
   c. accounting for the **higher unit costs of delivering public services** (due to remoteness, low population densities, low population densities, and the harsh climate).
2. **Enhance existing co-operation across the NSPA** by better linking this network with the Nordic Council and **developing a work programme** to help facilitate knowledge-sharing, harmonise policies and regulatory settings where it is appropriate, and monitor the implementation of EU and national policies that have cross-border implications. This work programme should **focus on addressing shared challenges and opportunities** with objectives such as:
   a. increasing **the use of e-technologies, and innovative partnerships** with the private and community sectors to **drive service delivery innovation**
   b. adopting a **more integrated approach to infrastructure planning, investment, and maintenance** including identifying new ways to work with the private sector (this includes improving cross-border planning and investment co-ordination to facilitate improved east-west linkages)
   c. improving the **functioning of labour markets** by reducing occupational and skills barriers to mobility, and facilitating co-operative arrangements between educational institutions
   d. working to **facilitate greater interaction among LLMs** with common characteristics and opportunities in areas such as **higher education, research and innovation,** particularly when they are in different countries
   e. encouraging a **more co-ordinated approach between NSPA regions to smart specialisation** which builds upon core areas of absolute advantage, provides better support for SMEs and start-ups for example by addressing barriers such as access to finance, and facilitates access to external markets
   f. better **linking Sami communities with regional and rural development policies** to help create new employment and business opportunities for local communities.
3. **Strengthen governance mechanisms within each country which facilitate a partnership approach between the national governments and NSPA regions** in the design and delivery of key sectoral policies (education and skills, health, transport and broadband infrastructure, and innovation). A joint approach to working with the NSPA regions in each country will help ensure policies better reflect the unique needs and circumstances of these regions, and incentivise enhanced collaboration between regions and municipalities (including at the scale of LLMs).

Introduction

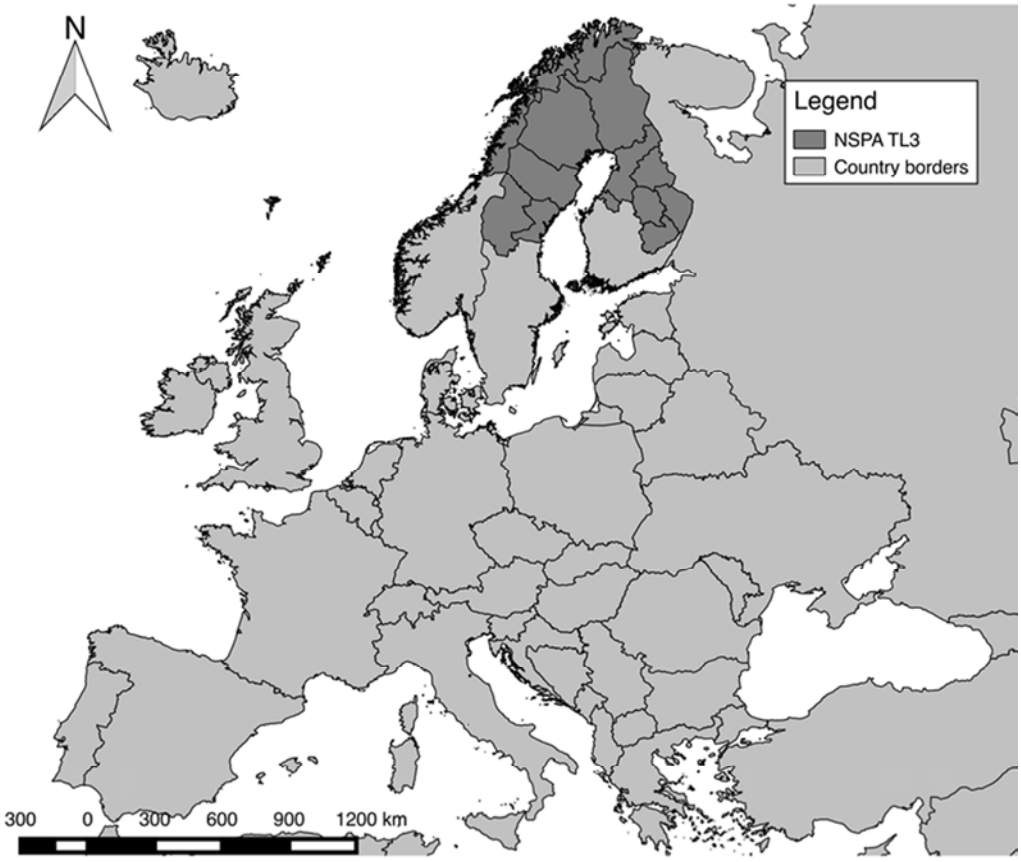
The northern sparsely populated areas (NSPA) of Finland, Norway and Sweden are linked by a common set of territorial features characterised by long distances from major markets, a small number of isolated settlements, and a harsh climate. The NSPA also has significant opportunities and has an important economic and geopolitical role within Europe as a major source of scarce minerals, dietary protein through fishing and aquaculture, wood, fresh water, and related expertise, and as an access point to the Arctic and Russia. There is scope for greater collaboration across the NSPA and with country and supra-national institutions to help facilitate growth opportunities and address challenges such as population ageing and decline. The purpose of this chapter is to provide recommendations about how regions, national governments, and supra-national institutions can adjust policy settings and enhance co-operation to facilitate better economic development and service delivery outcomes for the NSPA. The chapter finds that enhanced co-operation can ensure European and national policies are better adapted to the unique needs and circumstances of the NSPA. The chapter begins with a discussion about the framework for understanding the growth of low-density economies (LDEs). Following this discussion is a diagnosis of well-being, demographic factors, economic performance and productivity. On the basis of that diagnosis, the second section identifies key policy challenges that would benefit from enhanced co-operation. The chapter concludes with the identification of the policy and institutional implications of these challenges.

The northern sparsely populated areas

This review examines the policy challenges and growth opportunities facing the 14 regions which constitute the NSPA across Finland, Norway and Sweden. The NSPA was established as collaborative network in 2004 between the four northernmost counties of Sweden (Norrbotten, Västerbotten, Jämtland, and Västernorrland), the seven northernmost and eastern regions of Finland (Lapland, Northern Ostrobothnia, Central Ostrobothnia, Kainuu, North Karelia, Pohjois-Savo and South Savo) and North Norway (Finnmark, Troms and Nordland). These 14 regions from three countries use the NSPA to raise awareness of the common issues and circumstances facing these regions within EU institutions, to influence EU policy and to provide a platform for best practice.

The NSPA regions are linked by a set of common territorial characteristics which are absent in other European regions, and are recognised in key national and EU policy frameworks. These territorial differences include the presence of long distances from major markets; limited connectivity to large urban places including national capitals; a large number of small isolated settlements that are too far apart to allow significant interaction; and a narrow resource base, which while valuable, limits economic opportunities. These regions also have a harsh climate, both in terms of temperature variability (ranging from -40 to +35 degrees Celsius) and in variability of hours of daylight (for example the midnight sun is from 20 May until 22 July in Tromso in northern Norway).The cumulative effect is that the NSPA differs significantly from the rest of Europe and resembles more closely to isolated and resource dependent territories in Australia, Canada, Chile and Russia. These differences are already recognised in key policy and institutional frameworks. The Accession Treaty for Sweden and Finland to join the EU in 1995 included a special provision to promote the development and structural adjustment of regions with extremely low population densities (8 persons per kilometre or less), which included additional funding targeted to these regions (in 2014-20 this amounted to EUR 305.3 million for Finland and EUR 206.9 million for Sweden).

Figure 1.1. **Map of the NSPA**



Note: Territorial level 3 (TL3) consists of micro regions within each OECD country. Each member country has identified the statistical or administrative geography that provides the best fit for this territorial classification.

Source: Own elaboration.

The NSPA is of increasing strategic important to the EU and the geopolitical and economic interests of Finland, Norway and Sweden. The NSPA is already significant to the economy of Europe through the production of fish products, wood, strategically important minerals, and energy. There is also further growth potential in the NSPA and across the broader Arctic region in areas such as cold climate technologies and services, renewable energy technologies, and the so-called "blue economy" such as aquaculture, offshore energy, and maritime tourism. The strategic importance of the NSPA and the Arctic is also increasingly recognised in national and European level policies. For example, the economic and geopolitical importance of these areas is reflected in the Norwegian government's High North and Arctic policies. These policies set long-term objectives to ensure Norway continues to be a responsible manager of natural resources, exercises its sovereignty in the Arctic, and continues close co-operation with its neighbours and allies. The EU's Arctic Policy was released in 2016 to provide a framework for engaging in a collaborative way with stakeholders – including three member countries – in relation to economic, social, environmental and security issues affecting the Arctic. The EU policy has three main pillars: climate change and

safeguarding the Arctic environment, sustainable development in and around the Arctic, and international co-operation on Arctic issues. As an existing (albeit weak) institution the NSPA is an important stakeholder in helping to achieve these strategic policy objectives.

The strategic importance of the NSPA combined with the relative prosperity of the three national governments and their historic willingness to support balanced growth across the national territory, makes the NSPA a valuable test case for the proposition that LDEs can deliver a high quality of life to its citizens and make a significant and positive contribution to national growth. Against this backdrop, European and Scandinavian countries are still undergoing fiscal consolidation measures in the aftermath of the global financial crisis bringing added pressure to curb spending and make more efficient use of public resources. It is paramount for the NSPA regions to ensure they can mobilise their growth potential in areas where they have comparative advantage and gain efficiencies in the provision of goods and services in order to maintain the high living standards over the long run and remain competitive.

While each NSPA region needs to pursue its own strategy, there are common public goods and initiatives that can bring larger benefits to the NSPA through joint and co-ordinated initiatives. There are many institutions which already enable cross-border collaboration but they do not sufficiently influence the design and implementation of national policies which affect the future prosperity and well-being of the NSPA. While the 14 regions are contiguous some of the bottlenecks to further collaboration include weak transport connections, differences in regulatory frameworks, constraints at border crossings, as well as limited encouragement for systemic collaboration by national governments. This chapter analyses some critical drivers for economic growth and competitiveness in the NSPA area in order to identify initiatives and co-operation efforts that can add value. The main thematic areas examined are innovation and entrepreneurship, infrastructure and accessibility, demographic change, LLMs, and service delivery. The following section of the chapter will provide a diagnosis of the 14 regions from the NSPA to identify the key trends and factors contributing to the growth and productivity of these LDEs.

NSPA diagnostic

Unlike the 14 case studies of regions and 3 national chapters, which focus on specific parts of the NSPA, the intent here is to consider the NSPA as a single unit, albeit one with considerable internal diversity. The focus is on describing broad similarities in conditions, needs and opportunities as a way to demonstrate that there is a considerable degree of coherence across the vast territory, even though individual settlements are far from each other, making direct interaction unlikely. The aim of this analysis is to identify aspects of the current socio-economic structure that influence future opportunities for economic growth. While economic well-being is only one aspect of broader measures of quality of life, in LDEs it plays a more central role than in large metropolitan regions, if only because when employment opportunities disappear or become unsatisfactory this leads to settlements disappearing.

This section of the chapter begins with a discussion about the common features of the NSPA and how to understand the growth of LDEs. This is followed by an assessment of broad demographic trends and the linked topic of workforce issues. The next topic deals with economic competitiveness and this largely focuses on productivity measured in

terms of GDP per capita. Once these basic topics are set out we turn to a discussion of local labour market conditions in the NSPA using definitions developed by Nordregio. This is followed by analysis of firm numbers, size distributions and dominant sectors to give a picture of economic structure. These topics are then integrated through a cluster analysis of the 37 LLMs to establish which LLMs have the greatest similarities. The final topic is an examination of quality of life indicators to extend the diagnosis beyond measures of economic well-being. The section concludes with a brief summary of key findings.

The NSPA regions share a number of common features

The NSPA regions share a similar natural environment – harsh climate, strong natural resource endowment but with a relative lack of agriculture, strong potential for renewable energy, long distance from markets, and high cost of land transport. This "first nature geography" plays a far more important role in the NSPA than is the case in most of southern Europe where high density settlements are buffered from nature by a built environment that limits the impact of nature on people and firms. The particular geography of the NSPA, combined with the small population, makes the region particularly dependent on the export of raw and semi-processed natural resources. There are also growth opportunities for specialised manufacturing and a growing market in international tourism that is once again oriented around the natural environment.

The NSPA also share similar political, social and commercial institutions. All three countries share a common political structure that is loosely referred to as the Nordic Welfare State, characterised by a very strong and interventionist national government that has provided a high and uniform level of social services to the population (Kuist et al., 2012). While the national government determines the level of services and funds them, the actual delivery is done mainly by municipalities, but increasingly by regional governments. In recent times the growing divergence between conditions in the NSPA and in the southern parts of Finland, Norway and Sweden, where the bulk of the population resides, has led to a number of tensions. Unit service delivery costs are higher in the north due to fewer people and greater distances, the mix of services needed is diverging as demographic structures differ, and the influence of the northern population on legislative and regulatory processes is declining as its share of the national population shrinks. The structure of the three internal national economies is also separating into a mainly urbanised, high-tech and advanced services economy in the south and a more traditional resource-based economy in the north. All the regions of the NSPA face a common political challenge to ensure public policies continue to meet the needs of the northern areas.

The internal structure of these economies are also similar in that each region contains multiple LLMs that are not well connected, and there is significant diversity of socio-economic conditions within regions. Just as average conditions in the NSPA do not capture the conditions in any particular region, average conditions within a region also fail to capture the internal variability in conditions among municipalities. Across the 14 regions economic growth is concentrating in particular LLMs. In general it is the larger LLMs that are made up of multiple municipalities that are linked through commuting flows that are doing well in terms of economic measures and demographic trends, but also in terms of providing access to residents of a variety of services. The report identifies 37 LLMs that consist of 2 or more adjacent municipalities where the

local economy is strong enough to allow a considerable amount of commuting to take place across municipal borders. These regions are for the most part experiencing the most favourable population trends, with either slight increases in population or minor declines. In most cases, these sub-regions offer the best prospects for future economic growth in each of the 14 regions because they currently possess the best underlying conditions for growth.

Understanding growth in low-density economies

Low density and remote rural regions have a fundamentally different structure than the large metropolitan regions that enjoy economies of agglomeration (OECD, 2016a). Low-density economies (LDEs) are characterised by low population and labour force, weak connectivity to external markets, small local markets that offer a limited set of goods and services, high dependence on primary sectors and first stage processing, a workforce dominated by lower skilled workers, higher unit costs to deliver public services, dispersed settlements that lead to fractured local government systems and disconnected LLMs, and a small local tax base.

By contrast urban regions enjoy the so called agglomeration benefits, which arise when firms and consumers concentrate in a given geographic area. According to reviews by Rosenthal and Strange (2004), Duranton and Puga (2004) and Puga (2010) these benefits emerge due to three reasons:

1. **Sharing facilities, input, and gains from specialisation** giving rise to lower costs for firms for specialised non-traded input that are shared locally in a geographic cluster.
2. **Thicker labour markets**: which arise due to labour market pooling, better matching gains from reduced labour acquisition and training costs in thick LLMs with abundant specialised labour force.
3. **Knowledge spillovers**: learning about the spreading new ideas face-to face contact can enable tacit knowledge spillovers through increase in the intensity of the interactions with other firms or individuals.

Recent OECD research reveals that these agglomeration benefits increase in larger populations (OECD, 2014a). In other words larger cities and metropolitan areas can be very productive due to these attributes. Notwithstanding this fact, the productivity performance across different types of OECD regions varies significantly with a larger variation present in rural regions or LDEs (OECD, 2016a). High productivity growth is certainly possible in all types of regions. This suggests that LDEs can overcome the lack of economic concentration via other mechanisms.

For instance there are a wide range of industries in LDEs such as in forestry or mining where vertical integration represents an advantage and essentially overcomes the need for sharing facilities. LDEs can also attract workers from other regions and abroad through higher wages (e.g. mining industry) or by offering attractive quality of life packages through the availability of environmental amenities and lower housing prices. ICT broadband and high speed connections in remote areas can enhance connectivity in remote areas and the spread of new ideas.

The lack of internal markets in LDEs suggests that exporting activities are key drivers for development and improving living standards. Recent research confirms tradable activities are a major component of economic growth and productivity in rural

areas (OECD, 2016a). Although rural areas provide traditional resources such as forestry, mining, oil and gas, electricity production, fishing and agriculture, they are increasingly providing vital new functions that use their resource base in novel ways. These include manufacturing which also takes place in rural areas, various types of rural tourism, the preservation of wildlife and cultural heritage sites, the production of renewable energy, and the recognition of the key role that the rural environment plays in eco-system services, such as carbon capture or filtering contaminants from air and water.

Rural regions must take advantage of context-specific assets that are immobile which can represent areas of absolute advantage. Whether this is a natural park, the presence of natural resources, cultural heritage or fjords, these assets, if well managed, can produce or offer a unique good or service to external markets and consumers. The key policy question then is how to add value around the unique assets by reducing bottleneck and supporting the enabling factors. The concept of smart specialisation (discussed further in this chapter) therefore becomes a very suitable policy approach for LDEs (OECD, 2013a). If well applied, it is a tool that can be used to identify and focus on the areas of absolute advantage, and then add value around them through diversification efforts.

There are different growth dynamics in LDEs according to various economic models (Box 1.1), each identifying a number of policy alternatives. While these models are strongly interlinked, the key challenge for the NSPA region is to identifying the best policy responses at the appropriate geographic scale. Some policy initiatives will require co-ordination at the supranational level, while others might be more suited at national, regional and even local level. The next section begins with a general diagnosis of the NSPA region to better understand the growth dynamics across the 14 regions and to better identify areas of growth potential and bottlenecks that can help priorities policy responses.

Table 1.1. **Models of growth and implications for low-density economies**

Originator of idea	Action	Result	Policies
Adam Smith	Expand trade	Increased output and employment, greater worker specialisation, economies of scale	Help to identify and access new markets, access to finance for firm expansion, workforce training programmes
Robert Solow	Adopt best current technology	Substitution of capital for labour, increased technical efficiency, lower cost of production	Access to finance to make investments, support for local firms to identify new technologies and equipment
Joseph Schumpeter	Introduce innovative products and processes	New market opportunities, increased competitiveness	Support for research and development, support for entrepreneurs with novel business ideas, support for bringing in innovative processes developed elsewhere
Douglas North	Reduce transaction costs and uncertainty from regulatory processes	Better business environment, increased willingness of firms to invest	Quick and consistent government responses to businesses, support for business networks, clear and consistent regulations, improve matching process in job market
Alfred Weber	Reduce transport costs and other location costs, reduce communication costs	Faster and cheaper access to external markets, improved supply chains	Investments in transport and other forms of infrastructure, strengthen competition among firms, fast broadband

Box 1.1. **Growth dynamics in low-density economies**

Growth models can provide an understanding on how a low density economy (LDE) can grow. Although most growth models are largely developed to address the prospects for national and large urbanised regions, the concepts can be reframed to address LDEs.

- The essential aspect of the Smithian growth process is the benefit from trade in allowing specialisation and opportunities to capture scale economies from expanding production. Because LDEs are inherently small and truncated, they offer few opportunities for Smithian growth internally. But, the ideas of Adam Smith are a crucial element of the export-base model of regional development. Within each region a few firms in particular industries are the main economic driver for the local economy and these firms rely on export markets for their success. With access to an external market firms can get large enough that workers become specialised and more efficient and other forms of scale economies can be adopted.
- Solow growth comes from a capital deepening process, where labour is replaced by equipment, which in turn leads to an increase in labour productivity measured by output per worker. Capital deepening can contribute to a lowering of unit cost of production as cheaper or more productive capital replaces more expensive labour, thereby increasing competiveness. Inherent in this process is the idea of investment. Firms spend large amounts of money to obtain machinery and equipment that yields a higher future profit stream. To do this typically requires access to well-functioning financial markets that can provide these funds, either as debt or equity capital. Although in rural areas such markets may not exist, and firms can be capital constrained, there are large firms operating capital intensive activities around the primary sector.
- Joseph Schumpeter developed a theory of economic growth driven by a steady process of technological change that leads to better products and better processes (Schumpeter, 1934). The ideas of Schumpeter underpin smart specialisation strategies that seek to identify ways to increase the rate of innovation in a region. Better products can be new consumer goods or manufacturing equipment, and better processes that allow inputs to be converted into outputs with less waste and effort. A key aspect of technology driven growth is that once an idea is created there is no additional cost for others to adopt it. Further, in principle, technological change allows economic growth to continue unabated as long as technology continues to improve. The key question is where do these new ideas come from? While LDEs have access to innovations that are generated in urban areas, important new technologies have been created in rural areas (Freshwater and Wojan, 2014). Often these come from a very different process than the formal, science based innovation systems that are the standard model of how innovation occurs.
- Douglas North highlights the strong role institutions play in the economy. Nations and regions with formal and informal institutions that encourage taking advantage of economic opportunity experience stronger economic growth than those with weak institutions. Formal institutions include: clear property rights, the rule of law, well-functioning financial markets, the absence of corruption, and a stable political system. Informal institutions include: strong social capital, social cohesion and the general belief that economic outcomes are largely equitable. In a rural context a different set of institutions than are found in metropolitan areas can provide an institutional context that supports growth. Because interpersonal contact is frequent and complex in a small population, trust can play an important role in structuring relationships. Formal contracts may be less relied upon than personal commitments. Similarly, there may be a greater reliance on non-profit firms and voluntary organisations to provide goods and services than in more urbanised regions where governments and for-profit firms play a larger role. Where the sense of community breaks down there can be adverse consequences for local institutions, because both markets and formal government approaches can be hard to introduce.
- Alfred Weber already highlighted the importance of geographic location. For regional economies the particular geography they are situated in plays a key role in shaping economic growth. This includes the particular geographic endowment of the region (land type, climate, terrain, minerals etc.) and the regions location with a larger system of regions that determine trading opportunities and connectivity. This particular aspect of growth which follows the ideas of economic geography associated with the work of Alfred Weber is now captured in the literature of regional science. For LDEs the spatial context plays a defining role in establishing the opportunities and constraints on economic growth.

Source: Mokyr, J. (ed.) (2003), *The Oxford Encyclopaedia of Economic History*, Oxford University Press.

Demographic trends

The NSPA has a unique settlement structure in a European context

The NSPA regions are located on the periphery of Europe and have a unique settlement structure within the EU. The NSPA has 5 persons per square kilometre, for a total of about 2.6 million people over an area of 532 000 square kilometres, which is comparable to the population of Rome inhabiting the entire area of Spain. The Norwegian northernmost region, Finnmark, has the lowest population density among the NSPA regions: 1.64 persons per square kilometre. Even the most densely inhabited region, South Savo (Finland [FI]), records a population density of only 10.91 persons per square kilometre, which is far below the OECD average of 36.76. These levels of population density resemble rural regions in countries such as Canada, Australia and Chile.

There is also a significant amount of diversity in terms of the distribution of population with the NSPA. The NSPA has a number of medium-sized cities (such as Oulu and Umeå), and rural areas which range from those within proximity to these cities to remote rural areas. Some of these remote rural areas are densely populated (with people in fewer and larger centres such as Norrbotten) while others have a more even population distribution (such as the regions in eastern Finland). The physical environment plays a key role in shaping the distribution of the population and increases complexities and cost related to transport and accessibility. For example, the extensive fresh water lakes and waterways in Finland, and the costal inlets, mountains, and islands in northern Norway shape distinctive settlement patterns. Each of these different types of rural areas raises distinctive development challenges and opportunities, which need to be considered in the design and implementation of public policies.

Table 1.2. **Challenges and opportunities by type of rural region**

Rural inside functional urban area (FUA)	• activities tend to concentrate in core • loss of rural identity • may be treated as a land reserve for future urban growth	• more stable future because cities are less vulnerable to shocks • potential to capture urban benefits and avoid negatives
Rural outside, but in close proximity to, FUA	• conflicts between new residents and locals • may be too far away from an urban area for some firms, but too close for others	• potential to attract high income households seeking a high quality of life • relatively easy access to advanced services and urban culture • good access to transport
Rural remote with dense settlements	• ageing and shrinking workforce • limited access to all but basic goods and services	• potential for internal collaboration among communities • flexibility in local labour markets • may be attractive for firms that do not need access to an urban area on a regular basis
Rural remote with sparse settlements	• rigid local labour markets • highly specialised economies subject to booms and busts • limited connectivity and large distances between settlements • high per capita costs of services	• absolute advantage in production of a specific natural resource-based output • can offer unique environments that can be attractive to firms and individuals

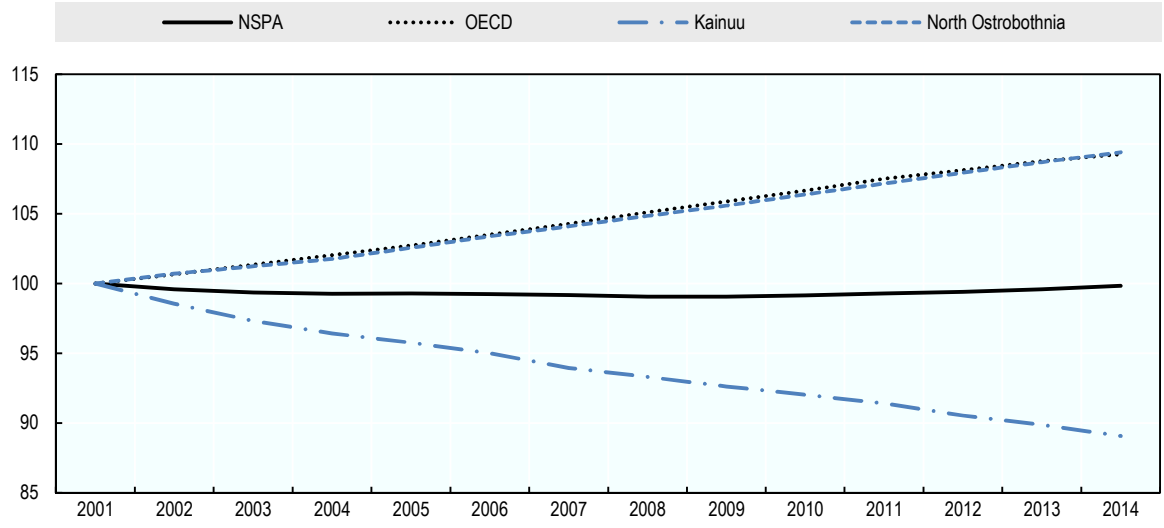
Source: OECD (2016b), *OECD Monitoring Review, Sweden*, (unpublished).

Population growth across the NSPA has been stagnant with population growth concentrating in larger centres

The total population in the NSPA has remained virtually constant in the last 15 years. Population change between 2001 and 2014 is modest, with a minor decrease in 2008-09 and a slow increase in recent years. However, the NSPA average masks significant

interregional and within region disparities. For example, Northern Ostrobothnia (FI) and Kainuu (FI) are adjacent to each other, yet have had polar opposite population trends. Northern Ostrobothnia (FI) has been the NSPA region with the highest population growth. Within Northern Ostrobothnia the growth was concentrated in the Oulu city region (LLM), which was the fastest growing city region in all Nordic countries between 1995 and 2015, with a 37.5% increase in population (Nordregio, 2016: 16). On the other hand, Kainuu (FI) is the NSPA region with the lowest population growth: the regional population in 2014 was 10.9% lower than the regional population in 2001. Such population decline is led by low fertility rates combined with youth outmigration to the southern regions. In general within the NSPA municipalities that have small populations without an urban settlement with a population of more than 30 000 in size tend to have declining populations, while municipalities with an urban population above 60 000 mostly have population growth.

Figure 1.2. **Population trends in the NSPA, 2001-14**



Source: OECD (2016c), "Regional demography", *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/a8f15243-en (accessed 9 January 2017).

The population of the NSPA regions is ageing at a faster rate than the OECD average due to youth outmigration

The age pyramid is a useful tool to visualise and understand the population structure of a given region at one point in time. Figures 1.3 and 1.4 show the age structure of the NSPA compared with the OECD. The population distribution of the NSPA is skewed towards the 45 to 70 age cohorts, whilst the OECD pyramid has its largest section over the years 20 to 50. Moreover, in the NSPA the difference between the proportion of men and women leans towards the former for all age cohorts under 70, while in the OECD this is the case only for the population under 30. The male to female ratio in the NSPA is particularly high for the 20-24 and 25-29 age cohorts (1.11 and 1.12 respectively). This is consistent with a situation where younger females have higher secondary school completion rates than young males and continue on to post-secondary education, which in turn causes them to leave home for this education and then take on a career outside the NSPA.

Figure 1.3. **Age structure (NSPA)**

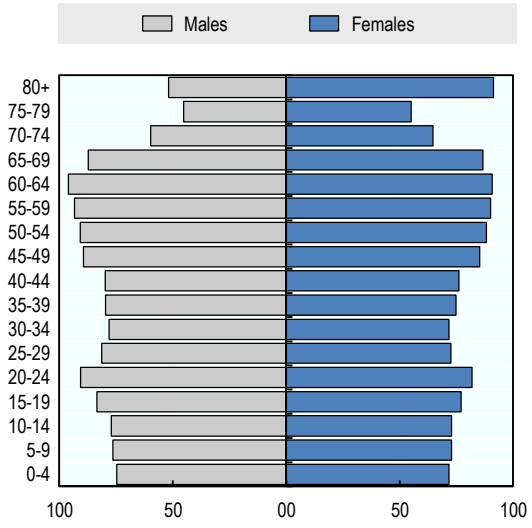
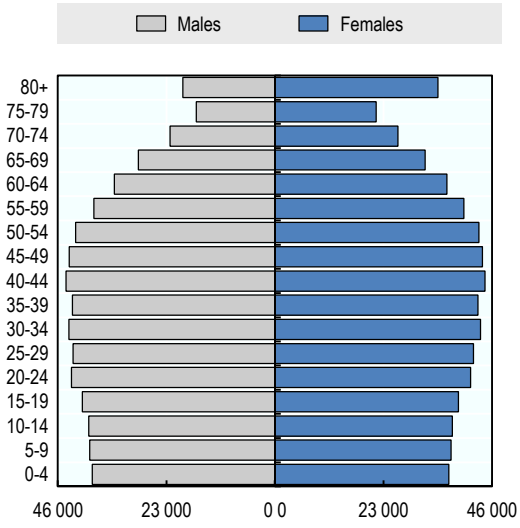


Figure 1.4. **Age structure (OECD)**



Note: Population expressed in thousands of persons. Based on 2014 data.

Source: OECD (2016c), "Regional demography", *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/a8f15243-en (accessed 9 January 2017).

As a consequence, the NSPA has a high elderly dependency ratio and a low youth dependency ratio. In 2014, the elderly dependency ratio, which measures the share of elderly population over the working age population, was 32.4 in the NSPA. This value is significantly higher than the OECD average of 24.2. Within the NSPA, the region with the lowest elderly dependency ratio is Finnmark (Norway [NO]), which recorded values in line with the OECD average for the whole period considered. On the other hand, the region with the highest ratio is South Savo (FI), with a strikingly high value of 42.9 in 2014. Increasing elderly dependency rates are the norm across OECD countries. However, in the NSPA the increase has been faster than average, and particularly so for some regions such as South Savo (FI).

The difference in terms of youth dependency ratio is less pronounced, both between the NSPA and the OECD average, and across NSPA regions. In 2014, the youth dependency ratio in the NSPA was 26.7, not very distant from the OECD average of 27.5. Northern Ostrobothnia (FI) had the highest value (32.5) and South Savo (FI) the lowest (22.2). After a period of decline, the NSPA youth dependency ratio has increased. This trend is significantly different from the OECD trend, which is declining over the whole period considered. As a consequence, the gap between the NSPA and the OECD average has decreased from 7% in 2007 to 3% in 2014.

The difference in dependency ratios has two main implications for the future. The first is that the demand for public services biased towards youth (education and recreation) is declining and the unit costs of providing these services are increasing as numbers fall. On the other hand the demand for services biased to the elderly (health and elder care) is increasing, which means a need for new investments. Second, the shift in the age cohort structure points to a decline in workers, especially female workers who typically play a larger role in the public service sector.

Figure 1.5. **Elderly dependency ratio**

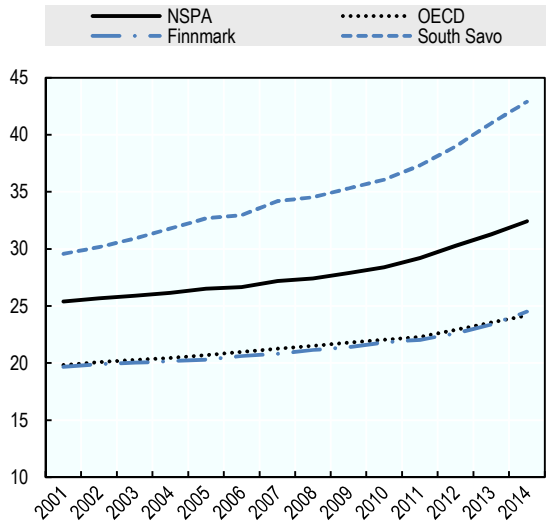
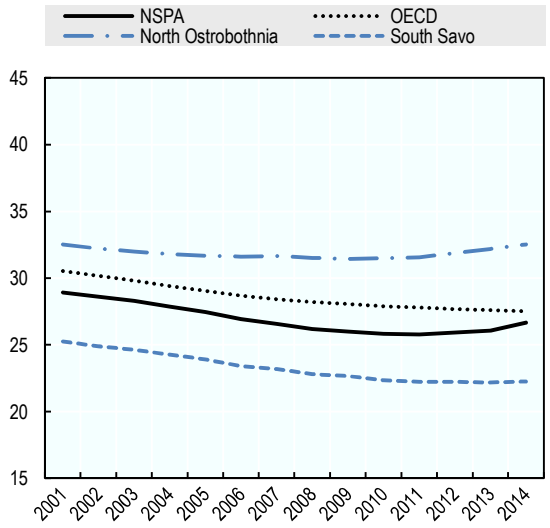


Figure 1.6. **Youth dependency ratio**



Source: OECD (2016c), "Regional demography", *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/a8f15243-en (accessed 9 January 2017).

These demographic trends will further exacerbate problems with the workforce

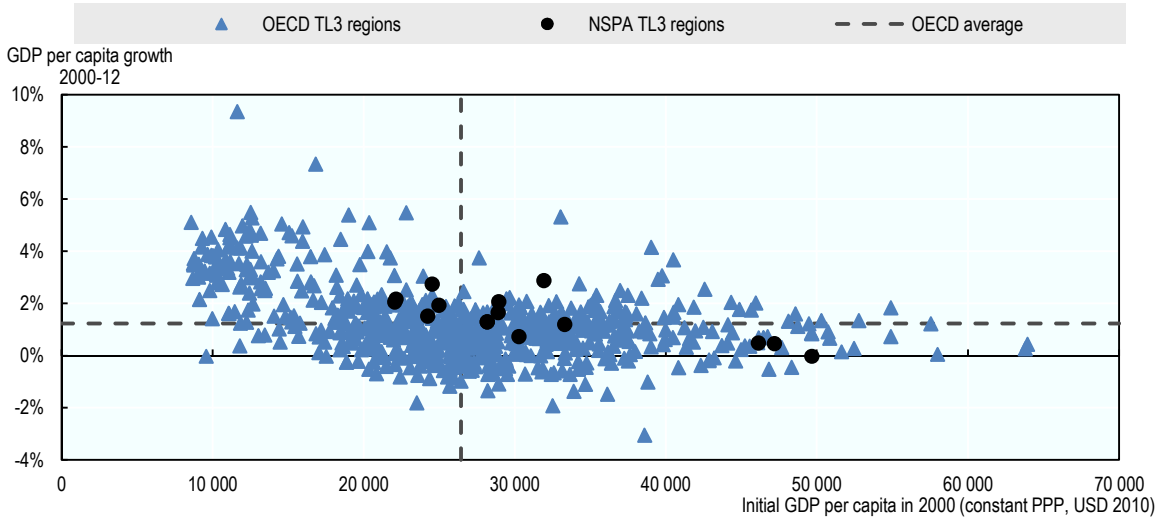
The long term supply of workers is largely determined by demographic trends and in the NSPA the increased prevalence of municipalities experiencing an ageing and shrinking population suggests that their local labour force will continue to decline at a faster rate than the population. In parallel a large number of structural problems in the labour market. The first is a falling rate of educational attainment by young males who are leaving school with only weak qualifications and not pursing post-secondary education or training. The second is that while young females have higher educational attainment levels they also have a higher tendency to leave their home community, which has long-term implications for natural population replacement potential. There is also an increasing trend for older males with weak formal skills to be out of the workforce due to a work-related disability. In the context of an ageing population, skills and workforce participation will be an increasingly important policy issue to be addressed across the NSPA.

Economic growth and productivity

Economic performance has been relatively strong in an OECD context

Overall, the NSPA regions performed well in terms of the growth of per capita output. Nine NSPA regions out of 14 had GDP per capita growth higher than the average of the OECD TL3 regions (1.2%) over the period 2000-12 (see Annex 1.A1 for details of OECD territorial classifications). Similarly, at the beginning of the period, GDP per capita levels were higher than the OECD average in nine NSPA regions. The Swedish and Finnish NSPA TL3 regions cluster around the OECD average both in terms of GDP per capita growth and levels, whilst the TL3 regions in the Norwegian NSPA are distinct because of their high GDP per capita levels that are well above the OECD average. Because of these country effects NSPA regions are rather heterogeneous in terms of GDP per capita levels, which ranged from USD 22 056 for Kainuu to USD 49 682 for Troms at the beginning of the period considered (2000).

Figure 1.7. **Benchmarking GDP per capita performance in NSPA TL3 regions, 2000-12**



Note: GDP per capita growth is measured as the average yearly growth rate between 2000 and 2012.

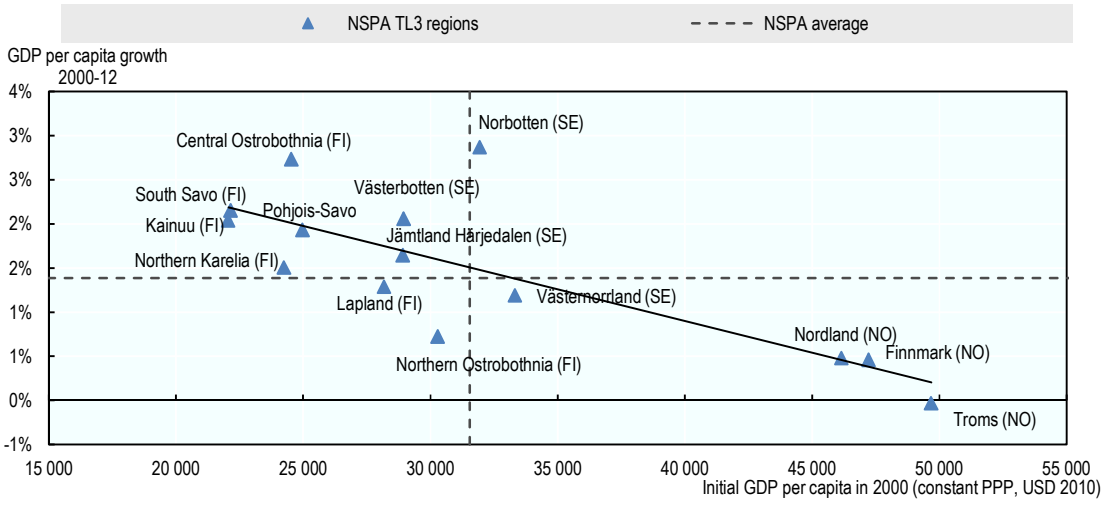
Source: OECD (2016d), "Regional economy", *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/6b288ab8-en (accessed 9 January 2017).

Within the NSPA three groups of regions exist in terms of economic performance. The first group includes five Finnish regions that are characterised by above average GDP per capita growth and below average initial GDP per capita levels. Conversely, the second group, consisting of the three Norwegian regions, is characterised by low GDP per capita growth but above average initial GDP per capita levels. The third group falls in between with close to OECD average initial GDP per capita and close to OECD average GDP growth, and includes all the Swedish regions as well as the two Finnish regions of Northern Ostrobothnia and Lapland.

There is a process of convergence (or catching up) occurring within the NSPA

The NSPA average GDP per capita (the sum of the GDP in purchasing power parity [PPP] in the 14 regions divided by the sum of the regional populations) grew by 1.4% per annum between 2000 and 2012. The six NSPA regions with a GDP per capita growth lower than the NSPA average were the three Norwegian regions, Västernorrland (Sweden [SE]), Lapland (FI) and Northern Ostrobothnia (FI). The highest GDP per capita growth was recorded by Norrbotten (SE), followed by Central Ostrobothnia (FI). The Swedish regions recorded the best overall performance, with GDP per capita levels between USD 29 913 and USD 33 318 in the initial year and average growth rates between 1.2% and 2.9% over the period considered. These trends indicate that, in the NSPA, lower GDP per capita levels are strongly correlated with higher GDP per capita growth, leading to a process of catching up among the NSPA regions. As GDP per capita levels in the worse-off regions are converging to the levels of the better-off regions, the NSPA area is becoming more homogeneous internally, which could enhance the potential for fruitful collaboration among the NSPA regions.

Figure 1.8. **GDP per capita performance of NSPA TL3 regions**



Note: GDP per capita growth is measured as the average yearly growth rate between 2000 and 2012.

Source: OECD (2016d), "Regional economy", *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/6b288ab8-en (accessed 9 January 2017).

Growth across the NSPA is mainly hampered by demographic factors

An alternative measure of economic performance is to look at each region's contribution to national GDP growth. These are given in the first column of Table 1.3, which shows that virtually all NSPA regions are growing slower than the rest of their respective countries. In addition these rates can be decomposed into contributions from: productivity, employment rate, and the activity rate and population factors using an accounting framework (described in Annex 1.A2). The table shows that the decline in population and the activity rate (percentage of the total population aged 15-64) is detracting from the growth of nearly all NSPA regions. This has been offset somewhat by growth in employment and productivity for some regions.

Table 1.3. **Decomposing GDP growth in NSPA TL3 regions (1999-2012)**

	Increase in GDP share (%)	Increase in productivity (%)	Population growth (%)	Increase in employment rate (%)	Increase in activity rate (%)
Västernorrland	-1.0	**0.5**	-0.9	-0.5	-0.1
Jämtland Härjedalen	-0.8	-0.1	-0.9	**0.1**	**0.1**
Västerbotten	0.0	**0.2**	-0.5	**0.2**	**0.1**
Norrbotten	**0.7**	**0.6**	-0.9	**1.1**	-0.1
Nordland	-1.0	-0.1	-0.9	0.0	0.0
Troms	-1.2	-0.8	-0.5	**0.1**	-0.1
Finnmark	-1.1	-0.7	-0.9	**0.6**	-0.1
South Savo	-0.1	**0.7**	-1.1	**0.4**	-0.2
Pohjois-Savo	0.0	**0.1**	-0.6	**0.4**	0.0
North Karelia	0.0	**0.5**	-0.7	**0.1**	**0.1**
Kainuu	-1.0	0.0	-1.3	**0.4**	-0.1
Central Ostrobothnia	**1.2**	**1.6**	-0.4	**0.1**	-0.1
Northern Ostrobothnia	**0.1**	-0.3	**0.3**	0.0	0.0
Lapland	**0.1**	**0.8**	-0.9	**0.2**	0.0

Source: Calculations based on OECD (2016e), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 9 January 2017).

Productivity increases are a key driver of growth for the NSPA regions

Applying the decomposition exercise to GDP per capita growth indicates labour productivity as the key driver of economic performance for half of the NSPA regions. In particular, GDP per capita changes are largely explained by changes in labour productivity for Central Ostrobothnia (FI), Lapland (FI), South Savo (FI), North Karelia (FI), Nordland (NO), Northern Ostrobothnia (FI) and Troms (NO). On the other hand, employment rate growth plays a very important role for the regions of Norrbotten (SE), Jämtland Härjedalen (SE), Pohjois-Savo (FI), and Kainuu (FI). Finally, in the regions of Västerbotten (SE), Finnmark (NO) and Västernorrland (SE), labour productivity and employment rate similarly contribute to GDP per capita performance.

Figure 1.9. **GDP per capita performance of NSPA regions and labour productivity, 1999-2012**

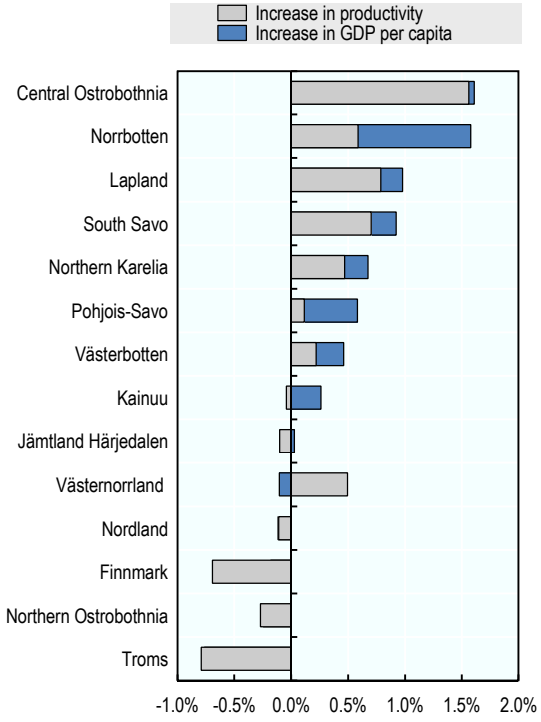
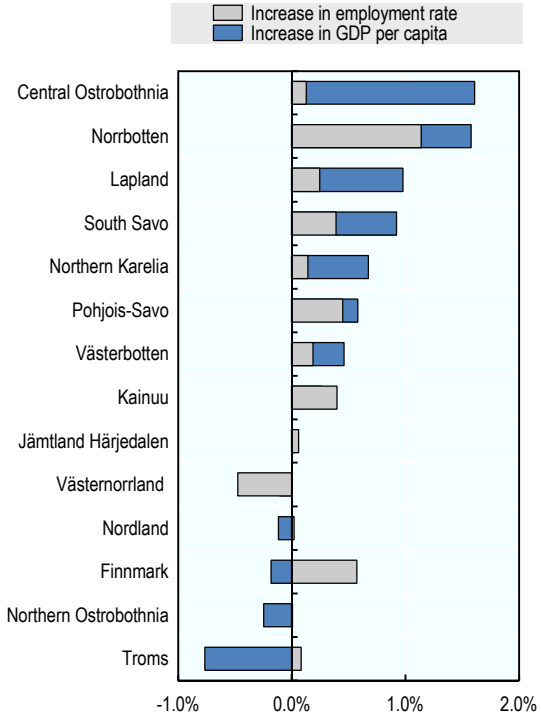


Figure 1.10. **GDP per capita performance in NSPA regions and employment rate, 1999-2012**



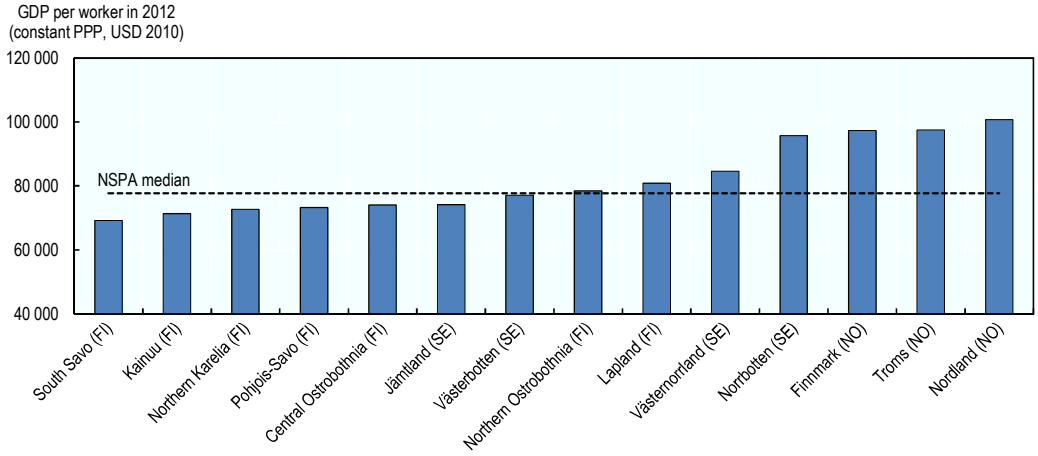
Note: Growth rates refer to the difference between regional and national values. See Annex 1.A1 for further description on the methodology.

Source: Calculations based on OECD (2016e), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 9 January 2017).

Country effects are important in explaining differences in productivity levels

Country specific effects play an important role in determining labour productivity levels, largely through a mix of economic specialisation and national policy. The Norwegian regions are the most productive regions in the NSPA, with a GDP per worker above USD 95 000 in 2012. In contrast, the five NSPA regions with the lowest productivity level are the Finnish regions of South Savo, Kainuu, North Karelia, Pohjois-Savo and Central Ostrobothnia. Productivity in the Swedish regions stands in the middle of the ranking with Jämtland and Västerbotten enjoying labour productivity levels below the NSPA median of USD 77 744 per worker, and Västernorrland and Norrbotten, with labour productivity levels above USD 84 000 per worker.

Figure 1.11. **Labour productivity levels in NSPA TL3 regions, 2012**



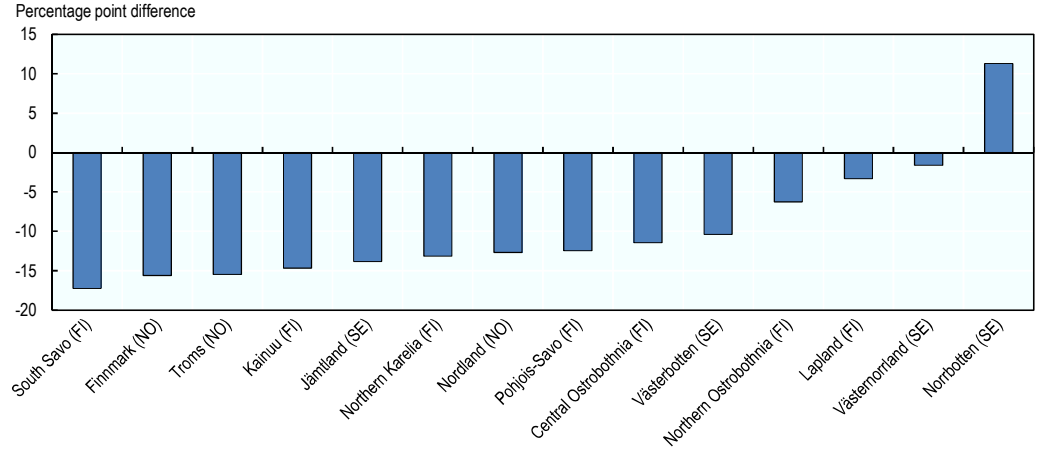
Note: Labour productivity is measured as GDP in constant PPP (USD 2010, SNA 2008) divided by employment at place of residence.

Source: Calculations based on OECD (2016e), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 9 January 2017).

NSPA regions generally lag behind national productivity levels

Although the productivity levels of the Norwegian regions are high in the NSPA context, they lag with respect to national standards. In 2012, GDP per worker in Finnmark (NO), Troms (NO) and Nordland (NO) was 15.6%, 15.5% and 12.7% lower than the Norwegian average. Such a negative trend is rather common among the NSPA regions with the exception of Norrbotten (SE) recording a higher level of labour productivity than the national average (+11.3%) in 2012 due to capital intensive mining activities. Västernorrland (SE) and Lapland (FI) record productivity levels that are only slightly above the respective national averages (1.6% and 3.3% lower). The region of South Savo (FI) stands out for its low levels of productivity. South Savo's GDP per worker in 2012 (USD 69 198) was the lowest among the NSPA regions and at the bottom of the ranking with respect to the national values, being 17.3% lower than the average for Finland.

Figure 1.12. **Percentage point difference between regional and national productivity, 2012**



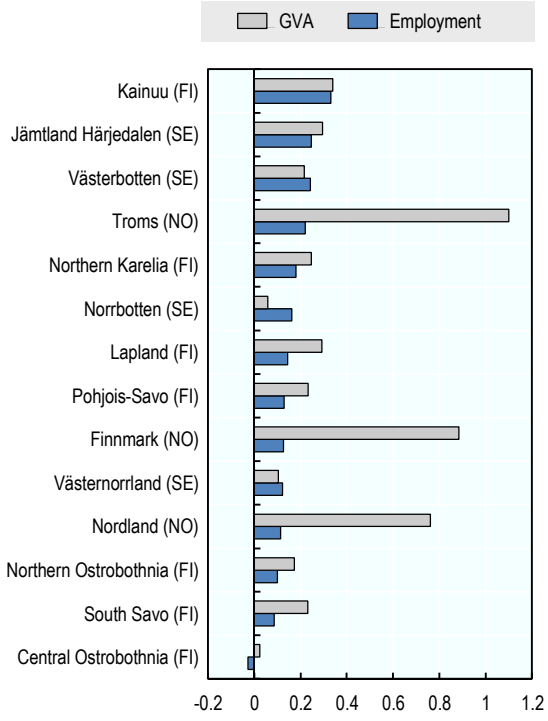
Note: Labour productivity is measured as GDP in constant PPP (USD 2010, SNA 2008) divided by employment at place of residence.

Source: Calculations based on OECD (2016e), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 9 January 2017).

The public sector plays an important role in NSPA economies and this may influence productivity performance

The public sector plays an important role in the NSPA. The share of employment in the public sector is larger than the national average in all NSPA TL3 regions but Central Ostrobothnia (FI). Compared to the national levels, the Norwegian regions have a very high over-representation of the public sector in terms of GVA (76% to 110% higher than the national average) (Figure 1.13). Both within country and across the NSPA overall, a larger share of employment in the public sector is correlated with lower labour productivity growth (Figure 1.14). A higher share of employment in the public sector has found to be associated with lower rates of business growth and entrepreneurship, which would impact upon long term productivity performance (Le Goff, 2005). The over-representation of the public sector is also a symptom of a weak private-sector economy, and is a risk for the future as fiscal consolidation and population decline in some areas will most likely lead to reductions in public sector employment.

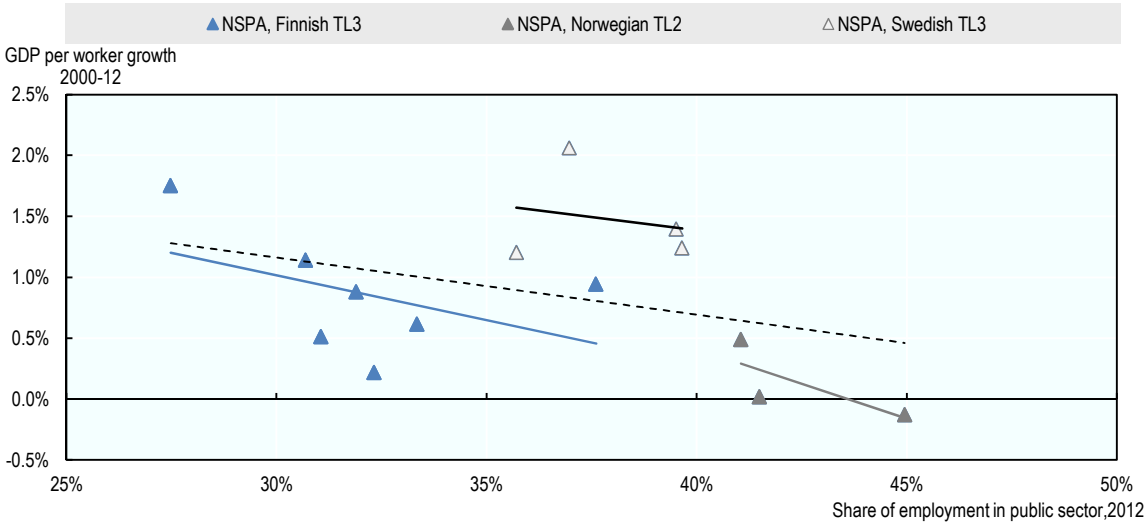
Figure 1.13. **Specialisation in the public sector, NSPA TL3 regions 2012**



Note: The specialisation index is the ratio between the public sector weight in the total regional gross value-added/employment, and the public sector weight in the total national gross value-added/employment. A value above 0 implies that the region is more specialised in the public sector than the rest of the economy. GVA calculations are based on Gross Value Added for the year 2012, expressed in constant PPP, USD 2010 (System of National Accounts 2008), with the exception of Nordland, Finnmark and Troms for which the calculations are based on GVA for the year 2011, expressed in constant PPP, USD 2005 (System of National Accounts 1993). Specialisation in terms of employment is based on employment at place of work (System of National Accounts 2008) for the year 2012.

Source: OECD (2016d), "Regional economy", *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/6b288ab8-en (accessed 9 January 2017).

Figure 1.14. **Correlation between share of employment in the public sector and productivity growth**



Note: Labour productivity is measured as GDP in constant PPP, USD 2010, divided by employment at place of residence. Productivity growth refers to the average annual growth rate between 2000 and 2012.

Source: OECD (2016d), "Regional economy", *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/6b288ab8-en (accessed 9 January 2017).

In the NSPA context, a key factor shaping productivity performance is the quality of the infrastructure connecting the regions to the southern capitals and to the global markets. Other crucial drivers of productivity and employment are local levels of entrepreneurship and innovation. In this regard, smart specialisation strategies, if well developed, are a useful tool to capitalise on regional comparative advantages and local assets. The third part of the chapter specifically discusses the policy challenges associated with these enabling factors for productivity growth. In addition, the section will also discuss the key factor slowing down overall GDP growth: demographic change. The demography constraint to GDP growth is inherent to the NSPA, the regions being characteristically sparsely populated. Population growth in the NSPA, if any, occurs in the regional centres, raising important challenges for service delivery to the remote settlements in the countryside. The following topic in this analysis examines this spatial diversity through the lens of LLMs.

Local labour markets in the NSPA: Key features and performance

This section provides a sub-regional analysis based on local labour markets (LLMs). LLMs are built up from municipalities within each region and contain at least two contiguous municipalities where there is a significant degree of commuting across municipal borders. More specifically when there are out-commuting flows of workers to another municipality in excess of 7.5% of all employed people in the sending municipality then the two labour markets are linked. The central municipality in the LLM is determined by having more internal employment than local employees, and an out-commuting rate of less than 20% of total employment (Roto, 2012). In the case where a municipality has less than the threshold level of out-commuting it is described as a self-contained LLM. The list of the LLMs considered in the analysis is presented in Annex 1.A3.

In the Nordic countries the largest and most complex LLMs are found in the national capital regions, where both population and economic activity are highly concentrated. By contrast, in the NSPA area a large share of municipalities are not linked into an LLM and are self-contained. Even where LLMs exist, they are mainly made up of less than five municipalities and often only two. The limited number and small size of LLMs in the NSPA region reflects: the small size of most municipalities, which limits employment opportunities; the spatial settlement pattern where there are typically long distances between settlements and a sparse road network that inhibit daily commuting; and the prevalence of lower wage jobs which can reduce the incentive to commute to work.

Rationale for focus on LLMs

LLMs are a useful intermediate geography between the relatively small number of regions (14) and large number of municipalities (244) in the NSPA. Economic prosperity in the NSPA is concentrated in these LLMs and they offer the best opportunity for additional economic growth and demographic stability. This does not mean that municipalities that are not integrated into an LLM should be ignored, nor that economic growth takes place in all the current LLMs, but that the 37 LLMs offer the best opportunity to understand how and where economic progress is currently taking place in the NSPA. By developing a better understanding of what factors seem to be associated with stronger local economies it may be possible to develop policies that can help initiate growth in municipalities that are currently falling behind. Crucially, LLMs also capture a number of useful elements for the development of public policies.

Box 1.2. **Local labour markets: A useful geographic scale for economic analysis and public policy**

Rationale for organizing economic and policy analysis at the scale of LLMs:

- They correspond to where economic activity is concentrated because the size of an LLM is related to the size of the local economy.
- The size of the LLM is a rough proxy for demographic sustainability as larger LLMs are associated with in-migration, while self-contained LLMs are associated with demographic decline.
- Government services are being concentrated in the central municipality of these LLMs as a way to control costs, which leads to additional incentives to relocate from more peripheral municipalities.
- LLMs indicate which municipalities are most strongly linked because daily commuting flows are also a good proxy for other forms of interconnections, such as, retail trade and use of public services.
- Most importantly, LLMs correspond to a local economy, since they capture both the aggregate local demand for labour that comes from the particular set of employment opportunities and the available local supply of labour that consists of workers who are prepared to travel for work.

Source: Freshwater, D., Simms, A., and Ward, J. (2014) Local labour markets as a new way of organizing policies for stronger regional development in Atlantic Canada, https://www.mun.ca/harriscentre/reports/fer/Functional_Regions_January2014_EN.pdf.

Limitations of the LLM approach

While economic activity in the NSPA tends to be concentrated in larger LLMs, because they have: more people, a more diverse set of firms and better access to public services, there are some individual municipalities that are not linked by commuting flows to any other municipality that have strong economic performance, both in terms of levels of output and output per worker. One settlement in these "self-contained" LLMs is characterised by having a particularly strong, location specific, advantage that offsets its high degree of geographic isolation, which limits opportunities for commuting. The single best example is Kiruna in Norrbotten, Sweden. The local economy is dominated by the iron ore mine that provides the reason for the size of the city and its strong economy. However, while employment at the mine is high, the large size of Kiruna municipality, the sparse settlement structure of surrounding municipalities, and difficult transportation result in the vast majority of workers in Kiruna living in Kiruna.

Importantly, even strong self-contained LLMs offer limited possibilities for future economic development, because they rely on a site specific resource that cannot be readily connected to other local firms. The combination of: low populations, long distances and, in some cases, "crowding out" of firms that attempt to compete with the dominant industry, tend to make it hard to expand or diversify the local economy. Consequently, while national and regional governments should continue to support municipalities that are self-contained LLMs, there are limits to their economic development strategies. Those self-contained LLMs with weak local economies face problems of: a weak and small local labour force, a tiny local market, a very limited array of public and private services, and poor connectivity. Even currently high performing self-contained LLMs would face the same challenge should their dominant industry fade due to resource depletion or changes in demand and price of these commodities.

Smaller rural places will also continue to be critical to the future economic development of the NSPA (as they are the location of key industries such as mining, fisheries and aquaculture, tourism, and forestry). However, the capacity for economic growth and diversification is generally limited and more likely to occur in a larger LLM, particularly in terms of the service sector where most new employment is created. The relationship between these smaller rural places and larger LLMs is essentially a complementary one. Resource extraction is generally occurring in rural places whereas the more complex processing and servicing of these industries is located in urban areas close by. In this sense, fostering stronger urban-rural linkages (e.g. through better transport infrastructure and services) will enhance growth prospects for LLMs and rural areas.

Another limitation with the approach is the variations in the population and geographical size of municipalities across the NSPA. Municipalities within Sweden are larger than in Finland and Norway which means commuting flows do not necessarily cross municipal boundaries. Across the NSPA there are 244 municipalities: 113 in Finland, 87 in Norway, and 44 in Sweden. As a result, in some cases, larger and more complex economies are not captured by the analysis. The main example of this is the municipality of Skellefteå in Västerbotten. The municipality has a population of 76 000 and it has a relatively diversified economy with a range of private and public sector services. Skellefteå also plays an important role in servicing the mining and forestry industries located in rural areas of the region. Härnösand, the administrative centre in Västernorrland, is another example. In this case, it is important to recognise the functional role these places play in regional economies, and continue to invest in their growth and diversification.

Just over half of the municipalities in the NSPA belong to an LLM

Overall, 54% of the NSPA municipalities belong to an LLM. However, in the northernmost regions, namely Norrbotten (SE), Lapland (FI), Västernorrland (SE) and Finnmark (NO), the number of municipalities outside an LLM is larger than the number of municipalities belonging to an LLM, which reflects the extremely sparse and disconnected settlement structure of these regions.

Table 1.4. **Number of LLMs in the NSPA**

	Number of LLMs	Multiple municipalities (within LLMs)	Single municipalities (outside LLMs)	Total municipalities
Lapland	2	5	16	21
Northern Ostrobothnia	4	19	11	30
Kainuu	1	5	3	8
Pohjois-Savo	3	16	3	19
North Karelia	3	10	3	13
Central Ostrobothnia	1	4	4	8
South Savo	2	9	5	14
Finnish NSPA	16	68	45	113
Finnmark	3	6	13	19
Troms	5	18	6	24
Nordland	8	22	22	44
Norwegian NSPA	16	46	41	87
Norrbotten	1	3	11	14
Västerbotten	2	8	7	15
Jämtland Härjedalen	1	4	4	8
Västernorrland	1	2	5	7
Swedish NSPA	5	17	27	44
NSPA	**37**	**131**	**113**	**244**

Note: LLMs refer to the labour markets constructed by Roto (2012) using commuting data from 2010. LLMs are built up from municipalities within each region and contain at least two contiguous municipalities where there is a significant degree of commuting across municipal borders. More specifically when there are out-commuting flows of workers to another municipality in excess of 7.5% of all employed people in the sending municipality then the two labour markets are linked. These have been updated by the authors according to most recent administrative reforms, taking into account municipality mergers. Single municipality labour markets are not considered.

Source: Based on Roto, J. (2012), "Demographic Trends in the Nordic Local Labour Markets", *Nordregio Working Paper*, No. 2012:13, Nordregio, Stockholm and National Statistical Offices of Finland, Norway and Sweden.

There is wide variation in the initial conditions and performance of LLMs

The following tables report key figures on demographic and economic conditions of the NSPA LLMs (municipalities linked by commuting flows of workers). Many of the reported variables record a considerably wide range across the 37 LLMs, in particular population size and growth, employment rate and indicators of economic activities (establishments). The population of the largest LLM is more than 78 times the population of the smallest LLM. Målselv LLM (Troms, NO) records the highest employment rate of 81.65, while the LLM of Kemi (Lapland, FI) records an employment rate of only 55.70. The number of establishments per 1 000 inhabitants in Lycksele LLM (Västerbotten, SE) is 3.5 times higher than in Kemi LLM (Lapland, FI).

Table 1.5. **Demographic characteristics of NSPA LLMs**

	Population	Population growth (%)	Gender ratio	Elderly dependency ratio	Youth dependency ratio	Workforce replacement ratio
Maximum	254 451	1.40	110.86	28.89	22.87	137.81
Minimum	3 237	-1.36	95.13	13.22	12.80	44.68
Average	51 356	0.14	101.25	19.81	16.99	95.63

Note: Data refer to the year 2013. Averages in the last row are unweighted. Gender ratio is calculated as the share of males over females. Workforce replacement ratio refers to the population aged 15-24 as a share of the population aged 55-64.

Source: National Statistics Offices of Finland, Norway and Sweden, unpublished.

Table 1.6. **Economic characteristics of NSPA LLMs**

	Employment rate	Average wage	Average wage growth (%)	Establishments	Establishment intensity	Establishment Growth (%)
Maximum	81.65	119.36	5.53	20 039	181.20	4.05
Minimum	55.70	75.88	2.34	318	52.00	-0.29
Average	70.44	90.13	3.86	4 488	91.30	1.58

Note: Data refer to the year 2013; growth rates refer to average growth rates between 2007 and 2013. Average wages are expressed as a share of the respective national averages. Establishment intensity is the number of establishments per 1 000 inhabitants. Averages in the last row are unweighted.

Source: National Statistics Offices of Finland, Norway and Sweden, unpublished.

The performance of these LLMs is relatively poor compared to national averages

The average NSPA LLM has a population of about 50 000, a rather modest population growth and an elderly dependency ratio higher than the youth dependency ratio. The workforce replacement ratio is lower than 100, meaning that the 15-24 age cohort, which is entering the labour market, is smaller than the 55-64 age cohort that is about to exit the labour market. The average wage is 10% lower than the national average and has grown by 3.86% (the growth rates refer to the period 2007-13).

While the minimum values for these variables are consistent with an LLM that is experiencing stagnation or decline, the conditions in the remaining 46% of municipalities in the NSPA that are not part of an LLM are generally even worse. These autonomous labour markets have even smaller populations and economies, and are not well connected to other places. Absent of the opportunity for commuting the local workforce is generally restricted to whatever employment opportunities are available inside the municipality boundaries. Thus even small LLMs are more likely to have higher development potential than is the case for autonomous labour markets that are restricted to a single municipality.

Analysing changes in business establishments provides a way to assess performance of LLMs and guide policy choices

Ultimately economic growth in any region depends upon the performance of private sector firms in that region. This makes the size distribution of firms and the various types of activity (sectors) they are involved in a key concern. While there is a general belief that small firms play the main role in creating net new employment in the OECD countries there is also a belief that large firms are responsible for most of the innovations that lead to new products or processes. Moreover, firms in some sectors are seen as having larger impacts on local economies because they are the main element in a supply or value chain that links multiple

local firms through sales and purchases with each other. An obvious example is salmon aquaculture in Norway where salmon farms buy feed and equipment from local suppliers and deliver live fish to nearby processors. Smart specialisation strategies seek to identify sectors and firms where there are local opportunities for increased output and sales, which means that an understanding of the current economic structure of the region is vital.

In order to explore the business structure and dynamics in the NSPA, the LLMs have been grouped according to their population size. The 37 LLMs present in the NSPA have been divided into four categories based on their population size: large LLMs that have more than 100 000 inhabitants; medium LLMs with a population size between 20 000 and 100 000 inhabitants, small LLMs with a population size between 10 000 and 20 000 inhabitants; and very small LLMs with a population size smaller than 10 000 inhabitants. The largest number of LLMs falls in the medium and small categories (27), with only a few LLMs being considered large or very small (10).

Table 1.7. **LLMs in the NSPA**

	Number of LLMs	Average population size	Total population	Percentage of population (%)
Large LLMs 100 000+	6	151 653	909 917	47.6
Medium LLMs 20 000-100 000	17	49 574	842 766	44.1
Small LLMs 10 000-20 000	10	13 002	130 017	6.8
Very small LLMS <10 000	4	6 775	27 100	1.4

Note: Population 2013.

Source: Calculations based on Nordregio LLM classification (Roto 2012) and National Statistics of Finland, Sweden and Norway (unpublished) for population data.

The economic structure of the NSPA is characterised by micro-enterprises

The vast majority of establishments in the LLMs of the NSPA employ less than 10 people. There were in total 165 521 establishments in NSPA LLMs in 2013. 92.25% of the total establishments had less than 9 employees, and only about 0.4% had more than 100 employees. The distribution is highly skewed towards the smallest size classes, 85% of the establishments having less than 5 employees and 48.5% having no one employed. Moreover the distribution of firm sizes varies among LLMs with most not having any large firms. These firms are concentrated in the largest LLMs and in specific small and medium-sized LLMs where a large resource based extraction or processing firm, such as a mine or pulp mill is the dominant employer.

Table 1.8. **Number of establishments in LLMs by employee class**

Employment class size	Number	Percentage	Cumulative percentage
No employees	89 047	53.80	53.80
1 to 4	52 097	31.47	85.27
5 to 9	11 544	6.97	92.25
10 to 19	6 867	4.15	96.40
20 to 49	4 054	2.45	98.84
50 to 99	1 271	0.77	99.61
*100 to 249	474	0.29	99.90
*250+	167	0.10	100.00
Total	165 521	100%	

Note: * Sweden 100-199 and 200+. Data refer to the year 2013.

Source: National Statistics of Finland, Sweden and Norway.

Larger establishments are dominated by the public sector

As the size of the establishments increases, the most frequent field of activity shifts from the farming and forestry sectors to private services, and finally to the public sector (Table 1.9). This pattern is consistent with small scale family farms and the predominance of small scale timber harvesting enterprises in the NSPA. Similarly, the retail sector tends to be dominated by smaller businesses because there are many smaller settlements that cannot support a large store, and even in large cities small retail establishments are common. Conversely, the pervasive nature of the Nordic welfare state results in municipalities and regions having relatively large public sector organisations even in small places.

Table 1.9. **Most represented sectors by establishment size class**

Employment class size	Three most represented sectors	Share of establishments (%)	Cumulative percentage
No employees	Forestry and logging	22.21	22.21
	Crop and animal production	15.02	37.23
	Real estate activities	9.94	47.17
Micro 1-9	Crop and animal production	10.41	10.41
	Retail trade	10.36	20.77
	Specialised construction activities	7.56	28.33
Small 10-49	Retail trade	11.98	11.98
	Specialised construction activities	7.49	19.47
	Education	6.92	26.39
*Medium 50-249	Education	10.49	10.49
	Residential care activities	8.71	19.20
	Public administration and defence	6.48	25.67
*Large 250+	Public administration and defence	15.57	15.57
	Human health activities	10.78	26.35
	Social work activities without accommodation	10.18	36.53

Note: * Sweden 50-199 and 200+. Data refer to the year 2013.

Source: National Statistics of Finland, Sweden and Norway, unpublished.

This sectoral distribution differs by country and is influenced by the tradeable sector and the role of the public sector

The different local natural resource bases are reflected in the most represented sectors by country, as are national differences in the relative size of the public sector. In Norway over two-thirds of the largest establishments are in the public sector. This proportion is lower in Sweden (48%). By contrast, the top three large employers in Finland are private sector and only account for 29% of firms of this size. Crop and animal production are important for the sole proprietor category in all countries and also for micro-firms in Finland. In Finland and Sweden forestry and logging are major activities for sole proprietors while fishing and aquaculture play a similar role in Norway. Real estate activity is the other major activity for sole proprietors in all countries in all size classes. When looking across all the size classes Finland differs from the other two countries in the much larger role that the private sector plays relative to the public sector and the more diversified nature of its economy.

Table 1.10. **Most represented sectors by size class and country**

Employment class size	Finland	Norway	Sweden
No employees	Crop and animal production 20% Forestry and logging 19% Real estate activities 12%	Real estate activities 14% Crop and animal production 14% Fishing and aquaculture 8%	Forestry and logging 32% Crop and animal production 13% Real estate activities 7%
Micro 1-9	Crop and animal production 15% Retail trade 9% Land transport 9%	Retail trade 15% Specialised construction activities 7% Land transport 5%	Retail trade 9% Specialised construction activities 9% Wholesale trade 5%
Small 10-49	Retail trade 13% Specialised construction activities 9% Land transport 6%	Social work activities 14% Retail trade 13% Education 7%	Education 15% Retail trade 10% Specialised construction activities 7%
*Medium 50-249	Retail trade 8% Services to buildings and landscape activities 5% Construction of buildings 5%	Residential care activities 16% Education 15% Public administration and defence 10%	Education 16% Public administration and defence 10% Residential care activities 10%
*Large 250+	Manufacture of computer, electronic and optical products 12% Services to buildings and landscape activities 10% Manufacture of wood products 7%	Human health activities 37% Public administration and defence 16% Education 16%	Public administration and defence 22% Social work activities 16% Human health activities 10%

Note: * Sweden 50-199 and 200+. Data refer to the year 2013.

Source: National Statistics of Finland, Sweden and Norway, unpublished.

Establishments are concentrated in a small number of places

Almost 90% of the establishments are located in large and medium-sized LLMs (Table 1.11). The number of establishments within these two LLM categories is of 148 695 over a total of 165 521 (89.83%). Overall, large LLMs contain the largest share of establishments (46.57%), as well as the majority of large establishments (59.88%). On the other hand, the largest share of SMEs is found in medium LLMs (47.09%). Few establishments are located in small and very small LLMs, given the small size of these labour markets and the small number of labour markets in these categories (10 and 4). In particular, no large establishments are present in very small LLMs. These data confirm that the bulk of the economic activity in the NSPA, whether measured in terms of number of firms or size of firms, takes place in the 23 LLMs with more than 20 000 people. This suggests that the best opportunities for future growth are also likely to occur in these places.

Table 1.11. **Number of establishments by LLM type and establishment size**

Employment size class	Large LLMs	Medium LLMs	Small LLMs	Very small LLMs	NSPA LLMs
No employees	43 643	35 616	8 507	1 281	89 047
Micro 1 to 9	27 906	30 152	4 614	969	63 641
Small 10 to 49	4 594	5 038	1 085	204	10 921
*Medium 50 to 249	847	743	132	23	1 745
*Large 250+	100	56	11	0	167
Total	77 090	71 605	14 349	2 477	165 521

Note: * Sweden 50-199 and 200+. Data refer to the year 2013.

Source: National Statistics of Finland, Sweden and Norway, unpublished.

Table 1.12. **Percentage of establishments by LLM type, for each employment size class**

Employment class size	Large LLMs (%)	Medium LLMs (%)	Small LLMs (%)	Very small LLMs (%)	NSPA LLMs (%)
No employees	49.01	40.00	9.55	1.44	100
*SMEs 1 to 249	43.70	47.09	7.64	1.57	100
*Large 250+	59.88	33.53	6.59	0.00	100
Total	46.57	43.26	8.67	1.50	100

Note: * Sweden 1 to 199 and 200+. Data refer to the year 2013.

Source: National Statistics of Finland, Sweden and Norway, unpublished.

Large LLMs record the highest frequency of large establishments. The average share of large establishments in large LLMs is 0.13%, compared to 0.08% for medium and small LLMs. In turn, medium LLMs are characterised by a high frequency of SMEs, and small LLMs record the highest frequency of establishments with no employees. The average share of establishments with no employees in small LLMs is 59.29%, which is higher than the correspondent figures for other LLMs types. The medium LLM category is the only one in which, on average, establishments with no employees do not represent the majority, with a share just below 50%.

Table 1.13. **Percentage of establishments by establishment size**

Employment class size	Large LLMs (%)	Medium LLMs (%)	Small LLMs (%)	Very small LLMs (%)	NSPA LLMs (%)
No employees	56.61	49.74	**59.29**	51.72	53.80
*SMEs 1 to 249	43.26	**50.18**	40.64	48.28	46.10
*Large 250+	**0.13**	0.08	0.08	0.00	0.10
Total	100	100	100	100	100

Note: * Sweden 1 to 199 and 200+. Data refer to the year 2013.

Source: National Statistics of Finland, Sweden and Norway, unpublished.

Large establishments are highly concentrated in four LLMs. In 2013, the LLMs of Umeå, Luleå and Sundsvall had respectively 86, 64 and 60 establishments with more than 100 employees. In the same year, the LLM of Oulu, in Finland, hosted 58 establishments of this size class. Finnish and Swedish LLMs have a greater number of establishments with more than 100 employees compared to Norwegian LLMs, Tromsø and Bodø being the only LLMs in Norway with more than 30 establishments of this size class. Finally, there are a number of LLMs that contain 1 to 15 establishments with more than 100 employees: 10 LLMs in Finland, 12 LLMs in Norway and 1 in Sweden. These LLMs are all classified as medium or small, meaning that all large LLMs have at least 15 establishments with more than 100 employees.

Table 1.14. **LLMs containing establishments with more than 100 employees**

More than 50	30 to 49	15 to 29
Umeå, SE (86)	Östersund, SE (49)	Joensuu, FI (23)
Luleå, SE (64)	Tromsø, NO (49)	Rana, NO (26)
Sundsvall, SE (60)	Bodø, NO (43)	Mikkeli, FI (15)
Oulu, FI (58)	Kuopio, FI (34)	

Note: Data refer to the year 2013.

Source: Data provided by National Statistics of Finland, Sweden and Norway, unpublished.

Box 1.3. **Large firms and low-density economies**

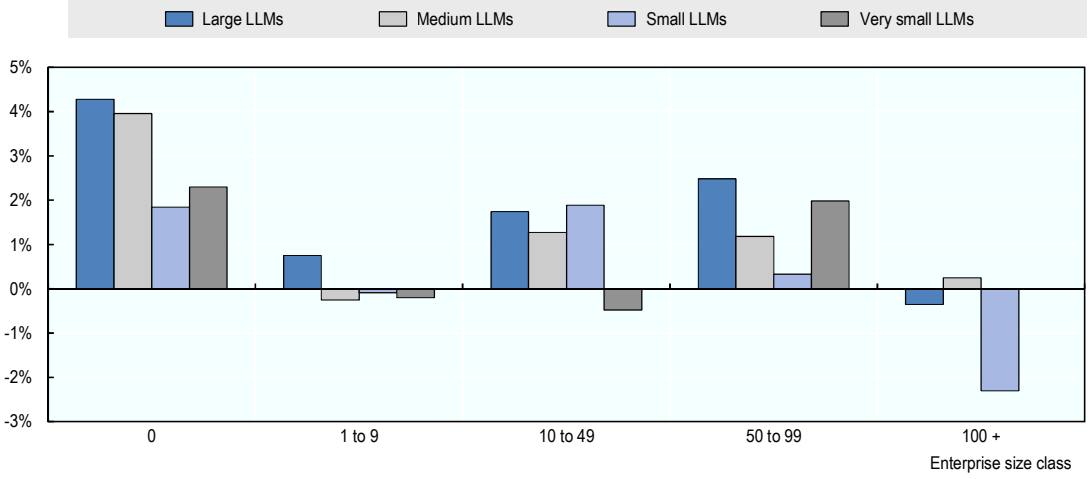
Large firms can play a particularly important role in a low-density economy. Because they are large, any change in their level of employment can have a noticeable impact on total employment in the local labour market. Large firms may also develop a significant set of local suppliers whose prosperity hinges on selling to the large firms. Large establishments are also more likely than SMEs to have some internal research and development function or be well connected to external research activity. This makes them a likely source of new ideas either from their own efforts or from ideas they import form elsewhere. This is true for both public and private sector establishments.

Large private sector firms play an additional role, in that they are likely to be export oriented because their size ensures that their level of output will be far in excess of local demand. Where the large private sector firm is part of a multinational it has access to internal finance and marketing efforts from the parent that can help keep it competitive. However, low-density economies are also often the location of firms which are at the lower end of the value-chain and this makes them vulnerable to competition from countries with lower labour costs and less regulation. In this case, the parent can decide to reduce investment or close the establishment if it is more profitable to do so.

Since the crisis the number of large firms has declined, particularly in small LLMs, which may present a risk to future employment and growth

While there has been a strong increase in the number of establishments with no employees, the number of large establishments has decreased. The number of establishments that do not employ any workers has increased on average by 3.87% annually between 2007 and 2013. The increase of this type of establishment has been led by a strong growth in medium and large LLMs. On the other hand, establishments with more than 100 employees have decreased in number by -0.23% annually. In particular, the number of large establishments has decreased by -2.30% in small LLMs. The decline in large establishments may be a significant impediment to future economic growth, since it is likely to have been concentrated in large private sector firms. If large export oriented private sector firms have lost their competitiveness, this has implications for current employment, but also has future implications for which sectors the NSPA will be competitive in, and for access to external investment and new technologies.

Figure 1.15. **Average annual growth rate 2007-13 by establishment size class**



Source: National Statistics of Finland, Sweden and Norway, unpublished.

As a consequence, average establishment size decreased from 2007 to 2013. Overall, the estimated average number of workers[1] per establishment was of 5.10 in 2007 and decreased to 4.80 in 2013. The drop is larger as the size of the LLMs increases, from -0.16 for very small LLMs to -0.36 for large LLMs. On average, medium LLMs record the largest establishment size and small LLMs the smallest.

Table 1.15. **Average size of establishment**

	2007	2013	Change
Large LLMs	5.06	4.70	-0.36
Medium LLMs	5.21	4.95	-0.26
Small LLMs	4.78	4.61	-0.17
Very small LLMs	5.00	4.83	-0.16
NSPA average	5.10	4.80	-0.30

Source: National Statistics of Finland, Sweden and Norway, unpublished.

Larger LLMs have a faster growth rate in the number of new establishments

The number of establishments has increased faster in large LLMs (Table 1.16). Increases in the number of firms are associated with perceptions of greater economic opportunity that cause entrepreneurs to open a new firm or existing businesses to add a new establishment. The number of establishments has grown across the NSPA LLMs between 2007 and 2013, with the exception of the LLMs of Salangen and Harstad in Norway. In both these cases, the decrease in the number of establishments occurred in the peripheral municipalities, while the number of establishments increased in the core municipality. Over the period 2007-13, the number of establishments grew by 2.72% annually in large LLMs, while in the three other LLM categories the growth rate was lower than 2%, with a minimum of 1.02% for very small LLMs. These data are consistent with larger LLMs playing a more leading role in the economies of the NSPA.

Table 1.16. **Average annual growth of the number of establishments**

	Establishments 2007	Establishments 2013	Yearly growth 2007-13 (%)
Large LLMs	65 637	77 090	2.72
Medium LLMs	64 273	71 605	1.82
Small LLMs	13 381	14 349	1.17
Very small LLMs	2 330	2 477	1.02
NSPA average	145 621	165 521	2.16

Source: National Statistics of Finland, Sweden and Norway, unpublished.

There is a positive correlation between the initial number of establishments in a labour market and their growth over time. The first graph below shows that, overall, LLMs with more establishments record also a higher growth in the number of establishments. A similar pattern can be highlighted isolating the Finnish and the Swedish LLMs. On the other hand, this is less the case in Norway, where the growth rate widely ranges from -0.3% to 2% for LLMs that have a similar initial number of establishments. Moreover, Bodø and Tromsø, which stand out for the higher than average amount of establishments in 2007, recorded an average growth rate of 1% only.

Figure 1.16. **Establishment growth in NSPA LLMs**

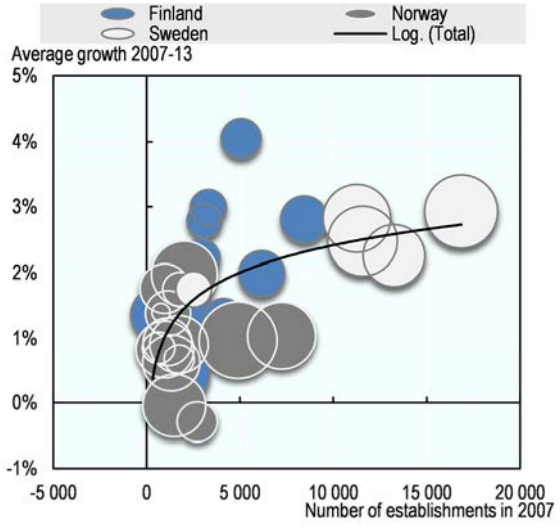


Figure 1.17. **Establishment growth in Finnish LLMs**

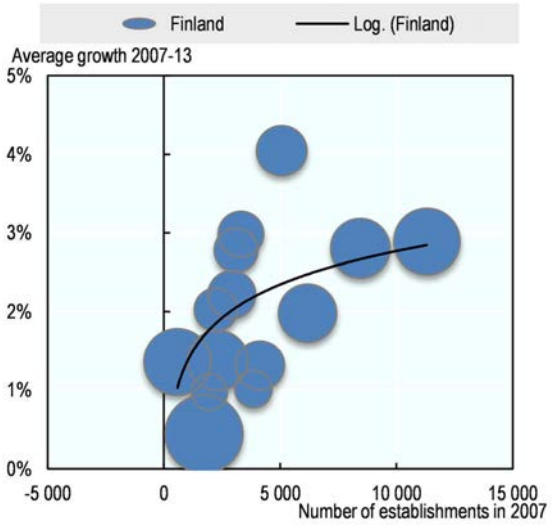


Figure 1.18. **Establishment growth in Swedish LLMs**

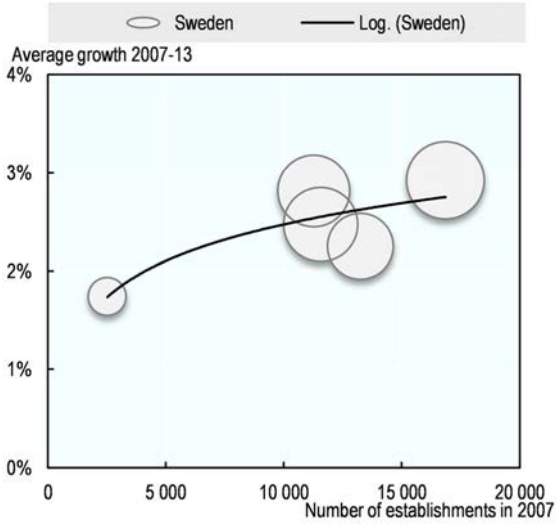
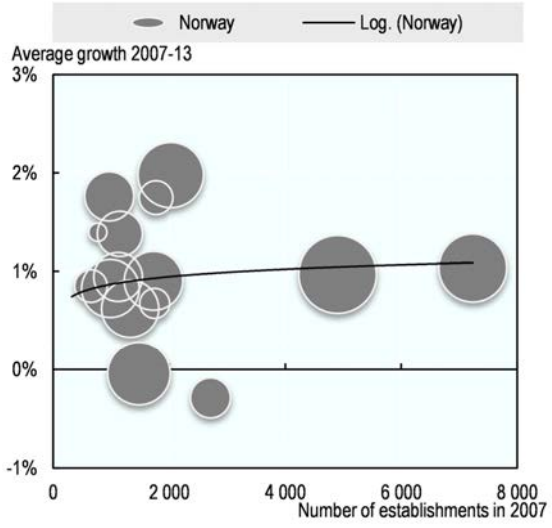


Figure 1.19. **Establishment growth in Norwegian LLMs**



Note: Growth is calculated as the average annual growth rate between 2007 and 2013. The size of the bubbles represents the estimated number of workers within the LLM.

Source: Calculations based on data from National Statistics of Finland, Sweden and Norway, unpublished.

Shared characteristics of LLMs

In this part of the chapter the topics and data presented so far are combined using cluster analysis to develop a picture of which LLMs in the NSPA are most similar to each other. This can provide the basis for a deeper understanding about the growth dynamics of LLMs, the factors significant to growth performance, and also help identify opportunities for collaboration and sharing policy lessons between places that share similar characteristics. Cluster analysis is a data driven procedure that identifies groups of

LLMs that have strong similarities by comparing similarities across a set of variables that in this case consists of 30 variables that reflect demographic, workforce labour market, economic structure and other attributes (Table 1.17). Further detail about the methodological procedure for the cluster analysis and the relative importance of different variables is outlined in Annex A1.4.

Table 1.17. **Variables used in the cluster analysis**

Demographic • Population, 2013 (standardised) • Population growth rate, 2007-13 • Elderly dependency ratio • Youth dependency ratio	Higher education • Number of universities • Number of other types of higher or continuing education facilities
Labour market • Average wage, 2013 • Average wage growth rate, 2007-13 • Workforce replacement ratio • Employment rate, 2013	Transport infrastructure • Presence of a port • Number of rail line connections • Number of main roads linking the LLM to other regions • Number of direct air connections
Firm structure • Number of establishments, 2013 (standardised) • Number of establishments, 2007 (standardised) • Number of establishments per 1 000 people • Establishment growth rate, 2007-13 • Employment share in large establishments	Sectoral composition (employment) • Agriculture and food processing • Fishing, aquaculture and fish processing • Forestry and wood products • Mining and mineral processing • Other manufacturing • Utilities • Trade and transport • Accommodation, food services and arts • Business and other services • Construction • Public services

Source: National Statistics of Finland, Sweden and Norway and OECD regional database. Nordregio (2016); European Commission (2016) 'Mobility and Transport' http://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/map/maps.html?layer=input_1,20,21&country=FI.

The cluster analysis suggests that the country effect and population size are the most significant in determining the nature of the LLM. However, there are other factors which are also important. The cluster analysis showed that LLMs of similar size can be in different clusters and that some LLMs are more similar to LLMs in other countries than to those in their country. Economic specialisation and demographic structure seem to be the other key factors in forming clusters. The first cluster is made up of 10 small Norwegian LLMs which are specialised in fisheries and aquaculture with fairly favourable demographic conditions. The second cluster is a mix of 11 Norwegian and Finnish LLMs with more diversified economies with urban centres that are growing strongly. The third cluster is constituted by two LLMs which are located in inland Sweden with slightly declining populations and a dependency on forestry related production. The fourth cluster is made up of ten Finnish LLMs with unfavourable demographic conditions and dependency on a small range of industries. The fifth cluster is made up of three high performing Swedish LLMs on the Baltic Coast.

Table 1.18. **LLM Clusters**

Clusters	Description
Cluster 1: Flakstad/Vestvågøy, Meløy, Alstahaug, Vefsn, Brønnøy, Lenvik, Målselv, Salangen, Vadsø, Hammerfest, Alta	10 Norwegian LLMs, all with populations of between 2 000 and about 20 000, with a high specialisation in fishing and fish processing. The public sector is also very large in these places and they have reasonably good demographic structure for their size. Population growth is positive and they have the potential to replace their retiring workers. While they have very few establishments, which is not surprising given their small size, the level of wages is quite high and growing. Infrastructure is a limiting factor as is the absence of higher education facilities.
Cluster 2: Kuopio, Joensuu, Kokkola, Oulu, Ylivieska, Rovaniemi, Narvik, Bodø, Rana, Tromsø, Harstad	11 LLMs, mostly Finnish but with a significant share that are Norwegian. Populations range from just over 20 000 to over 250 000. These LLMs have the fastest population growth rate and a positive workforce replacement ratio. Their economies are the least specialised of all the clusters. They have a relatively large number of establishments per 100 people and a relatively strong growth rate in establishment numbers. These places have the best transport infrastructure and the larger places host the majority of the higher education institutions in the NSPA.
Cluster 3: Östersund, Lycksele	2 inland Swedish LLMs that are highly dependent upon forestry and public services. The population of the two regions is quite different, but they share a slightly declining population trend and a small negative workforce replacement ratio. They have the highest employment rate but wages are relatively low. Establishment density is good as is the establishment growth rate. Road infrastructure is better in this cluster than in the others, but they have less favourable rail and air connections.
Cluster 4: Mikkeli, Savonlinna, Iisalmi, Varkaus, Nurmes, Kitee, Kajaani, Raahe, Merijärvi/Oulainen, Kemi	10 Finnish members with populations ranging from about 10 000 to 75 000. These LLMs have the worst demographic structure, with considerable population decline, a low workforce replacement ratio, high elderly dependency ratio and a low youth dependency ratio. The economies are quite dependent on forestry, mining, trade and transport, and construction. Establishment density is low and there are fewer large establishments than in the other clusters. Their transport infrastructure is generally weak and they are not well served by higher education institutions.
Cluster 5: Sundsvall, Umeå, Luleå	3 Swedish LLMs all on the Baltic Sea coast with populations over 100 000. Demographic conditions in these LLMs are quite strong, with modest population growth and a positive workforce replacement ratio. Wages levels are almost at the national average and wage growth is positive. The forest sector is important, but so too are business and other services, accommodation, food services and the arts. These LLMs have the most balanced transport infrastructure and good access to higher education. They have the highest density of establishments a good growth rate of establishments and the largest share of large firms of the 5 clusters.

Source: Own elaboration

The cluster analysis raises a number of important policy implications for NSPA regions. The first is that future business and employment growth is more likely to occur in larger LLMs. However, the growth dynamics differ due to their initial size, demographic structure, and economic specialisation. The smaller Norwegian LLMs (Cluster 1) will continue to depend on increasing productivity and value adding to fisheries and aquaculture. Improving infrastructure and connectivity and identify opportunities for diversification related to absolute advantages will be important. The growth and development of small and medium-sized urban centres with a mix of public and private services is important for Clusters 2 and 5. Ensuring policy settings in regards to land-use planning and infrastructure will help facilitate the growth of these centres and enhancing urban-rural linkages will be important. There are some risks and concerns for the LLMs in Clusters 3 and 4. Opportunities for growth in these places are limited and growth will depend upon increasing productivity and better matching potential workers within these places to jobs due to unfavourable demographic conditions and a declining workforce.

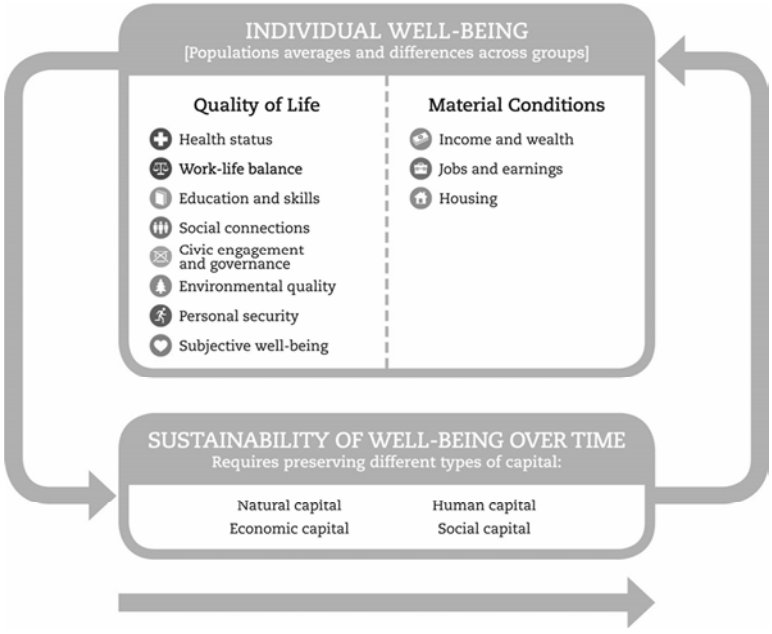
Broadening the diagnosis to include quality of life

While the main focus of the diagnostic analysis is on factors that are directly associated with economic performance it is important to recognise that a person's satisfaction with their life goes well beyond economic factors (OECD, 2011). Health status, quality of housing, concerns with personal safety, and the natural environment can be as significant as income and job status to well-being. This section describes the current conditions in the NSPA with respect to quality of life. The benchmark draws comparisons among NPSA regions, as well as to OECD and national averages. Within the context of the OECD levels of well-being in the NSPA are high. Given the high level of well-being, if incomes and other employment conditions can be improved it may be possible to keep many of the settlements in the NSPA area viable because the local population is attracted to the region.

There is an important place-based dimension to well-being

Standard economic indicators do not fully describe the living conditions that ordinary people experience. This means that taking into account people's level of well-being and understanding what determines it is crucial to developing public policies that better address society's objectives (OECD, 2014a). The OECD has developed a conceptual framework for measuring well-being which brings together different well-being dimensions, both material and non-material, and assesses them, not only through average outcomes, but also in terms of their distribution across regions and groups of people (Figure 1.20).

Figure 1.20. **OECD Framework for measuring well-being and progress**

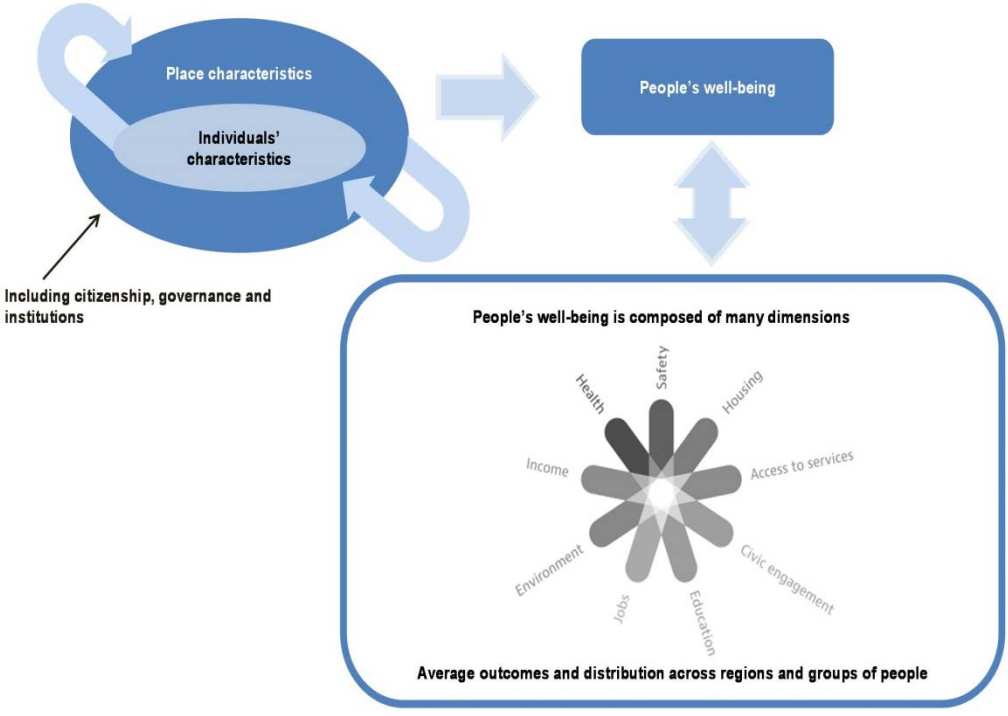


Source: OECD (2011), *How's Life?: Measuring Well-being*, http://dx.doi.org/10.1787/9789264121164-en.

The characteristics of the place where people live contributes to their level of well-being. While some of the well-being dimensions are linked to individuals' characteristics, other dimensions are more related to the specific place where people live. These include, for example, the quality of social relations among the population, the local governance structure and the quality of local institutions. Importantly geographical characteristics play a role in this regard with topography, climate and physical features affecting people's level of well-being. In rural households the natural environment plays a much larger role than it does in an urban setting where human action has extensively shaped the

physical environment. Because of the lower degree of urbanisation and lower density of economic activities, rural areas typically offer better environmental quality than urban areas, and more affordable housing. Rural areas are also characterised by a much stronger set of ties among the local population than is the case in urban areas, but suffer from a weaker set of links to people outside their immediate community (Granovetter, 1973). Such characteristics of rural areas go to the benefit of rural inhabitants and at the same time attract wellness tourists motivated by the search for relaxation and comfort.

Figure 1.21. **OECD Framework for well-being**



Source: OECD (2016f), *OECD Regions at a Glance 2016*, http://dx.doi.org/10.1787/reg_glance-2016-en.

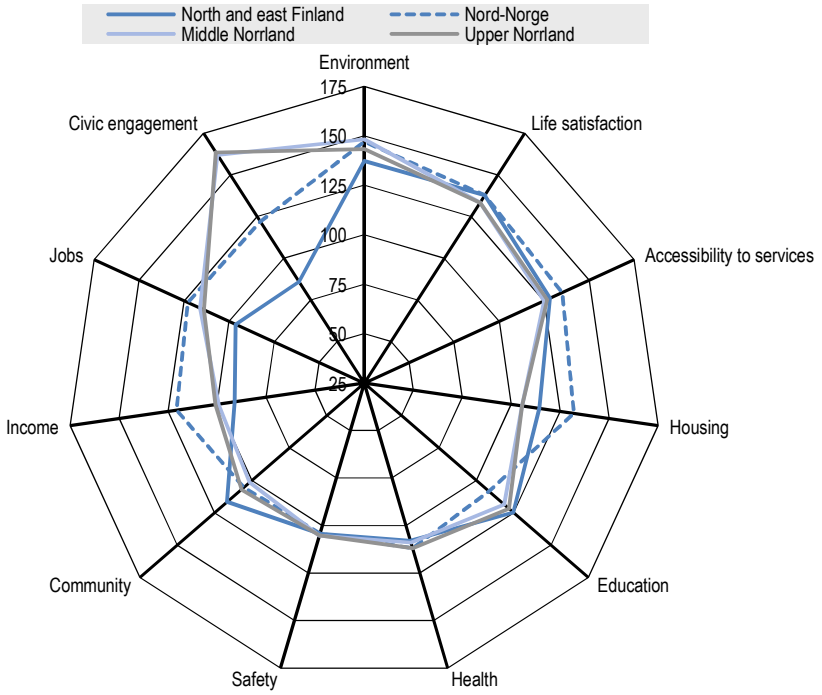
NSPA regions have high levels of well-being relative to the OECD, as do all Nordic regions

There is greater satisfaction in all measures in northern Norway and less satisfaction in northern and eastern Finland, with the two Swedish groups falling in between. The greatest diversity within the NSPA is in civic engagement, where a very high score in Upper Norland (Norrbotten and Västerbotten) contrasts with the low score for the 7 regions in Finland. In eight of the eleven well-being dimensions, all four of the NSPA regions record a score higher than the OECD average, and they perform particularly well in: environment, accessibility to services, and life satisfaction. In addition, there are still above average performances in housing, education and health. This confirms the general perception that despite the relatively harsh climatic conditions there is a general satisfaction with living conditions among current residents of the NSPA.

There is less of a gap from the OECD average in relation to economic measures; income and jobs, and social cohesion measures; community and civic engagement. These two areas are important for future economic development. Obviously the concern with income and jobs is directly linked to economic development, but the level of social cohesion within the various

communities and regions of the NSPA will play an important role in the ability of the local populations to agree upon a bottom-up local development strategy and to bring it into effect. To date, the Nordic welfare state has done a good job in all three countries of providing a high level of public services to citizens wherever they live, but it has not been as able to ensure that local economies perform as strongly in more remote areas.

Figure 1.22. **Well-being in NSPA TL2 regions**



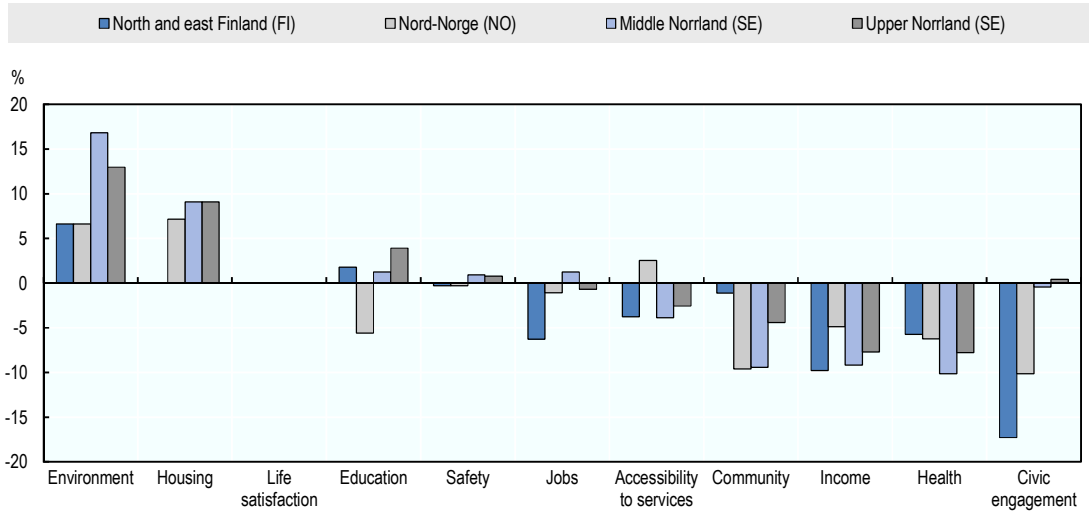
Note: OECD average = 100. For more info on the methodology see Annex 1.A2.

Source: Calculations based on OECD (2016g), "Regional well-being", *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/data-00707-en (accessed 9 January 2017).

There is a lower level of well-being for the NSPA regions compared to the country averages

Only for environment and Housing are the four NSPA TL2 regions above their national peers, while for life satisfaction the four groups are in line with national averages. Income, health and community indicators are lower in the four NSPA TL2 regions. In 2014, the disposable income per capita was more than USD 1 600 lower than the national average in north and east Finland (FI) and Middle Norrland (SE), about USD 1 400 lower in Upper Norrland (SE) and about USD 1 000 lower in Nord-Norge (NO). Moreover, standardised mortality rates in the NSPA regions are higher than the respective national averages, whilst for the Swedish TL2 regions the life expectancy is about 1 year shorter than the national average and 0.7 years shorter for the Norwegian and Finnish regions. The community scores indicate that in the NSPA regions there is a larger share of people reporting weak social network support. Finally, in north and east Finland (FI), and to a lesser extent in Nord-Norge (NO), civic engagement, measured by voter turnout in national elections, is extremely low with respect to the national average. There are smaller differences in regards to accessibility to services indicating the commitment of governments to providing public services across the national territory.

Figure 1.23. **Well-being in NSPA TL2 regions, percentage difference with national averages**



Source: Calculations based on OECD (2016g), "Regional well-being", *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/data-00707-en (accessed 9 January 2017).

The indicators offer a broad range of dimensions of well-being, but are not context-dependent and fail to consider the specificities of rural areas (Schirmer et al., 2016). For example, the income dimension does not take into account that people's income in rural areas is sometimes complemented with household production, such as growing vegetables or fruits and keeping livestock. Similarly, the high rate of outmigration may suggest that those who are not satisfied with the quality of life in the region choose to leave. Moreover, as people put different weights on well-being dimensions according to their preferences (OECD, 2014a), the specific socio-demographic composition of the regional population becomes relevant to understand regional well-being. The NSPA is characterised by a large share of elderly population and research has suggested that community engagement is among the essential elements of well-being of older people as they value as particularly important the feeling of "having a role" (McCormick et al., 2009). The NSPA unique geographic position has also direct effects on the well-being of its residents. Harsh climate, long hours of daylight in summer and short hours of daylight in winter contribute to the psychological and physical well-being of people living in the NSPA. The remoteness of some areas in the NSPA can additionally challenge residents' levels of well-being due to the lack of diversity in social interactions.

Summing up

There is high degree of consistency across the NSPA despite the fact that the member regions are drawn from three countries, have a variety of economic specialisations, and often compete directly with each other for export markets and national government and EU support. In terms of demographic structure there is a common problem of an ageing population that is not going to be replaced through natural mechanisms. The ageing and shrinking population has implications for: replacement of workers, higher costs for providing health care and senior services combined with a shortage of workers to deliver these services, and falling local tax revenues. In most LLMs there are significant mismatches between available skills and what employers require that lead to reduced production, significant unemployment and high outlays on social welfare.

Despite these weaknesses, the NSPA is relatively productive when compared to the rest of the OECD, although it lags behind other regions in the Nordic countries. Firms in the NSPA are mainly small with few or no employees and with the most common specialisation for firms being in natural resources and the most common specialisation for large establishments being public sector service providers. Large private sector firms are declining in numbers and as a share of all firms. In some parts of the NSPA there is a fairly strong rate of new firm formation, but in other parts there seems to be a lack of entrepreneurial behaviour by local people. Related to this is the very high rate of employment in the public sector especially in some of the smaller municipalities that are not part of a larger LLM.

Because local labour and output markets are small, firms in the NSPA can only grow if they can access external markets. To do this requires better connectivity in the form of transport infrastructure and services (via roads, rail, ports and air) than is available in many parts of the region. In addition firms also need support in identifying market opportunities, establishing links and in accessing new ideas and funding for investment. Many of the LLMs are too small to have local professionals that have the expertise to provide these contacts. While broadband availability in the NSPA is very good by OECD standards, steady upgrades in bandwidth are required to provide firms with equivalent access as firms and households in the south of Finland, Norway and Sweden (particularly for firms and communities in more remote areas).

To an extent, economic development in the NSPA is restricted by the Nordic Welfare State that provides most of the high quality services that make life in the region better. Because the model provides equal services across the entire territory there are situations where the quantity or quality of public services do not fully correspond to the northern situation. This is due to regulations, services and funding mechanisms designed for conditions in more densely populated areas in the south of the country. For example, support for businesses, such as innovation assistance can also fail to recognise the different context for innovation in a small and remote place. It also appears that high levels of income support may be affecting the willingness of those with lower skills to take jobs that are not seen as being desirable. This is because benefits paid to the unemployed and their families are high relative to expected earnings in work so they have reduced the incentive to find a job (OECD, 2001).

Most importantly, while there are clear challenges for economic growth in future years, there is a high degree of satisfaction with their overall quality of life by residents of the NSPA. Although the level of satisfaction is somewhat below the level of fellow citizens in the south of each country, it is remarkably high by OECD standards. Where people are less satisfied is with economic outcomes, not with the broader elements of well-being. This suggests that if it is possible to increase employment levels, raise productivity, and improve both the functioning and geographic extent of LLMs in the NSPA there is a high likelihood that people will be more likely to remain and a significant part of the demographic challenge will be resolved.

Policy challenges and responses for the NSPA

This section examines the policy challenges that will need to be addressed to respond to the findings of the diagnostic. While the focus of other chapters of the report is on national and regional initiatives, here the focus is on aligning and synchronising initiatives in these thematic areas that can bring benefits to all 14 regions in the NSPA. This section of the chapter begins by discussing six key policy challenges and action areas for responding effectively to them. Effectively responding to these challenges will require enhanced forms of cross-border collaboration. A discussion regarding current

institutional arrangements for cross-border collaboration and how they might be strengthened then follows this analysis.

As observed in the previous section of the chapter the NSPA regions share a common set of characteristics related to their peripherality and low density. Although these regions have a high level of well-being and prosperity in an OECD context, they generally lag behind country averages on a range of social and economic measures. Within these regions employment growth is occurring in a small number of places and is generally linked to the service sector (including services related to the natural resource based activities located in rural areas such as energy production, fisheries and aquaculture, forestry, mining and tourism). There is also a political economy challenge for these regions to ensure that these unique characteristics are reflected in national and European level policies. This generates a number of shared policy challenges for the NSPA regions.

Table 1.19. **Policy challenges facing NSPA regions**

Policy challenge	Key issues and responses
Demographic change and labour markets	The population of the NSPA is ageing which will reduce the size of the future labour force. There are already structural problems in local labour markets including higher levels of youth unemployment and welfare dependence. These trends present risks to the future growth of the NSPA regions. More effective policies to better match skills with employer needs and to lift workforce participation will be needed.
Service delivery innovation	Demographic change and fiscal consolidation will continue to place pressures on public infrastructure and services. Continuing to provide high quality services will depend upon increasing the use of e-technologies, and innovative partnerships with the private and community sectors.
Improving infrastructure and connectivity	The NSPA regions suffer from a set of disadvantages associated with their remoteness from markets and long distances between urban settlements, which is compounded by an often challenging topography and harsh climate. Improving infrastructure and connectivity helps reduce travel times and the capacity to participate in national and international markets. A more integrated approach to the planning, investment, and maintenance of transport infrastructure and services is required including identifying new ways to work with the private sector.
Increasing entrepreneurship	The sustainable development of the NSPA is dependent upon facilitating new forms of economic activity and jobs in areas such as ICT related services, tourism, niche manufacturing, and food production. Local SMEs have a stronger attachment to local communities and offer the potential to provide alternative employment pathways for young people. Entrepreneurship can be fostered through a long term commitment to improving the local environment for start-ups.
Smart specialisation and low-density economies	Smart specialisation is based on the idea that collaboration with the private sector enables the identification of areas of comparative advantage, which can guide investment decisions about research and innovation. Research and innovation resources are limited across the NSPA and high technology sectors constitute a small part of these economies. For NSPA regions, a collaborative approach is needed which builds upon core areas of absolute advantage and facilitates access to external markets.
Linking indigenous communities with regional development	The Sami have an important role in regional economies due to their use of land, involvement in agriculture and food production, and connection with the regions' tourism industry. However, the connections with regional development strategies are often inconsistent and weak. Better linking of Sami communities with regional development policies would help create new employment and business opportunities for local communities.

Source: New material based on our analysis in this report.

Demographic change and labour markets

The NSPA demographic conditions represent both a challenge and an opportunity. A large share of elderly population implies a smaller labour force and a higher the burden

on pensions and age-related services. Extremely low population density, combined with harsh winter climate conditions, augments the cost of service delivery to remote areas. On the other hand, the specific demographic condition of the NSPA generates different and new opportunities. An ageing population should be regarded as the consequence of longer life expectancy, and creates a specific market potential in the "silver economy" (European Commission, 2015). Low population density implies less congestion, lower housing costs and the opportunity to develop space-intensive activities.

Table 1.20. **Possible consequences of demographic change**

	Potential benefits and opportunities	Potential costs and challenges
Population ageing	• High life expectancy • Demand for goods and services and new market opportunities ("silver economy")	• Rising burden of pensions and age-related services • Shrinking labour force relative to population • Less entrepreneurship and innovation • Less demand for "non-silver" goods and services
Population decline and low population density	• Less congestion • Opportunities for space-intensive activities • Decreasing environmental pressure • Flexibility in land use • Lower housing costs	• Loss of tax base • Shrinking labour force • Smaller domestic market • Challenges to efficient service delivery

Source: OECD (2016h), *OECD Territorial Reviews: Japan 2016*, http://dx.doi.org/10.1787/9789264250543-en.

There is variation in these impacts across the NSPA

As shown in the previous section of this chapter and in the regional case studies these broader trends mask a wide range of specific circumstances. Larger municipalities are increasing in population, while small isolated ones are shrinking fast. Some municipalities have low rates of employment despite a shrinking number of workers, while others have high employment rates and an increase in workers. In some places there are major mismatches between worker skills and employer requirements, while in other places the labour market is performing relatively well in terms of matching workers and jobs. These trends emphasise the importance of a place-based approach to addressing challenges associated with demographic change and labour markets.

Population ageing and decline will have significant impacts on the labour force

The main employment effect of an ageing and declining population is too few workers to maintain the current level of employment – the number of workers entering the labour force in future years will be lower than the number retiring. This challenge is exacerbated by youth outmigration. Outmigration by young people is a common phenomenon in all rural regions but in the NSPA the rate is quite high for both sexes who leave for higher education and do not return, because they find better employment opportunities in metropolitan regions in the south. In this situation only large increases in productivity will stop economic output from declining. While there is mixed evidence on the productivity of older workers there is some suggestion that in work that involves physical activity, such as mining or forestry that older workers are less productive than younger workers, so an ageing workforce may also reduce output.

There are structural problems with the existing labour force

There are also significant challenges related to the existing labour force. There is a high rate of unemployment for young males with low skills and a low participation rate by older males with limited skills. At the same time young males with limited formal education have a high rate of unemployment. The problem seems to affect young men more than young women. Young women are more likely to complete post-secondary education and training programmes, and they have a much larger share of public sector jobs, which are a major share of all jobs in the Nordic countries and particularly in the NSPA area.

The labour force is also feeling the legacy of past restructuring in traditional industries. In many smaller municipalities in the NSPA there is a large share of older workers who are out of the labour force because of work related disability. Both of these phenomena are consistent with a structural shift in the labour market that has reduced employment opportunities in traditional primary industries where machinery replaces workers. Relatively high wages in Nordic countries compared to those in competing countries around the world also increase the incentives to replace workers with machinery.

Migration will be limited due to the peripheral nature of these economies

Considerable effort is taking place in the regions of the NSPA to attract immigrants to alleviate the labour shortage. However, demographic decline is a significant issue in many parts of the OECD. Multiple decades of below replacement level fertility rates have led to many nations and regions relying on migration to maintain populations, so the competition for immigrants is becoming more intense (OECD, 2014b). Rural areas are particularly prone to having an ageing and shrinking population, because they also tend to have high youth outmigration rates as well as the same fertility rate as urban areas. But, they have rarely been successful at attracting large inflows of immigrants from cities and other countries, unless they offered a particularly strong opportunity for an improved standard of living compared to competing urban locations (OECD, 2004). This has typically taken the form of very high wages or the wealth increasing potential from free land. In addition, compared to larger urban centres, rural areas tend to be disadvantaged in competing for international migrants because they lack a supply of appropriate housing and amenities, diverse employment opportunities for spouses, and existing migrant communities. These conditions make it more difficult to retain and attract skilled workers.

A renewed focus on LLM policies will be important

The underlying problems with the labour force seems to be a combination of factors related to a lack of information about emerging skills needs, weak incentives to acquire skills and/or limited worker training programmes. In the NSPA, where settlements are small and widely dispersed and LLMs are unconnected, providing effective workforce training and job matching services is much harder than in an urban community. But with an imminent worker shortage a first step to resolving the problem is to increase employment rates among the existing labour force. Efforts to recruit workers from outside will also be helped by having better local training regimes, because then these new workers can be placed in a broader array of jobs. Policies which help lift workforce participation and better match skills with employer needs are required.

Box 1.4. **Active labour market policies and low-density economies**

Active labour market policy (ALMP) is a mechanism to improve outcomes for both unemployed workers and firms looking for new employees. The main focus is to improve the matching process (market function) in a job market through three activities. The first is to develop workforce training programmes that provide workers with new or improved skills that are in short supply. The second is to increase the demand for workers by providing support to employers to increase hiring through: wage subsidies or investments that lead to new job creation, encouraging new entrepreneurs, or by providing temporary public sector employment. The third function is to improve the matching process by improving job-search mechanisms. ALMP is seen as being important when unemployment is structural, that is it is due to a fundamental shift in the labour market that has altered the number and types of jobs in ways that no longer match current worker skills. ALMP policies are usually introduced and managed by national governments in periods of high unemployment when simple passive income replacement programmes are not felt to be effective.

For rural areas, where local labour markets are small, specialised and fragmented, the issues of structural unemployment are endemic. In these areas there are often major issues in terms of: many of the available workers having skills that have been made redundant either by technological change or the lack of competiveness of former large employers, firms not being willing to take on new workers due to rigid employment contracts that make it hard to lay workers off, or the perception that opportunities for firm growth are limited, and poorly functioning labour markets, where individuals do not know what jobs are open and firms do not know where the workers with the skills they need can be found. All of these are the core reasons ALMP was developed.

The underlying basis for ALMP is essentially the idea that the local labour market is failing because the structure of the local economy has changed for the worse. This is also the motivation for a region to undertake economic development strategies to improve its economic situation. This means that there is a clear connection between local economic development strategies and ALMP. Moreover improving employment conditions, in terms of the number of jobs, employment participation rates and wage levels, is a fundamental objective of both ALMP and most local economic development strategies.

In practice ALMP has had mixed success. Most national evaluations find at best limited positive effects (Card, Kluve and Weber, 2010). In particular subsidised employment is mainly seen as being ineffective, while support for targeted training and job search is more useful. For LDEs the main idea is that efforts to improve labour market outcomes should not focus on short-term boosts to employment from public sector job creation. Instead it is important to strengthen local private sector firms so they can absorb more workers, provide local workers with training programmes that are appropriate for the structure of the local economy and establish local job matching services that help connect those seeking work with available openings. These approaches are both effective ALMP actions and effective local economic development strategies.

Source: Own elaboration and Card, Kluve and Weber, 2010.

Service delivery innovation

The people of the Nordic countries justifiably take great pride in the high level of public services made available through the programmes and policies of the Nordic welfare state. Consequently, irrespective of where one lives in Finland, Norway or Sweden there is comparatively good access to public services, which is supported by a system of fiscal transfers and national regulations for service provision and access. For people and communities in the NSPA area the high level of access to public services is an important factor in improving the quality of life and in making the region more attractive to employers. Compared to other remote regions in OECD countries the level of access to public services is considerably better and the cost to communities is considerably less

than in countries where more of the cost of services is funded from local taxes (and in the absence of the fiscal equalisation measures evident in the Nordic countries).

However, demographic change and pressure on national funds is leading to an increased concern that in the future it will be difficult to maintain a high level of services in many of the settlements in the NSPA area. The combination of an ageing population and fewer people in small dispersed settlements is increasing the cost of providing services in smaller places. In addition, increases in expected levels of service quality, for example in health care and education, have raised expectations in both rural and urban places about acceptable levels of services. Further, a basic principle of the "Nordic Welfare State" is universalism that requires equal access for all citizens (Kuist et al., 2012). Resolving these conflicting elements is a challenge for the NSPA regions.

Box 1.5. **Trends in rural service delivery across OECD countries**

- **Consolidation, co-location and the merger of similar services.** Consolidation involves concentrating customers on a smaller number of service locations. It increases effective demand by increasing the size of the service territory for each remaining location. One example would be the merging of several weak local newspapers to create a single regional paper that has more viability. Co-location is another approach that seeks to build demand. Basic overhead costs – energy, security and administrative expenses – can be pooled, generating economies of scope. If post office services are consolidated with a shop, people can obtain their mail and purchase food in one trip. Finally, service mergers take similar or substitute services and combine them into a single entity.
- **Alternative delivery mechanisms.** Where the demand for services is widely dispersed, it may be more efficient to bring the service to the user. For example, adopting mobile service delivery approaches – bookmobiles that bring library services to communities that are too small to have a physical library or mobile dental clinics. The Internet offers the possibility to provide services in rural areas and for providers in rural areas to offer services outside their immediate territory. Telemedicine allows x-rays and other diagnostic services conducted in rural areas to be processed and analysed elsewhere.
- **Community-based solutions for different types of providers.** Some rural communities have volunteer fire departments. Others have fire departments that are operated by local governments. In some communities there are for-profit village shops, in some villages there are community owned shops that provide equivalent access to services, but which operate as social enterprises.
- **Improve quality and marketing.** Technology can help rural residents provide and access information about service quality and about alternative providers. Geolocation facilitates matching between the supply of and demand for services.

Source: OECD (2016a), *OECD Regional Outlook 2016: Productive Regions for Inclusive Societies*, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264260245-en

The development of e-services will continue to be important

Health care, education and skill development programmes are three crucial social services that require new solutions to facilitate future economic prosperity. Solutions cannot follow the usual logic of consolidating service delivery into a smaller number of locations to capture scale economies because the users are so widely dispersed that travel costs exceed any consolidation benefits. Instead alternative service delivery mechanisms have to be introduced that provide high quality outcomes but using alternative delivery

platforms (OECD, 2010). Across the NSPA there have been multiple advances in using ICT technology to deliver health care to patients in their home (for example the case of telemedicine in the Swedish region of Västerbotten). Similar technologies can allow a wider set of subjects to be taught in small rural schools. It is important that legislative and cultural barriers which prevent schools from sharing resources are also addressed. For example, there are currently barriers in the Swedish system for a specialised teacher in one school being able to teach in another via videoconferencing, which has a disproportionate effect on schools in small rural communities.

Innovative solutions from the private and community sectors will also play a role

Access to private services, such as shops and tradesmen, are also a challenge in small communities where there is insufficient demand to maintain a profitable business. While the problems of providing basic social services in the NSPA region are well recognised there is perhaps under-recognition of the challenges facing small private firms that provide basic retail functions, such as, village shops, fuel stations, and automobile repair facilities. Similarly, voluntary social and cultural organisations, such as, churches, sports clubs and other membership organisations are also struggling to find enough members in many small municipalities. While governments can rely on revenue transfers to fund public services both firms and non-profit organisations must rely on local demand to remain viable.

In some cases the solution is to jointly house multiple functions in a single establishment, which is overseen by a joint committee of management. These facilities are already in use within the NSPA, for example a multi-functional building in Trangsviken, Sweden that is used for community events, training and business development. In other cases improvements in roads and internet based scheduling allows trades such as plumbers and electricians, to travel from larger communities to more remote ones. And in some places the community has taken over shops and operates them as non-profit or social enterprises. More challenging is the loss of local voluntary organisations because it is this "third sector" that often steps in to fill the gaps when either the government or private firms withdraw from a small community.

Improving infrastructure and connectivity

The NSPA regions suffer from a set of disadvantages associated with their remoteness from markets and major international trade routes, and distances between urban settlements and areas of economic activity. Improving infrastructure and connectivity is vital for people and firms of the NSPA. Overcoming these disadvantages requires good physical connections between the north and other parts of Europe. In particular air connections that are relatively frequent and not excessively expensive can provide a way for firms to identify new markets, source inputs and gain ideas about new products and processes.

In regions where populations are small widely dispersed the cost of providing basic infrastructure, whether it is roads, public transport, electricity connections or Internet, is always higher than in places where there are more people in a more densely settled area. On the other hand, in these sparsely settled places this basic infrastructure and services are essential to the viability of households and communities because they are highly reliant on being connected to other places. Even though there are many municipalities in the NSPA area that are self-contained LLMs, where few people leave or enter the

municipality for work, these places are all dependent on the flow of goods, services, energy and information from the larger world.

Box 1.6. **State aid for low population densities: The case of Norway**

All three countries include some provisions for state aid within the tax and transfer system to encourage businesses to locate in their northern sparsely populated areas. These are designed to compensate for the accessibility challenges which affect the competitiveness of these places. It includes a number of measures in the tax system to encourage business and population growth. The main dedicated mechanism of regional financial support is in the form of regionally differentiated employer social contributions.

Regionally differentiated employer social contributions were introduced in 1975. The standard employer social contribution rate is 14.1% (of gross wages). Meanwhile, lower rates apply to five geographical zones; rates range from 10.6% in the southernmost zone to 0% for the northernmost zone, the co-called Action Zone consisting of the northernmost municipalities of Troms and all of Finnmark (EFTA, 2014). The zones cover most of the land area of the country but only about 18% of the population (i.e. around 1 million people). In effect, the standard social contribution rate applies only to the Oslo area and to some other coastal urban centres in the southern part of the country, such as Bergen. Given the importance of the wage bill in costs of most enterprises, the mechanism provides a powerful financial incentive to locate in the less populated areas of the country.

In many respects, the regionally differentiated social contributions are a good way of supporting rural communities. The system is "horizontal" in that it applies to all forms of business activity (save some selected sectors). In this sense it is better than, say, agricultural support, as it does not prejudge what economic activities are appropriate for rural areas. And, furthermore, the mechanism favours businesses where the wage bill forms a large proportion of costs, which ties in more closely with the objective of preserving local populations than do, say, investment incentives.

Nevertheless, there are downsides. The deadweight loss may be considerable as the scheme applies to established as well as new businesses and there is no time limit on the support. Indeed, the implicit fiscal cost of the concessionary contribution rates is sizeable. For instance, according to the latest assessment under the European Free Trade Agreement, the forgone revenues amounted to NOK 13 billion in 2013, i.e. equivalent to around 0.5% of mainland GDP and equivalent to a subsidy of about NOK 13 000 per head of the population living in the eligible zones (i.e. about EUR 1 400 at an exchange rate of 9.2). Despite these downsides, regionally differentiated employer contributions are certainly superior to subsidies for specific areas, and could be used to offset cutbacks in the latter.

Source: OECD (2016i), *OECD Economic Surveys: Norway 2016*, http://dx.doi.org/10.1787/eco_surveys-nor-2016-en.

Climate change is also an important consideration in planning for future infrastructure and services (OECD, 2015). The Arctic is already experiencing the impacts of climate change with a warming climate leading to reductions in the coverage of sea ice, and a range of other impacts on the natural environment (OECD, 2012). Infrastructure will need to be adapted to the impacts, for example in coastal communities, due to the impacts of more frequent and severe storms, and coastal erosion. All three countries have ratified the Paris Agreement on Climate Change (COP 21) which also recognises the key role of subnational authorities in climate change mitigation and adaptation. For the regions of the NSPA this includes, where possible, prioritising transport and mobility options which generate less carbon emissions. For example, moving bulky goods by rail and improving access to public transport services.

High quality efficient infrastructure is essential for economic performance and quality of life

In these small export oriented economies the ability to ship products out and goods and services that are not produced locally in is vital to economic viability. Road connections are essential for this, but in the NSPA road travel is made more difficult by harsh winters with little daylight. Other forms of transport such as rail, air and sea all require large fixed costs to establish terminals and require larger volumes of passengers and freight than most municipalities can support in order to be viable.

High quality infrastructure and services are an important part of the quality of life in a community and make it easier to retain and attract families. This includes both public facilities like schools and hospitals but also private infrastructure. As rural regions rely more on tourism the quality of the local infrastructure and services takes on an additional role as a factor in supporting the local tourist industry. While the main reason people visit a rural area is the quality of the natural resources the infrastructure they use while visiting plays an important role in their experience. Good roads, timely public transport services, and comfortable accommodation enhance the visit.

Because the physical distance between the NSPA and the main population centres of each nation and the rest of Europe it is vital to improve all forms of connectivity for these regions to be fully integrated into their respective countries and Europe. The high degree of cultural and social homogeneity within the Nordic countries is a definite benefit for domestic integration, but conditions in the far north are not well understood in central and southern Europe. Improvements in transport infrastructure can reduce the travel cost in terms of time and money in connecting the NSPA to the rest of Europe, and this will improve both cohesion and economic opportunities.

Box 1.7. **Importance of infrastructure and connectivity for peripheral economies**

Economic remoteness, or peripherality, which is always a relative term – is about being connected or unconnected to "somewhere". Peripherality has two distinct dimensions. The first is simple "physical distance to major markets". This increases travel times and shipping costs, which must be borne by the buyer (in the form of higher prices) or seller (in the form of lower margins). Yet straight-line distance is not all that matters: maritime transport is far cheaper and more flexible than overland transport, and it requires less dedicated infrastructure. Consequently, access to the sea is a crucial variable – southern Chile and coastal People's Republic of China (hereafter 'China') are far less remote from North American and European markets than, for example, Brazil's Amazonian regions or China's interior, respectively, even though these are physically closer to the main markets. Where overland distances are concerned, the quality and layout of infrastructure is clearly critical.

The second dimension of peripherality is the degree of "economic connectedness". Lack of economic integration not only reduces current trade opportunities, it reduces the ability of agents in a place to identify new opportunities. Thus, there are costs in both static and dynamic perspectives. To take a trivial example, one might note that Australian wheat farmers – though located in a very remote place, are extremely well connected – are deeply integrated into international grain markets and very well informed about changing conditions. By contrast, the residents of many small towns along the US Appalachian mountain chain – which are among America's poorest places – are physically very close to some of the world's biggest factor and consumer markets, but they are poorly linked to those markets and thus largely disconnected from activities taking place only a short distance away.

Source: OECD (2016a).

Connectivity through institutional, business and social networks is also important

Where the NSPA faces a major challenge is in becoming part of business networks that largely operate through direct personal interaction. These include: trade associations, professional organisations, trade shows and other opportunities where people engaged in related business activities meet in formal and informal settings. Connections made in these meetings provide information and opportunities that cannot be easily replicated without face to face contact. While subsidiaries of large firms can rely on their parent company for this type of knowledge most SMEs that wish to expand beyond the local markets in the NSPA area are at a disadvantage. Regional and municipal governments can play a role in facilitating and brokering relationships between SMEs and external market and innovation opportunities.

Increasing entrepreneurship

Micro, small and medium-sized firms make up the largest number of employers in the regions of the NSPA and offer the greatest potential for increasing employment and output. By contrast, large firms and local governments have a disproportionality large share of jobs. Large private sector firms are often subsidiaries of multi-national companies and their level of output, investment and employment is determined by corporate strategies and the relative profit from each location. While these firms can provide large benefits to a community and region they are rarely tied to the well-being of the region.

There are multiple arguments for focusing on an entrepreneur-based economic development strategy in the NSPA regions. First, these are small economies and local governments lack the resources to influence the decisions of large firms, but can influence smaller firms. Second, both the local labour force and the local market are small, which is not an issue for a small firm but is a clear barrier for large firms. Third, small firms engaged in a variety of activities offer diversity benefits to a region that a single large employer cannot. Fourth, small firms operated by local entrepreneurs are inherently more attached to the locality than the managers of a branch plant (Haughton, 1999). Finally, efforts to increase local entrepreneurship have the potential to reduce youth outmigration and provide an incentive for those who leave to develop better skills with an incentive to return.

Entrepreneurship can help generate new and expanded export markets

Some new firms offer new goods or services that expand the range of choices available to local, and potentially external, purchasers. These innovative entrepreneurs can play an especially important role in a local economy if they are successful. Beyond their direct income and employment effect they have the potential to create a new source of exports for the local economy that can expand over time, creating a significant increase in jobs and output. If they provide an input to other local firms their innovation may increase the competiveness of these firms which further strengthens the local economy. Finally, they provide an important demonstration effect that shows that local entrepreneurs can be highly successful and this can motivate others to become entrepreneurs.

Across the NSPA region emerging sectors like tourism, technology-intensive services, and small scale manufacturing offer opportunities for entrepreneurs. Outdoor activity based tourism has been an important source of new jobs and income in many rural regions of OECD countries. The NSPA offers the potential for both winter and summer based tourism which provides the potential for the equivalent of full-time employment and can employ both more skilled and lower skilled workers. Moreover because the NSPA regions are unlikely to develop more than a few large "destination attractions" such as the Santa Claus Village in Rovaniemi, it will be important to provide

a variety of somewhat different but related tourism offers that create the critical mass of activities needed to motivate foreign visitors.

Box 1.8. **Nature based tourism activities in rural areas**

In the OECD countries tourism is one of the largest sectors in many national economies. As a service industry it offers employment opportunities for a variety of skill levels of workers and involves facilities costing from several thousand dollars to several hundreds of millions with visitor numbers from the hundreds to the millions. In rural areas tourism is seen as one of the best opportunities for increasing incomes and employment as urban residents increasingly see natural areas in rural regions as desirable places to visit and spend money. Nature provides the basis for the vast majority of rural tourism, whether it is, visiting national parks, hiking on trails, coastal cruises, snowmobiling, watching birds, safari vacations, skiing or fishing. Ready access to nature is one of the inherent strengths of rural areas and not one that urban regions can replicate.

Nature based tourism is the fastest growing element of tourism. As it expands the interaction between people and nature becomes more intense and concerns about the degradation of nature can increase (Kuenzi and McNeely, 2008). Degradation has two effects – the first is the ecosystem impact of additional people on a fragile environment and the second is the effect congestion has on the willingness of people to visit the location. In addition the expansion of nature based tourism can cause conflicts with other land users. This can include traditional extractive industries such as logging, commercial fishing, farming or mining, and also conflicts with the life styles of local people whether they are indigenous populations or permanent residents. Balancing these conflicts is a key element of a successful nature based tourism sector, especially where potential conflicts are significant.

In the LDE context, while tourism is a service industry it plays the same role in the local economy as do more traditional exporting sectors. The demand for tourism activity comes from people outside the region supplying the service. This means that investments in: transport infrastructure, marketing, and support facilities, such as hotels and restaurants, are important in making tourism successful. Financing these investments can be a challenge in many rural areas where financial intermediaries are few in number and risk averse.

The economic impact of nature based tourism can vary greatly, depending on the nature of the activity and its ability to attract visitors. Some activities provide limited local benefits. For example the Red River Gorge in eastern Kentucky is one of the best rock climbing locations in eastern North America and attracts thousands of climbers. However, climbers spend very little money in the local economy and few jobs are created. On the other hand a major ski resort, such as Whistler, near Vancouver in Canada, generates millions of dollars in revenue and thousands of jobs. The amount of local investment in facilities at the Red River Gorge is trivial, but is huge for a modern ski resort.

For many rural settlements nature based tourism plays a mainly supporting role in the local economy. The local natural features are not outstanding enough to set that region apart from others providing similar opportunities, so visitor numbers are limited. The number of recreation opportunities is limited, so people do not stay for long periods, nor is it profitable to undertake large investments in building facilities to support the tourism industry, so revenue opportunities are limited. Employment is often only seasonal and not particularly well paying. Conflicting sectors, such as logging or the generation of electricity from wind turbines, may be more valuable and crowd out nature based tourism opportunities.

Despite these caveats, rural tourism based on nature is a growth opportunity in many places. It can be a useful part of a broader development approach. It has the advantage that it can be undertaken at various levels of investment, whether it is a local entrepreneur providing guiding services to hunters and sport fishermen, or a national park built around an outstanding natural feature. Where the particular nature based opportunity is not internationally recognised, successful tourism may depend on connecting the local opportunity with a tour operator, who creates a package of activities in different locations and markets it in urban areas. For example, entrepreneurs in the small towns along the Hurtigruten coastal ferry route on the coast of Norway are developing small scale tourism activities (kayaking, bird watching, hiking etc.), but these are mainly marketed to cruise passengers on the ships who stop in a town for a day before continuing their journey. Without the cruise ships providing the marketing and co-ordinating function the number of visitors would be much smaller.

Source: Elaboration based on Kuenzi, C and J, McNeely (2008), "Nature Based Tourism", in O. Renn and K. Walker (eds.), *Global Risk Governance,* Springer, Amsterdam.

Successful entrepreneur based development strategies require long term commitment

A successful entrepreneur based development strategy requires a long-term commitment from local municipalities and regions because it has to work to change local society to embrace entrepreneurship in a positive way (Bertelsmann Stiftung, 2014). This can be a multi-generational endeavour, especially in societies where large private sector employers and public sector jobs have been the typical career choices. In the NSPA area a clear issue is the limited scope for future growth in employment in large scale primary industry forms and in traditional public sector employment. In the first instance these firms are consolidating employment in a smaller number of larger facilities that take advantage of scale economies and which employ far fewer people. In the second case, national governments are facing limits on their ability to fund current levels of social services.

Box 1.9. **Support for entrepreneurship and innovation in rural areas**

Innovation in rural areas relies to a great extent on the action of local entrepreneurs. While some innovations are imported from urban places either by the local branch plants of large multinational companies or by the transfer of ideas developed for initial use elsewhere, these innovations tend not to be fully embedded in the local economy. By contrast, innovations that come from local people are more likely to be based on better uses of local resources, or on new ways to solve problems for which an existing solution is not available.

The key issue for public policy is identifying ways to stimulate latent entrepreneurs to act on their ideas and to develop better support mechanisms for them when they do choose to act. There are two distinct motives for rural entrepreneurs that must be recognised. The first is a simple profit motive where the entrepreneur perceives that there is a current gap in the market that can be filled by his or her actions. The second is known as "user innovation" where an individual has a problem in their life or business for which no adequate solution is available so they invent one. It is only after the invention that the idea of becoming an entrepreneur occurs. Essentially support for innovative rural entrepreneurs takes two forms.

The first is ensuring that existing support for innovation does not discriminate against rural entrepreneurs. Forms of discrimination include: a focus only on formal innovation systems where science based research and development activity is a prerequisite for support, focusing support only on innovations that have the potential for rapid growth (gazelles), requiring that an innovation be novel in a national or international context before it can be supported, establishing high minimum funding levels and complex application procedures that can be difficult for individuals or small firms to deal with, and concentrating efforts to promote innovation in urban areas. The second is more broad based support for small rural business, including assistance in moving from identifying an idea – the latent entrepreneur – to then acting on that idea and developing a business plan and to actually starting a business. In rural areas the first of the three steps can be the most difficult. In many rural areas there is not a strong tradition of entrepreneurship, and in almost all rural areas there are few peers who can be looked to by someone interested in starting an innovative business.

Financing a start-up can be a particular challenge in rural areas because the financial intermediation system is weak. Incomes are lower in rural areas, leading to less ability for the entrepreneur to raise equity funds from own sources or family and friends. Banks tend to be less capable of assessing business plans and are more risk averse. Start-up costs can be higher in rural areas because facilities may have to be constructed rather than rented and equipment must be imported. Mainstream venture capital is designed to bridge this gap but is primarily designed for high growth/high return ventures which are also not normally evident in rural areas. Many rural areas have bridged this gap through the creation of Community Development Finance Institutions (CDFI) which provide revolving loan funds local SMEs and start-ups. The initial capital for the institution may be raised from the local community, other financial institutions, and government. CDFIs can be banks, credit unions, loan funds, microloan funds, or venture capital providers. CDFIs are normally accountable to their local community and operate on a not-for-profit basis with legislative and funding support from governments. For example, the United States Treasury provides technical and financial assistance including loan guarantees to CDFI across the country.

Source: Elaboration based on US Treasury (2016), *Community Development Financial Institutions Fund*, www.cdfifund.gov/Pages/default.aspx (accessed 9 January 2016).

Smart specialisation and low-density economies

The idea of smart specialisation as a strategy for strengthening regional economic growth by constructing regional competitive advantage has become a key policy element of EU support across the regions of Europe (Asheim et al., 2011, OECD 2013b). Consequently, it has become an integral part of applications by regions for support from the EU. The essential idea of the approach is that regions have some ability to shape their future economic development by identifying sectors where they either currently have a comparative advantage, or they could have a comparative advantage in the future, and then targeting innovation policies to provide new products and processes in these areas. Implicit in the approach is that these sectors are responsive to additional expenditure on research and innovation. With a positive response, the targeted sectors increase productivity, become more competitive and expand, thereby increasing regional prosperity. While the logic of the smart specialisation strategy is not formally linked to particular types of region, there is typically an implicit sense that larger more urbanised regions with complex economies and significant formal research capacity are the archetypical candidates for the approach.

The essence of smart specialisation is a public-private partnership that can identify specific opportunities for investments in research and development that have a high potential pay-off because the region has a better ability to serve this emerging market than do other regions. While it is possible that these investments will be in sectors that the region already specialises in, this is not a given. The essence of the idea is that it assesses the future potential of the current economic structure and tries to find ways to move the regional economy away from those sectors that are seen as having low growth prospects in the future, and toward the ones with higher growth. A central idea in the approach is to avoid "lock-in" where a regional economy continues to bet on its current core competence in the face of reduced demand.

Clearly, as EU regional development funds become more closely tied to the ability to generate an acceptable regional smart specialisation strategy, the pressure for regions to adopt the approach increases. Considerable evidence exist that different parts of the EU have different comparative advantages that would lead to different emphases in their strategy (McCann and Ortega-Argiles, 2016). But there is also evidence that different parts of the EU have differing capacity to identify and implement a smart specialisation strategy (Veugelers, 2015). This latter situation is problematic, because without the capacity to identify specific sectors that could be competitive and provide appropriate research and innovation support the strategy will not succeed.

The nature of innovation is different in remote rural areas

Almost by definition LDEs lack vital parts of the usual way that smart specialisation processes are described. They are too small and open to trade effects to have an endogenous growth process. They tend to lack formal research capability in the form of large universities, government research facilities and corporate research centres. They also lack the dense networks of firms, organisations and other institutions that are thought to be central to innovation (OECD, 2014c).

Box 1.10. **Innovation and low-density economies**

Innovation is seen as a fundamental force for economic growth and increasing productivity. In remote rural regions innovation comes from a variety of sources. In a few instances there are formal science based innovation systems within the region, typically in larger cities with universities and firms large enough to have a formal R&D function. These science based activities can be highly successful and have been competitive with similar corporate and academic institutions in larger, more populated regions. Examples include forest based bio-energy research, medical research at some of the larger medical complexes. However, these are generally limited in number and scope, and are unlikely to increase either in size or number in rural areas.

Imported innovations are important for rural areas. This is innovation that takes place elsewhere, but is adopted either by subsidiaries of multi-national firms bringing in new products or processes that their parent has developed or acquired, or by local firms licensing or emulating ideas developed elsewhere. Imported innovation allows these firms to remain competitive in external markets, but obtaining it requires connections of some sort to the places where the idea is developed and the resources to acquire and introduce the new technology. Examples include: many of the improvements in pulp mill technology that are developed by and for multi-national firms, improvements in mining equipment, advances in aquaculture, and the technology supporting the new server farms. Access to this technology allows firms to remain competitive with peers in other locations.

Local innovation is significant but less obvious since it largely takes place within SMEs and may not be patented or even made known within the region since it can be specific to a single firm. These user driven innovations take place largely because the entrepreneur cannot find a viable solution to purchase and has to develop an internal way to resolve the problem. Often they are process based, but can involve new products. In some cases local innovations can be highly disruptive and alter global markets. The most salient example is the commercial salmon aquaculture industry that largely originated in coastal Norway and where most of the new technology for production and transport continues to be developed. A second example is the timber harvester that was developed by a Finnish entrepreneur and is now the main technology for commercial tree harvesting around the world.

More commonly small user innovations do not go far from the origination point. Such innovations are important for local firms though because it either gives them a better product or a better process which increases their productivity or competiveness and allows them to increase in size and remain viable in their market. New opportunities might exist in providing health care for the elderly in remote small settlements, where standard approaches are too expensive. While these new methods are unlikely to be adopted in metropolitan areas where different approaches are more appropriate, they can be of great benefit to the people and governments in rural areas, and may be of commercial interest in similar environments in other countries.

Smart specialisation needs to be tailored to rural areas

The Nordic countries have adopted the ideas of smart specialisation both in terms of national and regional policy (Nordregio, 2013). In the Nordic context the emphasis has been on creating a process where regions identify a small number of key investment opportunities and then concentrate their research and innovation resources in these areas. Nordregio (2013) identifies 7 factors that have been associated with successful adoption of a smart specialisation approach:

- broad definition of innovation – going beyond formal research based innovation to include all forms of innovation
- using regional resources to develop core opportunities – grounding the future actions in the actual resources and capabilities of the region
- co-operative governance – combining strategic knowledge from higher level government with local knowledge of conditions and capabilities

- preventing lock-in – resisting the temptation to focus on existing forms and industries when they have a weak future
- avoiding fragmentation – looking for linkages across opportunities, both locally (critical mass) and outside the region (connectivity)
- supporting dialogues at all levels – strengthening multi-level governance and including all stakeholders
- emphasising communication- providing opportunities for discussions and considering different perspectives at all stages (Nordregio, 2013: 12).

The report notes that each Nordic country sees smart specialisation in a somewhat different way and that they have each adopted different ways to support the process at the regional level. However, all national governments see the approach as being potentially important for achieving regional development. In the case of Finland, Norway and Sweden both national policy and regional policy has tended to focus on the role of formal science based innovation driven by university and industry research as the central mechanism for smart specialisation approaches. While other forms of innovation are certainly recognised they appear to be more of an afterthought, and the implications for less populated, resource dependent rural regions are not clearly articulated.

Smart specialisation strategies should focus on core areas of absolute advantage

From a national perspective the Nordic countries are clear leaders in a European context in smart specialisation approaches. Smart specialisation strategies will need to be tailored to a context where many regions lack a university or any other formal research centre, and very little of their economic base could be characterised as being high-technology, advanced manufacturing or ICT activity. A relatively small share of the workforce has advanced degrees or even tertiary education. There are some places with national and internationally competitive research which is linked to clusters of firms specialising in high technology activities. The ICT sector based in Oulu is an obvious example, and research in engineering linked to the mining and testing industries in Norrbotten is another. However, most of these regions are characterised by small and dispersed settlements over a large geographic area which limits interaction among people and firms. Similarly, small local markets and a small labour force make diversification and the opportunity for "related variety" innovations limited.

These structural differences lead to important variations in how smart specialisation strategies are designed. Most importantly because economic growth in rural regions is largely driven by increases in external demand the logic of an endogenous growth process does not apply. This means that the standard smart specialisation model driven by formal R&D undertaken by universities and large firms largely does not apply (with some exceptions as outline above). Instead the focus is on innovation in core sectors where there is an existing absolute advantage and in improving connectivity to external markets. This may be a much harder task for those charged with identifying a smart specialisation approach because it requires not only a good knowledge of the capabilities of the local economy but also the ability to forecast future demand in external markets and the reactions of key competitors.

Box 1.11. **Arctic know-how and competencies as an absolute advantage**

The Arctic region is defined as those areas north of the Arctic Circle and includes the northern areas of Finland, Sweden and Norway. The Arctic climate is characterised by extremely cold winters, cool short summers, low levels of precipitation, and high levels of radiation. The flora and fauna of the Arctic varies according the prevailing weather conditions and the proximity to the ocean with various species of birds, whales and other sea mammals, bears and wolves. The region is also abundant in natural resources (hydrocarbons, rare minerals, forests, and fresh water). The Arctic is also disproportionately affected by climate change which is resulting in loss of sea ice and permafrost. These characteristics have resulted in the development of particular competencies and technologies which are an advantage for the NSPA regions. There are many examples of businesses across the NSPA regions which have leveraged these absolute advantages with universities and research institutions also playing a key role. Some examples of this include: response, containment and recovery technologies for oil spills; engineering solutions and building technologies to deal with ice loads and extreme climatic variations; testing vehicles for extreme climatic conditions; data centres; adaptation to climate change; and energy saving technologies and construction solutions. Arctic know-how and competencies will be an important part of how many of these regions approach their smart specialisation strategies.

Linking indigenous communities with regional development

The Sami are the indigenous people of Finland, Norway, Sweden and the Kola Peninsula in the north-western part of Russia. Although defining themselves as one people there are distinct communities with different identities, cultures, social structures, traditions, and livelihoods (Sami Parliament, 2016). There are distinct differences within the Sami community between reindeer and non-reindeer herding communities, and between communities located along the coast and in the interior (Olsen, 2016). The present Sami settlement area is significantly smaller than the Sami traditional homeland and covers the northern areas of Finland, Sweden and Norway. The total Sami population is estimated to be somewhere between 80 000-100 000 individuals in the respective countries as follows: Finland 8 000; Norway 50 000-70 000; Sweden 20 000; and Russia 2 000. These figures are estimates only as the national censuses do not include a specific Sami component.

Indigenous communities often have weak connections to regional development strategies

Across advanced OECD countries such as Australia, Canada and New Zealand indigenous communities are increasingly recognised as an important part of the dynamics of regional growth and development (OECD, 2014d). Indigenous peoples generally have legal recognition of their rights to land, sea and resources which mean they need to be included in regional development. This is particularly important for industries where rural areas have clear comparative advantages in agriculture, tourism, and mining. In many rural areas indigenous communities are younger and growing more strongly than the non-indigenous population. For these communities facing issues related to employment and skills mismatches, indigenous people represent an important labour resource.

However, indigenous communities are often disconnected from regional development policies. This disconnection has generally developed for historical reasons and challenges associated with achieving self-determination and sovereignty. Self-determination gives the right for indigenous communities to govern their affairs,

including traditional lands, and in some cases develop revenues and economic opportunities linked to their local assets. Different institutional arrangements have developed with responsibility for indigenous affairs, and these often have weak connections to areas responsible for regional and rural development (Beer, Maude and Pritchard, 2003). Sometimes indigenous communities can be cast as a problem or barrier in relation to developing extractive industries, tourism related activity, and infrastructure in rural areas (Olsen, 2016). As mining investment has accelerated over the past decade or so due to the commodities boom so have sources of conflict with indigenous peoples. These issues are apparent across Finland, Sweden, and Norway.

Sami institutions are important for protecting language, culture and traditional practices

The Sami Parliament is a representative institution to support elements of self-determination for the Sami people. For example, the Sami Parliament of Norway is an indigenous elected assembly, elected by Sami people (at the time of the last elections in 2013 there were 15 356 people registered on the electoral roll). There are also Sami Parliament's in Sweden and Finland operating under legislative frameworks established by each countries Parliament. These three parliaments co-operate through the Sami Parliamentary Council (SPR). The Sami people living in the Kola Peninsula, in the north-western part of Russia, are permanent participants in SPR. The Sami Parliament's operate across a number of different competencies including education, culture and health, language and environmental management. They also function as an engagement and co-ordination point for the development of national, county and municipal policies which affect the interests of the Sami community.

The cross-border nature of Sami issues is also recognised by the national governments of Finland, Norway and Sweden. Negotiations are currently being held on a Nordic Sami Convention between the states of Finland, Norway and Sweden. Representatives from the three Sami Parliaments of Finland, Norway and Sweden are part of the state delegations. The convention will establish a framework to help facilitate cross-border collaboration for the Sami to preserve, exercise or promote their own culture, languages, industries and civil society.

There is potential to enhance inclusion of indigenous people in development strategies across the NSPA

The establishment of these institutions over the past 30 years has been important for the Sami in preserving their language and culture, and ensuring their interests are better represented in the design of national policies. Although Sami institutions are separate from those responsible for regional development policies they are included in regional development planning through participation in decision-making boards and committees at a county level. However, there are still challenges related to regional development. There is not a clear framework for the resolution of conflicts related to resources and water, or a framework for compensation and sharing of benefits. This generates conflicts with indigenous communities in relation to mining and infrastructure developments. There is also potential associated with the inclusion of indigenous communities in tourism, food production, and natural resource management. Although there are some good isolated examples of this, there is greater scope for this across the NSPA regions, which can bring mutual benefits for indigenous communities and the wider region. A collaborative approach with local Sami communities is essential to realising these opportunities (Olsen, 2016).

Box 1.12. **Kaikōura and Miraka in New Zealand**

New Zealand has a longstanding formal treaty with the Māori that was signed in 1840. After an extended period where the rights of the Māori were not fully recognised there has been a strong effort in New Zealand to better respect the terms of this treaty. This has resulted in efforts to compensate the Māori for past injustices by: returning land, restoring rights to natural resource use, particularly fishing and forestry, and providing financial compensation. Māori now comprise about 15% of the New Zealand population.

Like indigenous people in other OECD countries, including Australia, Canada and the United States, the Māori are on average poorer, with lower levels of employment and education, and generally worse performance on all socio-economic indicators. Unlike in these other countries the Māori have direct representation in the national legislature with specific seats reserved for Māori.

Indigenous people maintain a distinct relationship with other citizens. Their treaty rights provide them with specific rights not available to others but their distinct existence means that they cannot fully assimilate into the dominant culture without losing their identity. A common consequence of this separation is weak participation in the general labour market, often because of physical isolation resulting from separate communities. This means that improvements in employment levels and earned income require developing opportunities near to Māori settlements and that are consistent with cultural norms. Where Māori oriented activities can be integrated with the rest of the local economy it is possible to achieve win-win situations for all.

An example of this is tourism development in the Kaikōura District on the South Island. The district was the site of a significant Māori population that relied on fishing and whaling before the arrival of European settlers. Europeans initially focused on whaling but excessive harvesting reduced the fishing industry and the economy shifted to agriculture and later to a railway centre. In the 1980s reorganisation of the New Zealand rail industry eliminated this economic function and unemployment increased in the region.

A high level of natural amenities, especially ocean-oriented elements like beaches and marine life, combined with proximity to Christchurch, and a growing number of international tourists led to efforts to establish a strong tourism offer. A key element was the creation of Whale Watch in 1987 by members of the Kati Kuri tribe. It was the first whale viewing enterprise and became a major anchor of a larger regional tourism sector. This now includes other wildlife viewing activities, beach visits, cafes and restaurants and local art, including Māori artists.

A second example is Miraka, a majority Māori owned dairy company based in Taupo on the North Island. A number of Māori investment companies are the major shareholders and the firm processes milk from local dairy farms operated by Māori and non-Māori families. The main product is milk powder that is exported to China, Viet Nam and other countries. The company has been profitable almost from its opening day and has steadily expanded production. The key features of the project are that it involves investments from a variety of Māori trusts from different regions, and it buys milk from local farms of both Māori and non-Māori heritage – in both instances showing a high level of collaboration.

Source: OECD (2014d), *OECD Rural Policy Reviews: Chile 2014*, http://dx.doi.org/10.1787/9789264222892-en.

Enhancing cross-border collaboration

Effectively addressing these policy challenges will require enhanced co-operation between NSPA regions and with national governments. Across the OECD and in particular Europe cross-border policy efforts have traditionally tackled planning, transport and environmental considerations (OECD, 2013b). Local cross-border spatial planning and transport policy have been the main objectives of many early cross-border partnerships, and remain so today. These are competencies often in the mandate of the local jurisdictions along a border. Environmental considerations, such as the joint management or protection of water resources, are another frequent subject of cross-border intervention. Over time, other priorities of cross-border co-operation have been added, such as tourism, public service delivery and economic development. Tourism is a popular subject for collaboration, such as for destination branding or shared infrastructure.

There are several rationales for these forms of cross-border collaboration (OECD, 2013b). Some seek to address the positive or negative externalities that cross the border. For example, the benefits of a science facility for industry in the other region, or tax arrangements to compensate for service use due to cross-border commuting. Another set of rationales helps regions to overcome different forms of peripherality. They want to be more visible to national policy makers as well as globally competitive for firms and talent. By their nature these collaborations help to generate economies of scale. Regions are collaborating to join forces across a wider territory by better pooling their assets and achieving greater critical mass. Reaching this critical size can increase the visibility of an area within a national and supra-national institutional and economic context.

While the 14 NSPA regions are contiguous there are a number of specific bottlenecks which, if addressed, would deliver significant benefits in terms of enhancing productivity and growth. Different skills and certification requirements create barriers for labour mobility, which is a particular issue in construction and hospitality where labour demand is variable and relies on some degree of mobility. Cross-border bottlenecks also exist in terms of the movement of goods. For example, border crossings are only open at certain times, and this impedes the movement of food products to market, which particularly impacts the aquaculture industry in Norway. Constraints at border crossings are also evident along the Finnish-Russian border. This problem reflects the broader challenge of comparatively poor east-west transport connections and addressing bottlenecks such as these in the transport network would increase competition and open up new opportunities for businesses and communities in the NSPA regions.

Cross-border collaboration will help address the complex issues facing the NSPA and the broader Arctic region

Cross-border collaboration is becoming increasingly important for the development of the NSPA and the broader Arctic region. The NSPA is of increasing strategic importance to the EU and the geopolitical and economic interests of Finland, Norway and Sweden. The NSPA is already significant to the economy of Europe through the production of fish products, wood, strategically important minerals, and energy. There is also further growth potential in the NSPA and across the broader Arctic region in areas such as cold climate technologies and services, renewable energy technologies, and the so-called "blue economy" such as aquaculture, offshore energy, and maritime tourism (European Commission, 2016). The broader Arctic region has experienced more warming than any other area of earth over the last 20 to 30 years and climate change is projected to have a more severe impact in the future (OECD, 2013c). These changes have also been associated with increasing competition for resources and new forms of economic activity linked to them. The impacts on ecosystems and communities in the Arctic region are not well understood.

Complex and inter-connected challenges and opportunities facing the NSPA require a cross-border response. A changing climate is affecting all parts of the Arctic region. Impacts on ecosystems cut across national borders and international waters. Realising new economic opportunities associated with resource extraction and shipping in the context of a fragile natural environment will require close cross-border collaboration. The effective management of supply chains for existing industries such as energy, aquaculture, forestry and mining also requires countries and regions to enhance co-operation across different policy areas such as environmental management and infrastructure. These cross-border dynamics are recognised by the EU, Finland, Norway and Sweden which have released Arctic policies in recent years. These policies share a focus on regional development including innovation, infrastructure, and

working with indigenous communities, and the NSPA will be an important actor in achieving these outcomes.

Table 1.21. **Overview of Arctic policies (EU, Finland, Norway and Sweden)**

Policies	Key priorities
EU Arctic Policy (2016)	Three main objectives: protecting and preserving the Arctic in co-operation with the people who live there, promoting sustainable use of resources, and international co-operation. Policy identifies three main pillars: • climate change and safeguarding the Arctic environment • sustainable development in and around the Arctic • international co-operation on Arctic issues.
Norway's Arctic Policy for 2014 and beyond (2014)	Sets a policy framework for sustainable development and international co-operation in the Arctic region and includes the following priorities: • the development of a knowledge-based business sector (including a focus on innovation, skill, tourism promotion, and mapping mineral resources) • broad-based knowledge development (development of scientific knowledge in the region linked to the Arctic environment) • more-reliable infrastructure (focus on improving sea navigation and key transport infrastructure such as ports and airports) • emergency preparedness and environmental protection (enhancing capacity to respond to emergencies due to increased economic activity and the impacts of climate change).
Finland's Strategy for the Arctic Region (2013)	Establishes a policy framework to leverage areas of comparative advantage and sets a vision and priorities for sustainable development and international co-operation. Includes the following themes and priorities: • Arctic population (health and well-being, labour mobility, and inclusion of indigenous communities in decision making) • education and research (further developing Arctic expertise and research capabilities) • business operations (more effective regulation, investment facilitation, clean technologies and infrastructure) • environment and stability (adaptation to climate change, environmental management, cross-border approaches to security risks).
Sweden's strategy for the Arctic region (2011)	Articulates Sweden's relationship with the Arctic and sets out policy priorities in the context of the international environment. The policy has a strong focus on responding to new risks and opportunities generated by climate change and resource extraction in the Arctic region. Policy themes include: environmental protection, climate and environmental research, education and research, indigenous communities, knowledge transfer and economic development.

Source: European Commission (2016), *Joint Communique to the European Parliament and the Council: an integrated European Union Policy for the Arctic*, http://eeas.europa.eu/arctic_region/docs/160427_joint-communication-an-integrated-european-union-policy-for-the-arctic_en.pdf; Norwegian Ministry of Foreign Affairs (2014), Prime Minister's Office (2013), *Finland's Strategy for the Arctic Region - 2013*, http://vnk.fi/documents/10616/334509/Arktinen+strategia+2013+en.pdf/6b6fb723-40ec-4c17-b286-5b5910fbecf4 (accessed 14 December 2016) and Government Offices of Sweden (2011), 'Sweden's strategy for the Arctic region' http://www.government.se/country-and-regional-strategies/2011/10/swedens-strategy-for-the-arctic-region/ (accessed January 2017).

The EU, national governments, and regions also support, and are involved in, various forms of cross-border collaboration. The NSPA itself is an example of cross-border collaboration. The NSPA is a voluntary co-operation of the 14 regions supported by the EU Offices that each of these regions has in Brussels: the East and North Finland EU Office, North Sweden EU Office, Mid Sweden EU Office, and North Norway EU Office. These 14 regions from the three countries work with the NSPA network to raise awareness of common characteristics and challenges facing the NSPA in the EU institutions, to influence EU policy, and to provide a platform for best practice.

The EU also provides support for various forms of cross-border collaboration. These are funded through the European Neighbourhood and Partnership Instrument (ENPI) and European Neighbourhood Instrument (ENI) (designed to provide support for co-operation between EU and non-EU countries), and the Inter-Reg Programme which provides support for collaborations between EU regions and is funded through the ERDF. The ENPI supported

programmes provide valuable support for co-operation between NSPA regions and adjacent regions in Russia. Despite current conditions these relationships are vital for the economic future of these NSPA regions due to linkages related to forestry, mining, processing, and tourism. The ERDF supported collaborations primarily focus on collaboration within the NSPA, and although there are differences, they focus on similar themes and priorities. It will be important to continue to explore synergies and complementarities between these different programmes, and how administrative and funding mechanisms can be streamlined to further strengthen co-operative actions between NSPA regions.

Table 1.22. **Cross-border collaborations supported by the EU (2014-20)**

Programme	Participants	Objectives and funding	Funding (EUR)
Kolarctic Programme (2014-2020) (ENPI)	Nordland, Troms, and Finnmark (Norway), Norrbotten (Sweden), Lapland (Finland), Murmansk, Arkangelsk, and Nenets (Russia)	• Business and SME development • Environmental protection, climate change mitigation and adaptation • Improvement of accessibility to the regions, development of sustainable and climate-proof transport and communication networks and systems • Promotion of border management and border security, mobility and migration management	24.7 million (with an additional 31.7 million in national co-financing)
South-East Finland-Russia (ENPI)	Includes South Savo (along with Leningrad region and City of Saint Petersburg in Russia)	• Business and SME development • Support to education, research, innovation and technological development • Environmental protection and climate change • Promotion of border management and security	72.3 million (co-financed between EU and national governments)
Karelia-Russia (ENPI)	Kainuu, North Karelia, and Oulu (Finland, and the Republic of Karelia (Russia)	• Cross-border business collaboration • Attractive cultural environment • Clean and comfortable region to live • Well-functioning border crossings	43 million (in total)
Inter-Reg NORD (ERDF)	NSPA regions	• Research and innovation • Entrepreneurship • Cultural environment • Common labour market • Cross thematic focus on the Sami community	42 million (ERDF) (66 million in total)
Botnia–Atlantica (ERDF)	NSPA regions	• Develop competence centres • Business co-operation • Sustainable use of natural and cultural heritage • Readiness to manage environmental challenges • Support east-west transport links	36.3 million (ERDF) (61.3 million in total)
Northern Periphery and Arctic (ERDF)	NSPA regions (includes United Kingdom and collaboration with Iceland, Faroe Islands and Greenland)	• Innovation and competitive communities • Promoting entrepreneurship • Renewable energy and energy efficiency • Promoting and developing natural and cultural heritage	50.2 million (ERDF) (total funding of 78.6 million)
Inter-Reg Baltic Sea Region Programme (ERDF)	NSPA regions in Sweden and Finland* (includes a number of other countries/regions such as Denmark and Poland)	• Capacity for innovation (smart specialisation) • Management of natural resources • Sustainable transport • EU strategy support	263.8 million (ERDF) (total funding of 278.6 million)

Note: EPNI was the EU cross-border co-operation programme for 2007-13, and ENI is the cross-border co-operation programme for 2014-20. *Norway is included as a partner country.

Source: European Commission (2013), *The Kolarctic CBC Programme 2014-2020*, South-East Finland-Russia CBC, http://www.kolarcticenpi.info/c/document_library/get_file?folderId=2222874&name=DLFE-25316.pdf; Karelia CBC (n.d.), *Cross border collaboration*, www.kareliacbc.fi/wp-content/uploads/sites/3/2016/10/A4_esite_EN_sivuittain.pdf.

There are also a number of institutional layers to facilitate cross-border collaboration on issues affecting nation states within the Arctic and the Nordic countries. These focus on knowledge-sharing, policy development and decision-making co-ordination and are mainly organised at a national level. The main institutions are as follows.

- The Arctic Council which was established in the mid-1990s to promote intergovernmental collaboration on areas of shared interest. The Council includes eight countries with territory within the Arctic Circle including Finland, Norway and Sweden. It oversees a number of different working groups including related to environmental management, indigenous affairs, emergency response, and sustainable development. The Arctic Council is a forum for information sharing and dialogue, and for the negotiation of binding agreements between member states.
- The Nordic Council was formed in 1952 as a consultation body in which Nordic parliamentarians from Denmark, Finland, Iceland, Norway, Sweden, Åland, the Faroe Islands and Greenland meet on a regular basis. The Nordic Council of Ministers was established in 1971 as an official intergovernmental body for co-operation where the Nordic governments meet. Responsibility for co-operation lies with the prime ministers of these countries who then delegate particular functions to responsible ministers. The Nordic Council of Ministers includes a number of different committees covering thematic areas such as growth and development, sustainability and culture. It supports regional level co-operation through the North Calotte Council which focuses on economic development, service delivery and research co-operation and involves the northernmost regions of Finland, Norway and Sweden. The Nordic Council is particularly important for the NSPA in terms of influencing and co-ordinating national level policies which impact on the prosperity and well-being of these regions (e.g. the bioeconomy, environmental management, health and social affairs, and economic development), and addressing cross-border issues (in 2014, the Council of Ministers appointed a Council on Freedom of Movement).
- The Barents Co-operation which was established in 1993 and functions at two levels: Barents Arctic Co-operation is a forum for intergovernmental co-operation while the Barents Regional Co-operation is aimed at co-operation between the 13 regions of the Member States. The Indigenous Peoples have an advisory role in relation to the both Councils. Priorities of the Barents Programme 2014-2020 include the joint management of natural resources and climate change adaptation, enhancing innovation and research co-operation, addressing missing links in cross-border transport infrastructure, and fostering mobility across borders for workers, businesses, tourists and students. The Barents Co-operation is particularly important for managing cross-border issues with Russia which are critical to the economic future of the NSPA.

The sustainable development of communities is critical to the future of the northern regions

These Arctic policies and cross-border institutions share recognition that the sustainable development of communities is important for the future of the Arctic. Indigenous communities are recognised as having a special status through traditional use of the land including hunting, fishing and reindeer herding. These traditional practices are at risk due to climate change and economic development, and these policies have a focus on ensuring these communities are involved in decision making. Economic development

and security in the Arctic region also depends, to some degree, upon a sustainable level of population. Leveraging new economic opportunities associated with aquaculture, eco-tourism, energy, and mining will require a labour force, physical infrastructure, and a critical mass of ancillary services. A sustainable level of population at working age, particularly in larger settlements, will be needed to take advantage of these opportunities.

The NSPA is potentially a key actor in helping to facilitate a more effective approach to regional economic development

The NSPA regions are important actors in respect to the sustainable development of the Arctic and the northern areas of Finland, Norway and Sweden. They are the key democratic institutions representing the interests of communities in the northern areas of these countries, and have close relationships with local municipalities. They have competencies, or can work in close collaboration with municipalities, in key policy areas including economic development and innovation, transport and communications infrastructure, and education and skills. These regions also have strong relationships with key business and community stakeholders through involvement in regional development policies and decision-making bodies. They have the capacity to work together to participate within, and influence the development of policies at a national and European level which affect their development.

The NSPA regions also share a common set of characteristics which are different from the southern areas of Finland, Norway and Sweden, and others regions within the EU. Enhancing collaboration would enable them to work on areas of common interest and more effectively shape national and EU policy settings. The common features of these regions include: a harsh climate, remoteness from major population centres, a small population that is mainly dispersed across a large territory in small settlements, a few medium-sized cities that have some urbanisation economies, municipalities that mostly are experiencing a shrinking private sector, an ageing population and significant youth outmigration. While the 14 regions are contiguous they are weakly connected by transport infrastructure and face various language and cultural barriers, as well as little encouragement for collaboration by national governments.

The NSPA does not have a strong connection to national governments and this should be strengthened

There is potential to strengthen collaboration across the NSPA to more effectively influence national and European level policies. The current NSPA network has a relatively narrow focus and has a weak connection to existing intergovernmental forums. The NSPA does facilitate knowledge-sharing but primarily functions as a way to engage with the EU and influence EU policy settings. The EU plays a critical role in enhancing cross-border collaboration at a regional level. However, there is scope to examine how to maximise the synergies and complementarities between different EU funded cross-border collaborations, particularly those supported through the ERDF. There is less capacity for NSPA regions to work jointly to systemically influence the development of national sectoral policies, and co-ordinate the implementation of national policies between the three countries. Identifying how to strengthen this NSPA-wide collaboration and better connect it to national level forums would need to build upon and strengthen existing institutions. One example for guidance is the Nordic Atlantic Co-operation which is a regional committee of the Nordic Council.

Box 1.13. **NSPA and NORA comparison**

In 2011 the OECD completed a review of the NORA region and made a series of recommendations that were designed to foster stronger co-operation among the members and to enhance economic growth. This NSPA review has a similar context and many parallels with the NORA report.

NSPA: The NSPA is made up of 14 contiguous regions in the far north of Finland, Norway and Sweden that have a loose affiliation largely determined by how the European Commission treats them for access to cohesion funding. There is no formal recognition of the group as an entity by the three nations or the Nordic Council. The members are characterised by having in common: a harsh climate, remoteness from major population centres, a small population that is mainly dispersed across a large territory in small settlements, a few medium-sized cities that have some urbanisation economies, municipalities that mostly are experiencing a shrinking private sector, an ageing population and significant youth outmigration.

NORA: NORA is made up of the western coast counties of Norway (including the three Norwegian members of the NSPA), the Faroe Islands, Greenland and Iceland. The four members are spatially separated and have very different authorities with the extremes being Iceland – a nation, and the counties of Norway having only the authority devolved to them by the national capital. The basic demographic social and economic structure in NORA parallels that of the NSPA, so development opportunities and constraints are largely similar.

Some Relevant OECD NORA recommendations:

- Explore ways to increase connectivity using Iceland and particularly Icelandic Air as a hub connection mechanism. This could be supplemented by stronger shipping links.
- Find ways to increase collaboration in key export sectors – fisheries and aquaculture, to avoid duplication of effort and share knowledge.
- Reduce the barriers to immigration of skilled people especially in occupations that face excess demand.
- Improve the information available for youth making career choices.
- Increase the incentives for young males to find work and improve their skill levels.
- Look for ways to exploit the particular geography of NORA to create new economic opportunities – Arctic cruise ship tourism, maritime search and rescue in the Arctic, northern off-shore oil services.
- Strengthen key sectors – fisheries and energy.
- Work to encourage youth who leave to return after they obtain experience and contacts.
- Foster exchanges among NORA members to enhance the collaboration process.

Source: OECD (2011b) OECD Territorial Reviews – NORA region – the Faroe Islands, Greenland, Iceland and Coastal Norway, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264097629-en.

A possibly useful approach might be to work within the Nordic Council to establish the NSPA members as a group that has a similar role as NORA. This would formalise the relationship within the Nordic community of nations and could provide a useful forum for identifying joint opportunities for collaboration as well as building a mechanism to facilitate a co-ordinated approach between national governments to the unique challenges and opportunities facing the NSPA. One way to do this would be to formally agree to a small number of policy priorities which would be the focus of enhanced co-operation between the regions and national governments. Moreover, formal status may be useful in negotiating with the EU since it shows that the national governments also see the NSPA as a distinct entity with shared problems and opportunities. Post-2020 there may also be scope to explore options to consolidate EU funded support for cross-border collaboration to enhance this NSPA-wide co-operation. This includes aligning priorities for EU supported cross-border collaboration and ensuring complementarities with national-regional priorities agreed through a mechanism such as the Nordic Council.

Notes

1. The average number of workers has been estimated considering: Zero employees: one worker; 1 to 4 employees: 3 workers; 5 to 9 employees: 7 workers; 10 to 19 employees: 15 workers; 20 to 49 employees: 35 workers; 50 to 99 employees: 75 workers; more than 100 employees: 200 workers.

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Annex 1.A1 - The OECD Territorial Classification and OECD Regional Typology

Regions in OECD member countries have been classified according to two territorial levels (TL) to facilitate international comparability. The higher level (Territorial Level 2) consists of macro-regions, while the lower level (Territorial Level 3) is composed of micro-regions. In addition, OECD small regions (Territorial Level 3) are classified according to their geography and remoteness into predominantly urban, intermediate, predominantly rural close to a city and predominantly remote rural regions.

This typology, based on the percentage of regional population living in rural or urban communities, is not as fine-grained as many national definitions but it allows meaningful comparisons among regions of the same type and level. Since national definitions vary, comparisons based on national figures can mislead. The regional typology is based on three criteria.

The first identifies rural communities according to population density. A community is defined as rural if its population density is below 150 inhabitants per square kilometre (500 inhabitants for Japan to account for the fact that its national population exceeds 300 inhabitants per square kilometre).

The second criterion classifies regions according to the percentage of population living in rural communities. A TL3 region is classified as predominantly rural, if more than 50% of its population lives in rural communities and predominantly urban, if less than 15% of the population lives in rural communities. If the share of population in rural communities is between 15% and 50%, it is categorised as intermediate. The third criterion is based on the size of the urban centres. Accordingly, a region that would be classified as rural on the basis of the general rule is classified as intermediate if it has an urban centre of more than 200 000 inhabitants (500 000 for Japan) representing no less than 25% of the regional population. A region that would be classified as intermediate on the basis of the general rule is classified as predominantly urban if it has a urban centre of more than 500 000 inhabitants (1 000 000 for Japan) representing no less than 25% of the regional population. Predominantly rural regions are sometimes further subdivided into remote rural regions and rural regions close to a city on the basis of the driving time needed for at least half of the population in a region to reach a populated centre of 50 000 or more inhabitants.

Annex 1.A2 – Calculating OECD regional wellbeing scores

Well-being indicators are expressed in different units, for example the household disposable income per capita is expressed in US Dollars whereas voter turnout is the percentage of registered voters who voted at the most recent national election. In order to compare indicators on the same scale, they have been normalised using the min-max method, a statistical formula that range values from 0 to 10. Three steps are followed to transform the regional value of an indicator into a well-being score:

1. identify the regions with the minimum and the maximum values of the indicator across OECD regions
2. normalise each indicator with the min-max formula
3. aggregate scores, when a topic contains more than one indicator.

When min-max formula is applied, the extreme values identified in the first step are assigned to the scores of 0 and 10, and other regions are assigned to a score $\hat{x}_i$. Indicators that correspond to lower well-being outcomes (unemployment rate, mortality rate, air pollution and homicide rate) are inversely coded $\check{x}_i$.

$$\hat{x}_i = \left(\frac{x_i - \min(x)}{\max(x) - \min(x)}\right) \times 10$$

$$\check{x}_i = \left(\frac{\max(x) - x_i}{\max(x) - \min(x)}\right) \times 10$$

Finally, when a topic of well-being is measured by two indicators, like "job" which is composed by employment and unemployment rates, the score is defined by the arithmetic mean of the normalised value of the respective indicators.

The scores are represented in the radar graphs by setting the NSPA average to 100. For each region, the value v_i shown in the radar graphs is calculated as follows:

$$v_i = \frac{x_i}{NSPA\ average} \times 100$$

Annex 1.A3 – Local Labour Markets

LLMs have been constructed by Roto (2012) using commuting data 2010 and updated by the authors according to most recent administrative reforms, taking into account municipality mergers. In addition, single municipality labour markets have been excluded from the analysis.

Table 1.A3.1. **List of LLMs in the NSPA**

Country	TL3 code	Region	Local Labour Market	Municipality
Finland	FI1D1	South Savo	Mikkeli	Hirvensalmi
				Juva
				Kangasniemi
				Mikkeli-St Michel
				Mäntyharju
			Savonlinna	Enonkoski
				Rantasalmi
				Savonlinna-Nyslott
				Sulkava
	FI1D2	Pohjois-Savo	Iisalmi	Iisalmi-Idensalm
				Kiuruvesi
				Lapinlahti
				Sonkajärvi
				Vieremä
			Kuopio	Juankoski
				Kaavi
				Kuopio
				Rautalampi
				Siilinjärvi
				Suonenjoki
				Tervo
				Tuusniemi
			Varkaus	Joroinen-Jorois
				Leppävirta
				Varkaus
	FI1D3	North Karelia	Nurmes	Nurmes
				Valtimo
			Joensuu	Joensuu
				Kontiolahti
				Liperi
				Outokumpu
				Polvijärvi
				Rääkkylä
			Kitee	Kitee
				Tohmajärvi
	FI1D4	Kainuu	Kajaani	Hyrynsalmi
				Kajaani-Kajana
				Paltamo
				Ristijärvi
				Sotkamo

Table 1.A3.1. **List of LLMs in the NSPA** *(continued)*

Country	TL3 code	Region	Local Labour Market	Municipality
Finland	FI1D5	Central Ostrobothnia	Kokkola	Kannus
				Kaustinen-Kaustby
				Kokkola-Karleby
				Kronoby-Kruunupyy
				Veteli-Vetil
	FI1D6	Northern Ostrobothnia	Oulu	Hailuoto-Karlö
				Ii
				Kempele
				Liminka-Limingo
				Lumijoki
				Muhos
				Oulu-Uleåborg
				Tyrnävä
				Utajärvi
				Vaala
			Raahe	Pyhäjoki
				Raahe-Brahestad
				Siikajoki
			Merijärvi/Oulainen	Merijärvi
				Oulainen
			Ylivieska	Alavieska
				Nivala
				Sievi
				Ylivieska
	FI1D7	Lapland	Rovaniemi	Ranua
				Rovaniemi
			Kemi	Kemi
				Keminmaa
				Simo
Norway	NO071	Nordland	Narvik	Ballangen
				Gratangen
				Narvik
			Flakstad/Vestvågøy	Flakstad
				Vestvågøy
			Bodø	Beiarn
				Bodø
				Fauske
				Gildeskål
				Sørfold
			Meløy	Meløy
				Rødøy
			Rana	Hemnes
				Rana
			Alstahaug	Alstahaug
				Dønna
				Leirfjord
			Vefsn	Grane
				Vefsn
			Brønnøy	Brønnøy
				Sømna
				Vevelstad

Table 1.A3.1. **List of LLMs in the NSPA** *(continued)*

Country	TL3 code	Region	Local Labour Market	Municipality
Norway	NO072	Troms	Tromsø	Balsfjord
				Gáivuotna-Kåfjord
				Karlsøy
				Lyngen
				Storfjord
				Tromsø
			Lenvik	Berg
				Lenvik
				Sørreisa
				Tranøy
			Målselv	Bardu
				Målselv
			Salangen	Lavangen
				Salangen
			Harstad	Kvæfjord
				Harstad
				Skånland
				Tjeldsund
	NO073	Finnmark	Vadsø	Unjárga-Nesseby
				Vadsø
			Hammerfest	Hammerfest
				Kvalsund
			Alta	Alta
				Loppa
Sweden	SE321	Västernorrland	Sundsvall	Sundsvall
				Timrå
	SE322	Jämtland	Östersund	Berg
				Bräcke
				Krokom
				Östersund
	SE331	Västerbotten	Lycksele	Lycksele
				Malå
			Umeå	Bjurholm
				Nordmaling
				Robertsfors
				Umeå
				Vindeln
				Vännäs
	SE332	Norrbotten	Luleå	Boden
				Luleå
				Älvsbyn

Source: Roto, J. (2012), "Demographic Trends in the Nordic Local Labour Markets", *Nordregio Working Paper*, No. 2012:13, Nordregio, Stockholm.

Annex 1.A4 – GDP growth decomposition

Using a growth-accounting framework, GDP can be decomposed into four components. The decomposing method allows us to better understand the overall performance of regions and the drivers of GDP trends. We start with decomposing GDP into the following components: productivity, employment rate and activity rate and population according to the following identity:

$$GDP_i = \frac{GDP_i}{E_i} * \frac{E_i}{WA_i} * \frac{WA_i}{P_i} * P_i \quad (1)$$

where E, WA and P stand, respectively, for employment, working age (15-64) population and population. Therefore, the GDP of region *i* is a function of its GDP per worker (GDP_i/E_i), its employment rate (E_i/WA_i), its age activity rate (WA_i/P_i) and its population size (P_i).

The regional decomposed terms can be compared to the national values. In particular, the GDP share of region *i* in country *j* can be expressed as:

$$\frac{GDP_i}{GDP_j} = \frac{GDP_i/E_i}{GDP_j/E_j} * \frac{E_i/WA_i}{E_j/WA_j} * \frac{WA_i/P_i}{WA_j/P_j} * \frac{P_i}{P_j} \quad (2)$$

Therefore, the GDP share of region *i* in country *j* is a function of its productivity, employment rate, age activity rate and population, relative to, respectively, the productivity, employment rate, age activity rate and population of its country, this yields to:

$$(g_i - g_j) = (g_{pr,i} - g_{pr,j}) + (g_{e,i} - g_{e,j}) + (g_{wa,i} - g_{wa,j}) + (g_{p,i} - g_{p,j}) \quad (3)$$

or, equivalently:

Difference in GDP growth between region *i* and country *j* = Growth difference in GDP per worker between region *i* and country *j* + Growth difference in employment rate between region *i* and country *j* + Growth difference in the activity rate between region *i* and country *j* + Growth difference in population between region *i* and country *j*

A similar exercise can be applied to GDP per capita, given the following identity:

$$\frac{GDP_i}{P_i} = \frac{GDP_i}{E_i} * \frac{E_i}{WA_i} * \frac{WA_i}{P_i} \quad (4)$$

and leading to the following equation:

$$(g_{pc,i} - g_{pc,j}) = (g_{pr,i} - g_{pr,j}) + (g_{e,i} - g_{e,j}) + (g_{wa,i} - g_{wa,j}) \quad (3)$$

or, equivalently:

Difference in GDP per capita growth between region *i* and country *j* = Growth difference in GDP per worker between region *i* and country *j* + Growth difference in employment rate between region *i* and country *j* + Growth difference in the activity rate between region *i* and country *j*

Annex 1.A5 – Cluster analysis

Cluster analysis results from a K-Means procedure with 5 clusters are reported below. The algorithm used minimalises differences among members within each cluster, while maximising differences across the various clusters. In this case the procedure results in 5 distinct groups of LLMs some of which cut across national boundaries. Alternative numbers of clusters were specified ranging from 3 to 6 for the K-Means procedure, with 5 producing the most meaningful results. In addition, a hierarchical cluster algorithm using Ward's Method was also tested but the resulting clusters were not as satisfactory.

Final Cluster Centres

	Cluster				
	1	2	3	4	5
Rank of pop2013	7.727	26.182	21.500	18.700	33.333
EDR	17.9	17.4	22.8	24.0	19.6
YDR	17.8	18.0	16.1	15.4	16.2
pop_g 07-13	0.3%	0.6%	-0.2%	-0.7%	0.4%
av wage2013	91.3	93.3	80.4	85.1	97.8
avWage_g 07-13	4.5%	3.9%	2.8%	3.4%	3.6%
ER2013	77.556	69.537	80.444	59.798	76.485
WRR	113.083	103.354	91.949	63.457	112.433
esta/cap	103.290	71.737	176.403	72.893	123.669
esta g	0.009	0.016	0.020	0.018	0.027
Rank of ESTA2013	8.182	25.636	29.000	16.900	34.667
Rank of ESTA2007	8.455	25.636	28.500	16.700	34.667
large_esta	11.612	15.389	14.275	9.367	20.539
Port	0.000	0.455	0.000	0.200	1.000
Rail	0.182	1.727	1.500	1.500	3.000
Air	0.500	1.591	1.000	0.550	1.500
Roads	0.909	1.727	3.000	0.900	2.667
Uni	0.000	0.545	0.500	0.000	1.000
AppSci/Tech	0.000	0.818	0.000	0.400	0.333
agriculture and food processing	0.715	1.226	0.681	2.387	0.565
forestry and wood products	0.132	0.686	2.618	1.695	1.258
fishing and fish processing	2.965	0.891	0.343	0.997	0.498
mining and mineral process	1.554	1.514	1.139	1.566	0.185
other manufacturing	0.394	1.190	0.763	1.728	0.762
Utilities	1.211	1.306	0.675	0.957	0.780
trade and transport	0.833	1.096	0.730	1.148	0.827
accommodation, food services and arts	0.783	0.974	0.971	0.846	1.094
business and other services	0.606	0.876	0.827	0.830	1.163
Construction	0.890	1.080	0.636	1.102	0.828
public services	1.904	0.934	1.431	0.310	1.257

Source: National Statistics of Finland, Sweden and Norway and OECD regional database. Nordregio (2016); European Commission (2016) 'Mobility and Transport', http://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/map/maps.html?layer=input_1,20,21&country=FI.

PART I

Chapter 2

Finland's northern sparsely populated areas

The purpose of this chapter is to provide recommendations about how the national government can work better with the country's north and eastern regions (Central Ostrobothnia, Kainuu, Lapland, North Karelia, Northern Ostrobothnia, Pohjois-Savo, and South Savo) to improve growth, employment and service delivery outcomes. It begins with an overview of the growth opportunities and challenges facing these regions and the policy priorities for addressing them. The second part of the chapter discusses how well national policy settings related to regional development are adapted to the needs and circumstances of north and eastern Finland. The third part of the chapter discusses how to improve governance arrangements for regional development.

Key findings and recommendations

Key findings

- **The regions of north and eastern Finland (Central Ostrobothnia, Kainuu, Lapland, North Karelia, Northern Ostrobothnia, Pohjois-Savo, and South Savo) make an important contribution to the economic growth and well-being of the country.** The seven regions constitute 19.6% of the country's economy, 23.9% of the population, and 66.9% of its land area. They are a key part of Finland's economy because of commodities and related manufacturing for export (e.g. paper and pulp products, technologies, chemicals and minerals), services (tourism and ICT related), and their significant environmental assets (fresh water and wilderness areas). These regions are also at the forefront of risks and opportunities for Finland and the European Union (EU). This includes the future development of extractive industries and infrastructure in the Arctic region, and geopolitical relationships in the region including with the Russian Federation (hereafter 'Russia'). Securing the prosperity and well-being of the northern regions and the wider NSPA region will help address these risks and opportunities.

- **Although these regions have strategic assets and opportunities they also face permanent disadvantages related to their location and climate.** Temperatures are severe and can drop to -40 degrees Celsius in the winter with impacts on infrastructure, communities and business operations. Businesses located in northern and eastern Finland face longer distances to markets. People generally have to travel further to access services. The population of these places are also ageing at a faster rate than the country as a whole. These trends are more pronounced in the rural and remote areas of these regions. However, these problems are off-set to some extent by the concentration of population growth in larger urban centres within these regions, and improvements in broadband coverage. Maintaining a certain level of public infrastructure and services in these regions helps ensure people have access to similar levels of public services. It also helps support communities that can help sustain production in key industries such as forestry and tourism.

- **In terms of levels of GDP capita all the regions are below the OECD average of USD 35 812, and the country level of USD 38 359 and three regions fell further behind the national average in the period 1995-2012.** The gap with the county level ranges from -27% (Kainuu) to -12% (Central Ostrobothnia). Four of the seven regions converged toward the country's GDP per capita level: Central Ostrobothnia (closed the gap by 14%), South Savo (closed the gap by 4%), North Karelia (closed the gap by 3%), and Pohjois-Savo (closed the gap by 1%). The other three regions continue to lag the national level, and fell further behind in the 1995-2012 period: Lapland (by -7%), Northern Ostrobothnia (by -6%), and Kainuu (by -11%). These findings emphasise the importance increasing productivity for these regions.

- **The performance of the regions in north and eastern Finland must also be assessed within the context of challenging macroeconomic conditions for the country, particularly since the financial crisis.** The country has been hit hard by three external shocks: decline in markets for electronic exports, lower demand for paper, and the collapse in export markets to Russia due to sanctions. There has been a structural decline in markets for paper and pulp since the early 2000s, which would have had a larger disproportionate impact on the Finnish NSPA regions. These external shocks have had a significant impact on economic performance of Finland. In 2015, output was 7% below the level of 2007. Resource-based export industries have been further challenged by an inability to depreciate the national currency and by rigid wage bargaining processes.

Key findings and recommendations *(continued)*

- **The NSPA regions will play an important role in achieving the government's national economic policy objectives.** The national government's economic programme is focusing on improving the cost competitiveness of Finnish industry and the economy's resilience to change including through wage restraint and fiscal consolidation. The government is also initiating a significant reform of the regional level which will result in the creation of newly elected autonomous regions with additional responsibilities for health and social care. This economic and reform context will have important implications for the NSPA regions. In the medium term, exports will be important to the recovery of Finland due to slow household income growth and lower public spending. The NSPA regions of Finland will play an important part in this growth strategy because of the export orientation of their economies. However, this requires sustained efforts to develop new products and markets through investment in key enabling factors for productivity growth (innovation, skills and infrastructure). Because regions will have more autonomy and resources it will be important they have greater opportunities to influence national policy settings (e.g. in education or infrastructure). The impacts of fiscal consolidation on the quality of infrastructure and services within the NSPA regions will also need be carefully considered and managed.

- **A place-based approach to regional development will be crucial in organising and delivering this approach to investing in key enabling factors in north and eastern Finland.** Finland's regional policy, *Competitive regions and smooth everyday life* (2016-2019) provides a strategic framework for the government's regional development priorities. Each region's development strategy applies this framework to their needs and circumstances. This policy framework is relatively narrow and focuses primarily on business competitiveness, and social and environmental objectives have less emphasis. At a regional level current regional development priorities largely reflect the European Regional Development Fund (ERDF) and European Social Fund (ESF) which focus on priorities such as innovation and entrepreneurship, and skills and workforce participation. Realising the growth potential of these regions will depend upon broadening the regional development policy framework, for example, by effectively engaging with and influencing national sectoral policies, in particular education and skills, innovation and transport infrastructure. The government's current programme of regional reform provides the opportunity to deliver a broader approach to regional development policies, which will effectively integrate EU, national and local policy areas, such as, rural development, infrastructure, innovation, and education and training.

Recommendations

1. **Improve outcomes for the transport network** in north and eastern Finland by:
    a. Working with some pilot regions to **prepare a long-term infrastructure plan** (integrated and aligned with their regional development and land-use plan) to provide a common framework for guiding the decision making of the national government, local municipalities and private sector actors in regards to transport and communications networks, and water and energy infrastructure (and rolling them out to other regions in subsequent years).
    b. Strengthening co-operation across NSPA regions to develop **shared priorities for investing in the transport network** which is integrated within the national transport planning cycle (recognising their unique status as sparsely populated regions), co-ordinating with neighbouring countries, and seeking to influence European level infrastructure policies (e.g. the European Commission`s TEN-T Projects).

Key findings and recommendations *(continued)*

2. Support **better entrepreneurship and innovation** outcomes in north and eastern Finland by:
   a. Improving incentives and support through national programmes for **engaging rural SMEs in north and eastern Finland in innovation initiatives** (particularly related to the bioeconomy), and ensuring this is complementary to initiatives funded through the European Regional Development Fund (ERDF), and the European Agricultural Fund for Rural Development (EAFRD).
   b. Providing capacity and technical **support for start-ups and small and medium-sized enterprises (SMEs) to access financial instruments** (subsidised loans and guarantees) through the ERDF to complement grants based funding.
   c. Continuing to support initiatives (such as regional clusters) which enable **local micro-enterprises and SMEs to build scale and access opportunities in external markets**, and support them in **accessing national research and innovation resources** (this is particularly important in specialised services and niche manufacturing within the forestry supply chain).
   d. Elevating the role of **northern Finland (Lapland, Kainuu, and Northern Ostrobothnia), and Lakeland as international tourism destinations within the national strategy for tourism growth and development**, and providing support for regions to undertake joint planning and prioritisation of tourism development across these areas.
   e. Encouraging **NSPA regions to collaborate on joint opportunities related to their smart specialisation strategies** (e.g. in relation to the bioeconomy and niche manufacturing), and linking with research and higher education institutions in urban centres such as Oulu, Tampere and Helsinki (and internationally).
   f. Establishing a mechanism to **include the NSPA regions in Finland in a dialogue about the design, delivery and monitoring of national innovation policies**.
3. Develop measures to **promote service delivery innovation** in north and eastern Finland by:
   a. Establishing an **on-line portal or clearing house of innovative service delivery and public procurement practices** which can be shared and disseminated amongst public and private service providers at a regional and local level.
   b. Ensuring continued support through the European Agricultural Fund for Rural Development (EAFRD) for **co-investing with regions to extend broadband access for rural remote communities** (e.g. to share service points) and firms to improve access to services and markets.
   c. Providing **support and incentives for innovative on-demand transport services** for rural remote communities.
4. Deliver better policies for the development of north and eastern Finland as part of the implementation of the **forthcoming regional government reform** by:
   a. Ensuring that the new regional autonomous authorities have the **policy and technical expertise to take a leadership role in regional development policies** with municipalities and other private, public, and third sector actors at a regional and cross regional scale.
   b. Developing a **partnership based approach to intergovernmental co-operation**, for example, by broadening the scope of the Regional Development Programme prepared by each region to include initiatives and commitments from key national ministries (e.g. Education and Culture, Transport and Communications, Agriculture) that achieve mutually agreed productivity enhancing outcomes.
   c. Strengthening the role of the **new regional autonomous authorities in setting priorities and co-ordinating EU and national regional and rural development funding** at a regional level.
   d. Establishing more **effective governance arrangements to align education and training provision with the needs of firms** at a regional scale, and better address skills mismatches (for example by looking at lessons from the cases of Regional Competency Platforms in Sweden or Vocational Training Boards in Norway).

Introduction

North and eastern Finland makes an important contribution to the national economy through the production and export of goods and expertise related to the forestry sector, minerals, and clean technologies including clean energy and tourism. These areas also face challenges in terms of population ageing and decline, economic restructuring and labour-force participation, and the ability to maintain access to public services in more remote areas. There are a number of issues which governments will need to address to combat these challenges including facilitating new economic activity and jobs, improving infrastructure, and access to services. There is scope to improve how national and regional level governments respond to these issues. The purpose of this chapter is to provide recommendations about how the national government can work better with the country's NSPA regions to improve growth, employment and service delivery outcomes. The chapter finds that the national government should better adapt and integrate sectoral policies to the challenges and opportunities facing these regions, and strengthen regional governance arrangements to support productivity and growth. The chapter begins with an overview of the growth challenges facing these regions and the policy responses to address them. The second part of the chapter examines governance arrangements for regional development, and discusses how well national policy settings are adapted to the needs and circumstances of north and eastern Finland.

Growth opportunities and challenges for north and eastern Finland

The regions of north and eastern Finland constitute 19.6% of the country's economy, 23.9% of the population, and 66.9% of its land area. Manufactured products related to the forestry sector such as pulp and paper, although affected by structural decline since the early 2000s, are still important to the export base of the country (OECD, 2016a). A significant proportion of this economic activity is located in the north and eastern areas of the country. Growth in exports from the northern and eastern areas of Finland has significant benefits for the national economy and Helsinki through linkages related to transport and logistics, downstream processing, and demand for professional, scientific and technical services.

The NSPA regions are also at the northern and eastern border of the EU. This region is likely to generate new economic and geopolitical risks and opportunities for Europe in the medium to long term. This includes energy developments in the Barents Sea, the impacts of climate change and the potential for an Arctic sea route, and relations with Russia. Improving the well-being and prosperity of the NSPA and north and eastern Finland will be an important part of managing these strategic risks and opportunities. Policy settings will also need to continue to recognise the permanent disadvantages these northern regions face relative to other areas in Finland, and the EU. This includes the extreme climatic conditions, relatively small populations and the longer distances between them.

The performance of the regions in north and eastern Finland must be assessed within the context of challenging macroeconomic conditions for the country, particularly since the crisis. The country has been hit hard by three external shocks: decline in markets for electronic exports, lower demand for paper, and the collapse in export markets to Russia. There has been a structural decline in markets for paper and pulp since the early 2000s, which would have had a larger disproportionate impact on the NSPA regions (OECD, 2012). These external shocks have had a significant impact on economic performance. In 2015, output was 7% below the level of 2007 (OECD, 2016a). The government's economic programme is focusing on improving the cost competitiveness of Finnish industry and the economy's resilience to change including through wage restraint and fiscal consolidation. There is also a focus on working proactively with regions to

anticipate structural change and facilitate new investment and jobs to cushion the impacts of these changes (Ministry of Economic Affairs and Employment, 2016a). In the medium term, exports will be important to the recovery of Finland due to slow household income growth and lower public spending (OECD, 2016a). The NSPA regions of Finland will play an important part in this growth strategy because of the export orientation of their economies. However, this requires sustained efforts to develop new products and markets through improved innovation, skills and infrastructure.

In terms of levels of GDP capita all the regions are below the OECD average of USD 35 812, and the country level of USD 38 359. The gap with the county level ranges from -27% (Kainuu) to -12% (Central Ostrobothnia). Four of the seven regions converged toward the country's GDP per capita level: Central Ostrobothnia (closed the gap by 14%), South Savo (closed the gap by 4%), North Karelia (closed the gap by 3%), and Pohjois-Savo (closed the gap by 1%). The other three regions continue to lag the national level, and fell further behind in the 1995-2012 period: Lapland (by -7%), Northern Ostrobothnia (by -6%), and Kainuu (by -11%). These findings emphasise the importance increasing productivity for these regions.

Table 2.1. **GDP per capita gap between northern regions and the national average**

	GDP per capita (USD, 2012)	1995 (%)	2012 (%)
Central Ostrobothnia	33 905	-26	-12
Northern Ostrobothnia	33 020	-8	-14
Lapland	32 848	-7	-14
Pohjois-Savo	31 420	-19	-18
North Karelia	29 009	-27	-24
South Savo	28 597	-29	-25
Kainuu	28 107	-16	-27

Source: OECD (2016b), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 9 January 2017).

In the period before the crisis, the north and eastern regions of Finland were generally lagging the country in terms of economic growth and productivity. In the period 1995-2008 five out of the seven regions of north and eastern Finland experienced economic and productivity growth rates lower than the national average. There was better performance in terms of employment growth with five out of the seven having a growth rate in the employment rate above the national average. The strongest performers in this period were Northern and Central Ostrobothnia. These regions have larger economies than the other NSPA regions in Finland, and benefited from strong growth in key tradeable sectors (ICT related services and manufacturing for Northern Ostrobothnia and inorganic chemical manufacturing in the case of Central Ostrobothnia).

Table 2.2. **Percentage difference between the regions of north and east Finland and the national average for key growth indicators (1995-2008)**

	GDP growth (%)	Productivity growth (%)	Employment rate growth (%)
Central Ostrobothnia	**+0.86**	**+0.61**	**+0.79**
Kainuu	-2.71	-1.47	**+0.24**
Lapland	-2.10	-1.20	**+0.18**
North Karelia	-1.04	-0.18	-0.13
Northern Ostrobothnia	**+0.27**	-0.12	**+0.04**
Pohjois-Savo	-0.79	-0.12	0.00
South Savo	-1.14	**+0.14**	-0.07

Source: OECD (2016b), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 9 January 2017).

This pattern is largely reversed in the post crisis period as regions in the north and east generally fared better than regions in the southern parts of the country. The worse performers in this case were Northern and Central Ostrobothnia, which experienced sharp declines in growth. This shift was due to decline in external demand for these tradeable sectors. Predominantly rural areas with economies based on forestry, mining, and associated manufacturing and services fared better.

Table 2.3. **Percentage difference between the regions of north and east Finland and the national average for key growth indicators (2008-12)**

	GDP growth (%)	Productivity growth (%)	Employment rate growth (%)
Central Ostrobothnia	**+0.02**	**+0.69**	-0.36
Kainuu	**+0.07**	**+1.01**	**+0.23**
Lapland	**+1.08**	**+1.33**	**+0.34**
North Karelia	**+1.18**	**+1.32**	**+0.49**
Northern Ostrobothnia	-1.34	-1.19	-0.43
Pohjois-Savo	**+0.22**	-0.37	**+1.09**
South Savo	**+0.59**	**+0.80**	**+1.09**

Source: OECD (2016b), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 9 January 2017).

As with many other rural and remote regions in the OECD, in the same period most of the north and eastern regions have experienced a declining and ageing population. This presents risks and opportunities for these regions. Population ageing will lead to a smaller workforce. Maintaining living standards will depend upon lifting migration and increasing productivity. An ageing population will also increase demand for services and this is revealed in the relative importance that health and social services play in the labour market of these regions. The exception to this ageing trend is Central and Northern Ostrobothnia which have experienced population growth during this period, and have a relatively younger population compared to the other NSPA regions.

Table 2.4. **Finland's northern and eastern regions: Key demographic indicators**

	Population (2015)	Population growth (1990-2014) (%)	Elderly dependency ratio (2015)
Central Ostrobothnia	68 677	+0.04	32.54
Kainuu	79 975	-0.80	38.12
Lapland	182 514	-0.38	33.24
North Karelia	165 445	-0.27	34.89
Northern Ostrobothnia	403 287	+0.67	25.64
Pohjois-Savo	248 430	-0.16	33.95
South Savo	152 518	-0.58	42.90
National average	**5 451 270**	**0.37**	**31.31**

Source: Statistics Finland – Population (http://www.stat.fi/til/vrm_en.html) and OECD (2016b), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 9 January 2017).

Demographic conditions also vary across places within the NSPA regions. All regions have a provincial capital which is growing faster than its surrounds and generally has a younger population. The rural regions in Finland generally have a rural population which are distributed more evenly than other Nordic countries due to historic patterns of land ownership associated with agriculture and forestry. The regions of eastern Finland have the added complexity of numerous lakes and waterways which make transport access by road more difficult and costly. In the north of the country, Lapland which makes up 30.5% of Finland's landmass with only 3.3% of the population has a more concentrated

population distribution with longer distances between settlements. These differing settlement structures and natural geographies need to be taken into account in regards to the delivery of services and public infrastructure in these regions.

The NSPA regions in Finland are small economies where the tradeable sector linked to the natural resource base plays a key role. The areas of specialisation vary across these regions (Table 2.5). Compared to the national level all regions generally have strengths in the forestry and agricultural sectors to varying degrees. South Savo and Kainuu have relatively small economies where forestry plays a particularly important role. In larger regions such as Central Ostrobothnia, Pohjois-Savo, and North Karelia forestry is still important although these economies are more diversified. In the case of Central Ostrobothnia it is in chemical manufacturing, and in Pohjois-Savo and North Karelia it is mining and manufacturing. Accommodation and food services is one indication of tourism activity, which gives some indication of the relativities between regions (noting the higher score for Central Ostrobothnia is also due to the port and related activities). The regions also score higher in terms of employment in this industry classification as tourism is generally a lower value-adding activity but a higher employer. Developing tourism in the region also strengthens and diversifies the provision of services that are available for both tourists and residents of the area. In terms of differences between the regions mining plays a key role in the economy of Lapland, and high technology services and manufacturing in Northern Ostrobothnia.

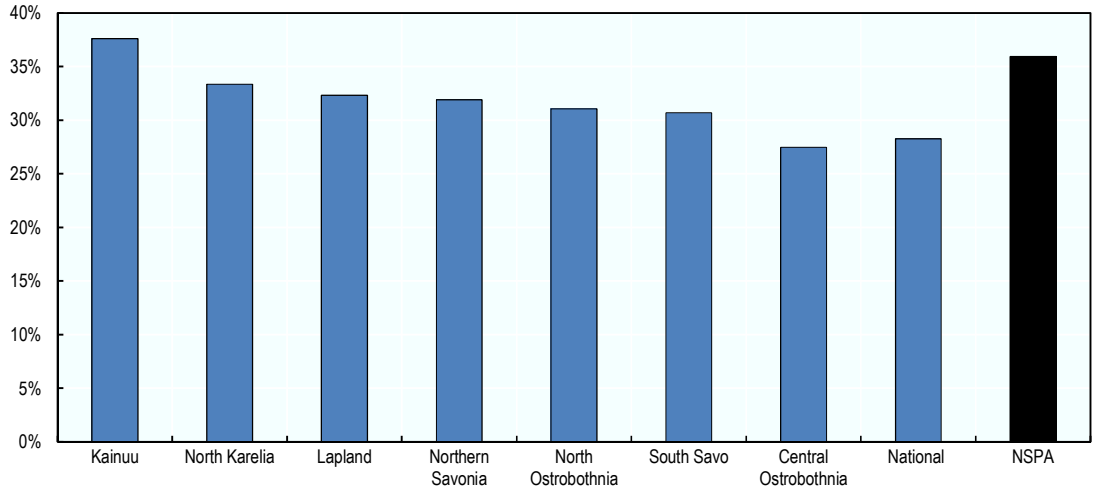
Table 2.5. **Finland's NSPA regions: Areas of specialisation compared to the national economy (GVA, 2012)**

	Agriculture, forestry and fishing	Mining and quarrying, and electricity and water supply	Manufacturing	Accommodation and food services, transport and wholesale trade
Central Ostrobothnia	**2.58**	0.64	**1.26**	0.96
Kainuu	**2.83**	**1.92**	0.39	0.76
Lapland	**1.88**	**2.08**	0.77	0.84
North Karelia	**2.91**	0.94	0.92	0.79
Northern Ostrobothnia	**1.32**	**1.09**	**1.17**	0.77
Pohjois-Savo	**2.07**	0.91	**1.02**	0.79
South Savo	**3.81**	0.60	0.79	0.82

Source: OECD (2016b), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 9 January 2017).

The public sector also plays an important role in the economies of the north and eastern regions of Finland. Employment in the public sector is comparatively lower in Finland (28%) than in Sweden (32%) and Norway (35%). There is a higher proportion of the labour force employed in the public sector within these regions than the national average for Finland (Figure 2.1). This is due to a comparatively lower proportion of service employment in these regions, and locational and demographic factors which lead to higher public sector spending. There is also a large range in the difference between regions due to different economic structure and territorial characteristics across them, for example the highest proportion is Kainuu (38%) and the lowest is Central Ostrobothnia (27%). The over-representation of the public sector is also the symptom of a comparatively weaker private-sector economy, and is a risk for the future as fiscal consolidation and population decline in some areas will most likely lead to reductions in public sector employment.

Figure 2.1. **Share of employment in the public sector, 2012**



Source: OECD (2016b), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en.

The common thread linking the growth dynamics of these regions are a small range of absolute advantages linked to their natural and locational assets. The regions of eastern Finland, close to the border with Russia, share similar advantages. They have the forestry resources, lakes and wilderness areas, and proximity to Russia. To varying degrees these regions have developed value-adding services and manufacturing linked to these advantages. Pohjois-Savo (Kuopio) and North Karelia (Joensuu) also benefit from a development dynamic linked to their major urban settlements which has enabled a clustering of economic activity, and research and education institutions. For Central and Northern Ostrobothnia the locational advantages of the Gulf of Bothnia has been important to the historical development of their economies. As trading ports they have developed an industrial base which has evolved into communication and health technologies and steel processing (Northern Ostrobothnia), and chemical manufacturing (Central Ostrobothnia). Lapland shares similarities with the eastern regions but differs because of its location closer to the Arctic and the important role of extractive industries and tourism to its economic base.

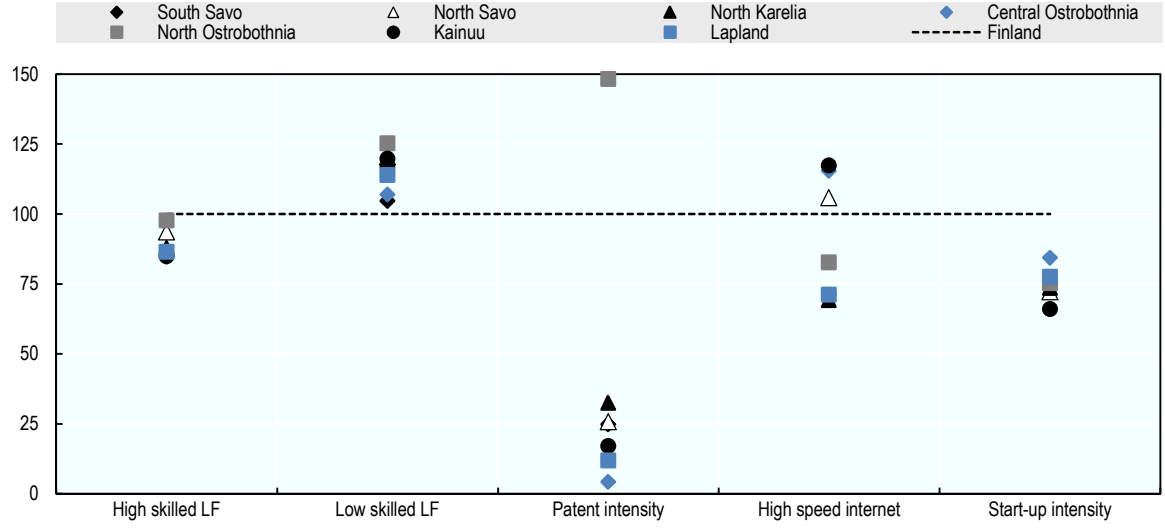
Table 2.6. **Finland's NSPA regions: Absolute advantages**

Region	Absolute advantages
Central Ostrobothnia	Port of Kokkola and industrial land capacity, forest resources and associated processing, and technologies and skills embedded in the manufacturing sector (chemicals, metal processing, and boat construction).
Kainuu	Forestry and other bioeconomy resources and mineral endowments, infrastructure, skills and technologies embedded in primary industries and associated processing, and wilderness and lakes areas.
Lapland	Forestry and mineral endowments, strategic location close to the Arctic, lakes, unique tourism assets including mountainous landscapes and wilderness areas, Arctic expertise and Sami culture.
North Karelia	Forestry endowment, infrastructure, skills and technologies related to processing associated with the forestry sector, the city of Joensuu and its higher education institutions.
Northern Ostrobothnia	Oulu region and its clusters of high technology manufacturing and services, and research and innovation infrastructure, forestry and mineral endowments, metal, paper, and wood processing industries, and nature based tourism attractions.
Pohjois-Savo	Forestry and mineral endowments, agricultural production and processing, nature based tourism attractions, services and amenities located in Kuopio, and technologies and skills embedded in local manufacturing and specialised services.
South Savo	Forestry and fresh water endowment, technologies and skills embedded in forestry processing, specialised food production, proximity to the metropolitan regions of Helsinki and Saint Petersburg, and nature based tourism attractions.

Source: Analysis based on NSPA case studies in Part 2 of this publication (available online).

The high level benchmarking analysis of the north and eastern regions reveals relative strengths in terms of skills, and weaknesses in terms of innovation and entrepreneurship, and access to communications technologies. Innovation and entrepreneurship is a clear priority for these regions. This relates to building new business opportunities linked to areas of absolute advantage, which can be realised through support for existing SMEs and for entrepreneurs. Continuing to mobilise private and public sector actors through collaborative processes such as a smart specialisation strategy will be important. The skills benchmarking reveals the strengths of the Finnish education and training system in delivering equitable outcomes. However, as identified in the case studies there are areas of risk including labour force participation and skills outcomes for vulnerable groups. Developing new business opportunities linked to areas of absolute advantage will also be dependent upon improving low and high level skills in the labour force. The benchmarking in terms of access to high speed internet reveals weaknesses for both businesses and households (particularly for Lapland, North Karelia, and South Savo). Communications technologies are now vital across different sectors of the economy, particularly in terms of accessing external markets. Broadband capacity is also important for delivering innovation in the delivery of services, and ensuring access for people living in rural communities. These weaknesses will need to be addressed to secure the future prosperity of Finland's NSPA regions.

Figure 2.2. **Benchmarking Finland's NSPA regions against key growth factors (100 = country average)**



Note: Transport infrastructure measures to be developed, and a higher value for low skilled labour force (LF) means the region has a lower share of low-skilled labour.

Source: Statistics Finland – Population (http://www.stat.fi/til/vrm_en.html), Statistics Finland – Enterprises (http://www.stat.fi/til/yri_en.html), Finnish Communications Regulatory Authority (https://www.viestintavirasto.fi/en/statisticsandreports/statistics/2013/availabilityofhighspeedbroadbandconnections.html) and OECD (2016b), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 9 January 2017).

Regional policy and governance arrangements

Addressing the growth opportunities and challenges highlighted in the previous section will require a collaborative approach between levels of government, business and communities at a regional level. The national government plays a key role in setting the policy and funding framework for regional development strategies at a subnational level. This includes how EU regional funding is implemented in Finland, setting the policy framework for regional strategies, and establishing the governance arrangements to design and implement these strategies. Finland is also a unitary country where local municipalities play a significant role in the delivery of services and public investment. In the next 2 years there will be a significant change in the relationships between the levels of government with the creation of a directly elected regional level of government. This section of the chapter assesses Finland's approach to regional development policy and governance, and discusses how it can be improved within the context of these reforms.

Finland's regional and rural development policy framework

Finland's regional policy framework has a strong focus on regional competitiveness by improving innovation and infrastructure outcomes

Regional development in Finland is governed by an overarching Regional Development Act. The Regional Development Act first came into force in 1994 as a response to the impacts of the recession of the early 1990s and to help enable accession to the EU (OECD, 2005). The impacts of the recession in the early 1990s had been spatially uneven and regional policy was seen as a way of addressing these imbalances. This commitment to equity and competitiveness is embedded within the objectives of the Regional Development Act:

- to promote the balanced development and national and international competitiveness of the regions
- to sustainably support and diversify the business structure of the regions and to promote economic balance
- to promote sustainable employment as well as the competence, equal opportunities and social inclusion of the population
- to narrow development gaps between and within regions and to encourage the full use of the available resources in a sustainable manner
- to enhance regional strengths and specialisation as well as to promote regional culture
- to enhance the quality of the living environment and a sustainable regional and urban structure (Government of Finland, 2015).

The government's regional policy predominantly focusses on competitiveness. Within the framework of the Act, the government is required to produce an overarching Regional Development Strategy every four years to establish the vision, goals and priorities for regional policy. Finland's regional policy, *Competitive Regions and Smooth Everyday Life* (2016-2019) sets out the national government's vision and priorities for regional development.

The government's regional policy acknowledges the disruptive effects of external changes – such as climate change, stagnant global growth, and immigration – on the economic conditions of Finland's regions. These changes have forced downsizing and restructuring of existing firms which has led to reductions in employment. In turn, this has led to other problems such as structural unemployment, skills mismatches and increasing inequalities between regions. The main opportunity for growth is identified as coming from the capacity to take advantage of the bioeconomy to generate new products, services and export markets.

Demographic challenges are also identified as a key challenge and opportunity. Population growth is concentrating in fewer places and this places pressure on the provision of services in sparsely populated areas. However, it also creates the opportunity to consolidate services and generate improved economies of scale in service provision. This is recognised by the government and the capacity to better link cities and rural areas as part of a polycentric development pattern is identified as an opportunity to drive growth. Ageing is also a challenge throughout Finland but more so in the northern and eastern areas of the country, and in particular rural communities. Immigration is identified as a way of addressing this challenge.

In terms of high level priorities there is a strong focus on improving the competitiveness of business through improving transport and communications infrastructure, and promoting innovation. Within these economic objectives there is also a commitment to ensuring economic growth is environmentally sustainable through the bioeconomy. Social objectives are given less emphasis and framed in terms of providing access to services.

Table 2.7. **Finland's regional policy: Priorities and action areas**

Priority	Vision	Action areas (examples)
Growth through renewal	Regions will have created growth based on high-quality competence and sustainable development	• Ensuring regional Councils prepare for the impacts of structural change • Funding and financing measures to support start-ups, fast growing enterprises, and companies in the process of ownership change • Developing skills and capabilities of entrepreneurs. • Collaboration between higher education institutions and business • Support for development of the bioeconomy • Improved language training and skills requirements for newly arrived migrants
Vitality through well-networked regions	Finland, relying on a network of regions, makes effective and sustainable use of its resources	• Growth with cities setting out commitments related to land use, transport and housing • Ensuring the EU's long-term transport strategy includes consideration of connection to non-EU markets • Ensuring regional employment and innovation needs are reflected in the EU Arctic Policy
Well-being through partnerships	The public, private and the third sector successfully promote the development of regions and services as a joint effort	• Promote the use of digital services • Inclusion of private and third sector actors in local and regional development • Promote housing construction in growing urban regions

Source: Government of Finland (2016), *Competitive regions and smooth everyday life: National Priorities of Regional Development 2016-2019*.

Regional Councils are joint municipal authorities which are responsible for regional development and regional land-use planning. They also set the framework and priorities for the implementation of the ERDF within each region. Each Council is required to

develop a Regional Development Programme, which is prepared under the leadership of the Regional Council, together with its implementation plan. The common trend across the NSPA regions is a focus on priorities of competitiveness and innovation, and well-being and social inclusion, which reflects the funding streams available through the ERDF and ESF. There is also a focus on infrastructure and accessibility, which reflects the national strategies and emphasises on importance of collaboration and connectivity between cities and regions. This strategy is designed to improve access to jobs, promote labour mobility, and develop complementarities (rather than competition) between different places.

Table 2.8. **Regional development programmes for north and east Finland: Key themes**

	Innovation and entrepreneurship	Infrastructure and accessibility	Demographics, labour markets and service delivery
Central Ostrobothnia	• Skills: developing regional expertise through training, research and smart specialisation • Enterprises: supporting growth orientated companies, increasing productivity and quality, knowledge-intensive services	• Sustainable regional infrastructure and international connectivity	• Welfare: increasing the sense of community and inclusion, promoting physical as well as cultural activities
Kainuu	• Innovation and entrepreneurship	• Creating and maintaining a functional regional structure	• Employment policy to reform and reinforce the vitality of the region • Increasing the welfare of citizens
Lapland	• Competitiveness and work in an open, Arctic Lapland (e.g. Arctic expertise, technology and creativity, and sustainability)	• Connections are in order: coming here and operating from here are easy (transport and digital accessibility) •	• Responding to structural change: consider it done (including smart specialisation, and public services)
North Karelia	• Regional branding: increasing attractiveness of the region • Capitalising on Russia's proximity • Competitiveness and internationalisation • Smart specialisation	• Sustainable regional infrastructure and accessibility	• Young people: education and employment • Local development: collaboration and inclusion
Northern Ostrobothnia	• Competitiveness and employment: business environment and innovation	• Broadband networks and TEN-T Core network extension to the north	• Welfare: reducing inequalities • Balanced and inclusive development: access to services
Pohjois-Savo	• Regional economic restructuring: innovation and financing	• Functional and accessible municipal structure: focus on telecommunications	• Labour-force supply: training and education • Welfare services and well-being
South Savo	• Successful business: competitiveness and diversification • Competent labour force and innovation: smart specialisation	• Good living environment: accessibility and sustainability	• Reshaped well-being: social inclusion and participation

Source: Calculations based on OECD thematic analysis of regional programmes for the seven NSPA regions in Finland and feedback provided by regional representatives.

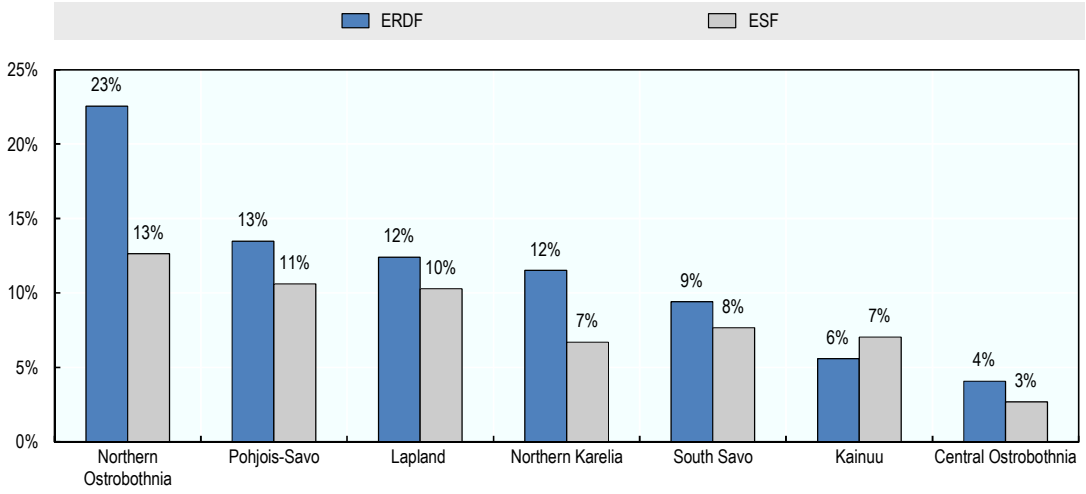
Integration with national policies for innovation, infrastructure and skills should be enhanced

Finland's national regional policy framework has a strong focus on competitiveness of business and innovation. At a regional level the policy framework for regional development is defined by the parameters of the ERDF, and to some extent the ESF. Enhancing co-ordination with other national policy areas (particularly education, transport, and higher education and research) will be important in ensuring a more integrated approach to development at a regional level, which is tailored to the circumstances of the NSPA regions. This integration will become more important with the implementation of the regional reforms. Within the current governance arrangements municipalities are key actors in regional development policy because they are currently the members of the Regional Councils (which have responsibility for implementing regional policy). However, the creation of the new regional autonomous authorities will change this dynamic. The autonomous regions will have responsibility for implementing regional policy within the framework set by the Ministry of Economic Affairs and Employment, and the municipalities will no longer provide oversight of the new regional autonomous authorities. However, these municipalities will still play a key role in other policy areas important to regional development. For example, in rural policy through their participation in local action groups (LAGs), and in the provision of local infrastructure. Ensuring there are appropriate incentives and informal and formal co-ordinating mechanisms in place to facilitate an integrated approach at a regional level between the autonomous regional authorities and municipalities will also be important. The following sections outline the important role European Structural and Investment Funds (ESIF) have in enabling the delivery of regional and rural development strategies, followed by an assessment of how to enhance the integration of these EU funds and key national sectoral policies with development strategies at a regional level.

European Structural and Investment Funds

The European Structural and Investment Funds (ESIF) are the EU's main investment tool to deliver on the objectives of the Europe 2020 Strategy. Finland focuses on the following priorities linked to the Europe 2020 Strategy: promoting innovative and competitive business and research environments; increasing labour market participation through improved employment, social inclusion and education policies; and, reinforcing sustainable and efficient use of resources for environmentally friendly growth. There are three main funds which are important in the Finnish context. They are the European Regional Development Fund (ERDF), the European Social Fund (ESF), and the European Agricultural Fund for Regional Development (EARDF). All three funds play a key enabling and catalytic role for regional and rural development activities across the seven north and eastern regions. Regional Councils and ELY Centres play the key role in the implementation of these funds. In Finland, over three-quarters of the country's total ERDF for the period 2014-20 has been allocated to NSPA regions (79%). The share of Finland's ESF allocated to the NSPA regions is also relatively high, at 58% of the total. These funding shares are significantly higher than the population share of these regions within Finland, which is 23.9%.

Figure 2.3. **Share of national ERDF and ESF (Finland) allocated to NSPA regions, 2014-20**



Note: National co-financing is included, and technical assistance is excluded.

Source: EU (2016), *Structural Fund Information Service,* www.eura2014.fi/rrtiepa/?lang=en (accessed 9 January 2017).

Within the current programming period (2014-20) there is a strong focus on enhancing co-ordination between different funds to better respond to the development needs of a given area. Integrated territorial investments (ITI) have recently been introduced as a governance instrument which allows EU Member States to bundle funding from one or more EU programmes to ensure the implementation of an integrated strategy for a specific territory. This instrument provides a way of better linking planning with budgeting, and recognises that investments in infrastructure must be combined in an integrated way with investments in skills, innovation and economic development. Finland is currently using the tool for sustainable urban development and has implemented this arrangement for the city of Oulu.

European Regional Development Fund

The European Regional Development Fund (ERDF) is one of the components of the ESIF. The main purpose of the ERDF is to address regional inequalities in the EU to achieve economic and social cohesion. The four key priorities of the ERDF are: i) innovation and research, ii) digital agenda, iii) supporting SMEs, and, iv) low carbon economy. The level of development of a region determines the allocation mechanisms of ERDF: 80% of the funds should target at least two priorities in more developed regions, 60% in transition regions and 50% in less developed regions. Special attention is given to geographically disadvantaged regions, such as remote, mountainous or sparsely populated areas, as well as outermost regions.

The total ERDF budget for 2014-20 in Finland is EUR 789 million. The EU principle of thematic concentration of funds is strongly applied by Finland: the ERDF targets only three thematic objectives. In particular, ERDF supports research and innovation actions (focusing on innovative energy technology, smart buildings, and wood construction technology), the competitiveness of SMEs and the shift towards a low-carbon economy. This last thematic objective (shift towards a low-carbon economy) is a key priority of the Finnish government. For this reason, Finland allocates 25% to this thematic objective, instead of the 20% required by the EU. Finland also receives a specific allocation of

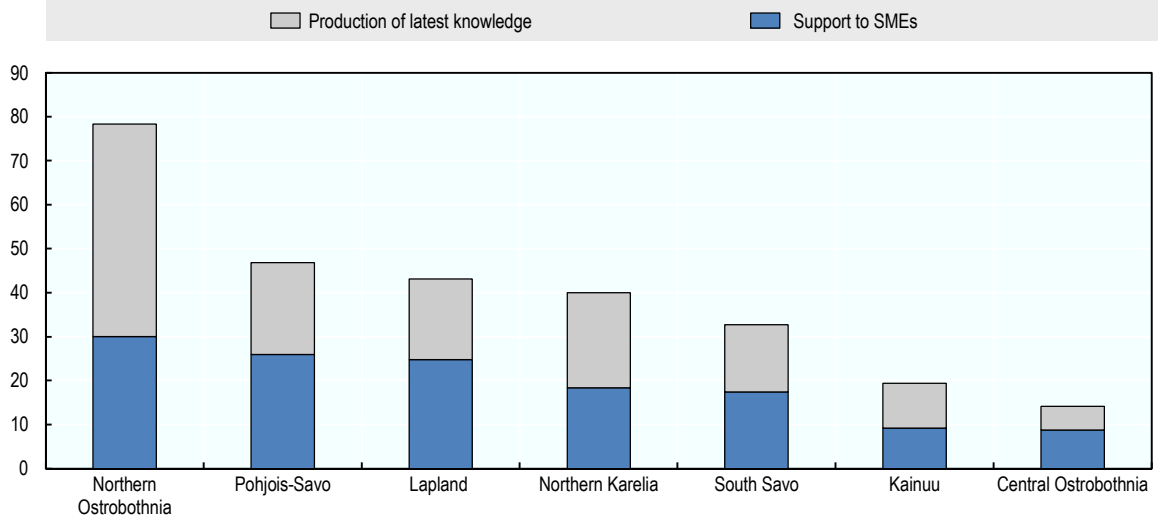
EUR 305.3 million on the basis of northern sparsely populated areas, which is used in north and eastern Finland.

Table 2.9. **Investment themes of the ERDF in Finland (2014-20)**

Theme	Proportion of allocation (%)	Activities
Strengthening research, technological development and innovation	40.1	Investments that diversify business structures and increase the number of growing, innovative and internationally expanding companies
Improving the competitiveness of small and medium-sized enterprises, the agricultural sector and the fisheries and aquaculture sector	32.7	Investments that will strengthen the innovation activity, especially in growth companies and start-ups in chosen smart specialisation fields
Supporting the shift towards a low-carbon economy in all sectors	24.2	Investments in research and innovation activities in the low carbon sector, in the development and commercialisation of low-carbon products, services and production methods
Technical assistance	3.0	

Source: European Commission (2014a) *Partnership Agreement for Finland 2014-2020,* http://ec.europa.eu/regional_policy/en/newsroom/news/2014/10/european-commission-adopts-partnership-agreement-with-finland-on-using-eu-structural-and-investment-funds-for-growth-and-jobs-in-2014-2020 (accessed January 2017).

Figure 2.4. **Allocation of ERDF in NSPA regions (Finland) by main objective, 2014-20 (EUR million)**



Note: National co-financing is included, and technical assistance is excluded.

Source: EU (2016), *Structural Fund Information Service,* www.eura2014.fi/rrtiepa/?lang=en (accessed 9 January 2017).

European Social Fund

Another key European Structural and Investment Fund is the European Social Fund (ESF). The main difference with the ERDF is that the ESF directly targets people instead of regions. The main purpose is to improve employment and education in the EU and it focuses on the most vulnerable people. In particular, human capital is the top priority with an investment of more than EUR 80 billion from 2014 to 2020. Youth Employment is also a key objective of this fund. The ESF is also based on the principle of "thematic concentration" and the four thematic priorities are: i) employment and labour mobility,

ii) social inclusion and the fight against poverty, iii) education, skills and lifelong learning, iv) institutional capacity and the efficiency of public administration. Social inclusion and fighting poverty are also addressed by an investment of 20% of the ESF. The ESF budget for the period 2014-20 in Finland amounts to EUR 515.4 million, corresponding to the 39.5% of the total ESIF allocation for the country. The funding is allocated across three thematic objectives (Table 2.10). A key objective across these three themes is to increase local, community-based activity and participation.

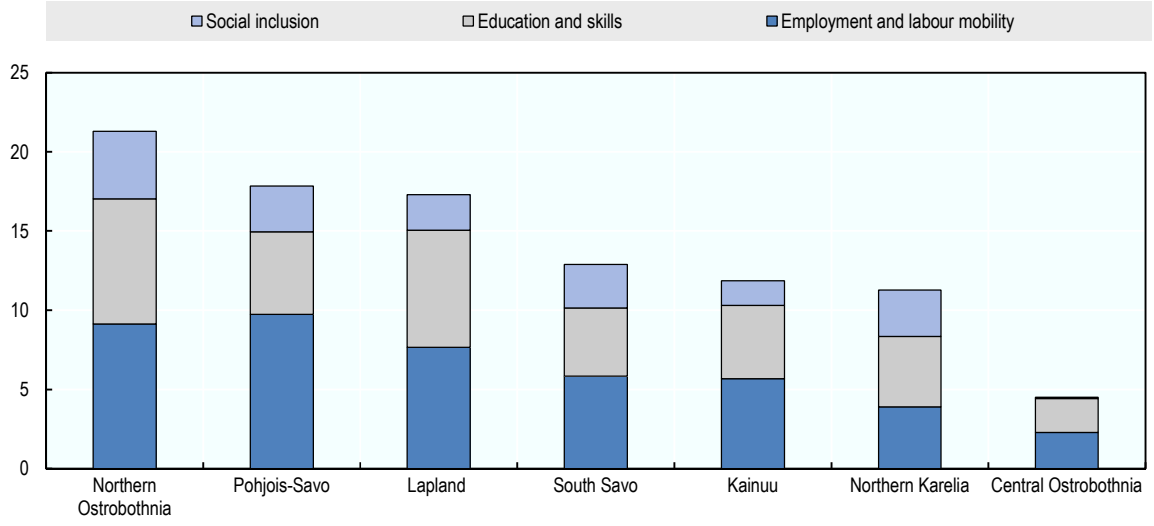
Table 2.10. **Finland's ESF: Thematic objectives and allocation**

Thematic objectives	Proportion of total allocation (%)	Areas of investment
Employment and labour mobility	45	Reduction of unemployment (in particular youth unemployment), lengthening working careers, alleviate gender segregation.
Education, training and lifelong learning	32	Ensure availability of a skilled workforce, promoting educational equality; reinforce the professional knowledge and innovative abilities of the workforce.
Social inclusion and poverty	19	Reduction of poverty, marginalisation and prevention of social exclusion.

Note: Finnish regions are also involved in a number of cross-border programmes funded through the ERDF which are assessed in the thematic chapter of this report.

Source: Summary of the Partnership Agreement for Finland, 2014-2020.

Figure 2.5. **Allocation of ESF in NSPA regions (Finland) by main objective, 2014-20 (EUR million)**



Note: National co-financing is included, and technical assistance is excluded.

Source: EU (2016), *Structural Fund Information Service,* www.eura2014.fi/rrtiepa/?lang=en (accessed 9 January 2017).

European Agricultural Fund for Rural Development

A key funding mechanism for rural (economic) development is the Rural Development Programme (RDP). The Programme is the common tool for the implementation of the European Agricultural Fund for Rural Development (EAFRD) under Pillar 2 of the Common Agricultural Policy (CAP). The RDP in Finland has a

strong focus on ensuring the future viability of agricultural activities by addressing natural constraints caused by poor soil conditions and the extreme climate. Environmental preservation and resource efficiency constitute two-thirds of the total budget. On-farm improvements are delivered through a variety of activities including training for farmers to absorb new technologies and practices, renewable energy projects, a focus on organic and local food, and on-farm capital investments. In terms of off-farm activities there are a number of different objectives which include initiatives targeted to SMEs to promote diversification and the improvement of basic services such as broadband. In terms of ICT, there is a specific allocation of EUR 12.6 million to broadband initiatives in the NSPA regions of Finland through the EARDF.

Table 2.11. **Proportion of Finland's RDP budget allocated to each priority area for 2014-20**

Priority area	Proportion of the total budget (%)
Environmental preservation and resource efficiency	66.0
Support SMEs	15.0
Employment and labour mobility	9.8
Education, training and lifelong learning	7.0
Social inclusion and poverty	4.2
Research and innovation	3.4
Low-carbon economy	1.2
ICT	0.5
Climate change adaptation	0.3

Source: European Commission (2014a) *Partnership Agreement for Finland 2014-2020,* http://ec.europa.eu/regional_policy/en/newsroom/news/2014/10/european-commission-adopts-partnership-agreement-with-finland-on-using-eu-structural-and-investment-funds-for-growth-and-jobs-in-2014-2020 (accessed January 2017).

Successive Finnish governments have recognised that successful rural policy requires that the actors across different ministries and other sectors involved commit themselves to common goals and co-operate with each other. A key feature of Finland's approach to rural policy is the integration of sectoral policies into the rural development agenda. Rural policy is supported by a vision that rural areas are an inseparable part of national prosperity. Rural policy in Finland is characterised by a network-like approach to deliver on this vision, where rural areas are developed at different levels in co-operation among public, private and the third sector. At the national level, the central actor preparing and implementing rural policy is the Rural Policy Committee, which is the horizontal co-operation body appointed by the government. The government sets the tasks, members, and term of office to the Committee. Its membership includes representatives of different ministries, regional government, R&D organisations, as well as organisations and associations. Emphasis is placed on the governance perspective. A large number of actors are involved in the different forms of work of the Rural Policy Committee.

Rural Policy Programme is the operational programme of the Committee. It sets out the objectives and measures for rural development. The time span of the overall programme is longer than the government term and is consistent with the EU programming period. Overall programme measures flesh out government rural policies, and these are implemented by a wide group of actors. The overall programme is implemented in the context of resources in accordance with state budgetary framework decisions and government finances. It is not a financing programme; rather, it seeks to affect the operations of different sectors so that the countryside would be better taken into account. The strategic approach of the Rural Policy Programme is characterised by a

place-based approach. The overall programme has five main themes, for which 63 concrete measures have been drawn up. The key actors responsible for the implementation of the measures are defined for each of the measures. The themes are cross-sectoral, and the implementation of the measures requires the co-operation of the actors at different levels. The current programme themes are: participation and local democracy; housing and services; infrastructure and land use; livelihoods and expertise; and, ecosystem services.

An important tool for community involvement and integration at a local level in Finland are the LEADER groups. There are 54 LEADER groups across rural Finland and they are overseen by a board which includes one-third representation from local municipalities, one-third enterprises and communities, and one-third citizens of the local area who are not otherwise represented in decision-making bodies of municipalities and communities. This enables rural development initiatives to be based on local commitment and co-operation between the public, private and non-profit sector, targeting the specific needs and conditions in each area. Each LEADER group prepares local development strategies which deliver on the RDP programme objectives, and the board considers funding applications made to it based on this strategy, the overall programme objectives, and the principles of the LEADER programme.

Maximising the benefits of EU investment for the north and eastern regions of Finland

The ESIF play a critical role in enabling the regional and rural development strategies of the seven regions in north and east Finland. These funds provide a significant amount of additional resources which can be used by these regions to invest in productivity enhancing initiatives (particularly in terms of SMEs and innovation, workforce development and skills, and broadband accessibility). In addition, they have a catalytic effect by leveraging a significant amount of public and private sector investment, particularly from the national government. Because these funds activate other public and private funding they help promote co-ordination and the realising of policy complementarities. The design of the ERDF and the EARDF also encourage co-ordination between levels of government. In the case of the ERDF, between the national and regional level, and the in the case of the EARDF, it is between the national and local municipal levels.

There is scope to improve how the ESIF responds to the development needs of north and eastern Finland. The ERDF is designed to correct regional imbalances and the permanent disadvantages experienced by these regions due to their low density and extreme climate and is already reflected in the extra funding support given to them. However, given the importance of infrastructure and accessibility to these regions there is probably scope to re-prioritise the funding to allow for investments in improving transport infrastructure, particularly where it generates cross-regional benefits and helps activate significant new private sector investment. Consideration should also be given to how the regional level can have a closer involvement in setting regional and local priorities for the allocation of the EARDF and the ESF. This would aid in the further integration of these different funds and the capacity to realise policy complementarities at a regional and local level. The following sections of the chapter discusses three policy areas in greater depth (innovation and entrepreneurship, infrastructure and accessibility), and demographic change, labour markets and skills), and how national and EU policies can be adapted to better support development outcomes in north and eastern Finland.

Innovation and entrepreneurship: policy challenges and opportunities

This section of the chapter discusses the key policy challenges and opportunities related to innovation and entrepreneurship, and how the national government can help address them. The key is for the regions of north and eastern Finland to identify where they have niche markets based on areas of absolute advantage (Table 2.6) and where they can generate more value related to them. These areas of advantage are mainly directly and in-directly related to the natural resource base of these regions. Opportunities for growth are related to valorising new economic activities in these areas, and diversifying around them. It also relies upon developing new markets for local goods and services, which may exist in urban areas of Finland, or outside of the country. In the case of these regions economic opportunities are primarily related to extractive industries, forestry, niche manufacturing, renewable energy, and tourism.

The regions of north and eastern Finland are globally competitive in a small range of areas

The bioeconomy is an obvious area of potential advantage. Policy objectives and regulatory provisions to reduce carbon emissions provide an incentive for the creation of new business opportunities (such as renewable energy), particularly linked to the forestry sector. Given the size of the forestry resource and the specialised manufacturing and services associated with it, this is a key opportunity for Finland. Each of these regions has developed specialised manufacturing (transport equipment and machinery, and wood products), and services (e.g. in areas such as engineering, maintenance, and managing environmental impacts) where there is also potential to expand markets. Tourism activity is also increasing with a greater focus on better utilisation of lakes and waterways, providing improved access to wilderness areas, and linking with local food production and Sami culture. The Arctic climate, location and abundance of locally produced sustainable energy also generates opportunities related to technology testing and data storage. The national government has set a clear policy direction to improve regional competitiveness. The regions have a history of drawing on European and national funding to proactively invest in these areas of absolute advantage, and engage universities and other actors to build an innovation system around them.

Higher education institutions play an important role in regional development

The regions which have a university are increasingly utilising them as an important asset for economic development and innovation. Universities were established in the 1960s and 1970s as a regional development measure. Only three of the regions have a university: North Karelia and Pohjois-Savo (University of Eastern Finland), Northern Ostrobothnia (University of Oulu), and Lapland (the University of Lapland). These universities have developed areas of specialisation linked to the local economy. For example, the University of Eastern Finland has a Faculty of Science and Forestry which is closely integrated with local industry. These universities also attract young people and students, which supports the economic development of the cities they are based in and provides higher skilled workers for local businesses. There are also eight universities of applied sciences with a presence in north and eastern Finland. These are more vocational based institutions, again with close education and training linkages with local businesses, and also have an R&D focus. These institutions provide pathways for local people into education and training that is linked to local job opportunities. In addition, there are a number of university consortiums which also provide education and research

specialisations linked to the local economy. For example, the Kajaani University Consortium in Kainuu includes the CEMIS-Oulu is a measurement technology research unit which carries out research and technology development and provide R&D-services in the selected fields of measurement technologies. These consortia are important for education and training and economic development in regions without a home university.

Table 2.12. **Higher education presence in north and eastern Finland**

Region	University	University of Applied Science	University consortium
Central Ostrobothnia	..	Centria University of Applied Sciences	Kokkola University Consortium (Jyväskylä, Oulu and Vaasa)
Kainuu	..	Kajaani University of Applied Sciences	Kajaani University Consortium (Eastern Finland, Lapland, Jyväskylä and Oulu)
Lapland	University of Lapland	Lapland University of Applied Sciences	..
North Karelia	University of Eastern Finland	Karelia University of Applied Sciences Humak University of Applied Sciences	..
Northern Ostrobothnia	University of Oulu	Oulu University of Applied Sciences Diaconia University of Applied Sciences*	..
Pohjois-Savo	University of Eastern Finland	Savonia University of Applied Sciences	..
South Savo	..	Mikkeli University of Applied Sciences Diaconia University of Applied Sciences*	Mikkeli University Consortium (Helsinki, Aalto, Lappeenranta)**

Note: University consortium also includes universities and universities of technology which make up the consortia. *Main campus in Helsinki. ** Also includes the Finnish Organic Research Institute unit and Natural Resources Institute Finland unit.

Source: Analysis based on unpublished background reports.

Regional innovation systems will need to be strengthened

There are also challenges to promoting innovation and entrepreneurship in rural remote areas (OECD 2014a and 2016a). Entrepreneurs can have difficulty finding support and resources, and engaging with relevant innovation systems. There can be a level of risk aversion due to the lack of venture capital and a supportive environment for start-ups. Within these economies there are a higher proportion of small businesses. Many of these small businesses lack networks to connect them other businesses and market opportunities, and also have a lack of understanding about the value of higher education and research in the economy. They may be locked into a small number of long term supplier relationships to larger firms which are owned by multi-national companies. In this case the plant owned by the multi-national does not have a tendency or incentive to invest in local R&D, and the smaller businesses lack the incentive and scale to invest in it. However, the lack of productivity growth and diversification can become problem if technologies or external markets change. Although these regions have university presence there is still a level of disconnect between the needs of SMEs and the research profiles and collaborations of the universities. There is capacity for universities and other research institutions such as the Natural Resources Institute and the Finnish Environment Institute to work more closely with SMEs to drive innovation and develop new markets. Challenges include better engaging local firms in research and development, and building networks amongst firms particularly in dispersed rural areas.

Regional level recommendations relate to better engaging SMEs and improving the co-ordination of tourism development

In response to these issues the main recommendations at a regional level relate to two areas: i) better engaging SMEs with regional strategies for smart specialisation and identifying opportunities to improve collaboration between regions; and ii) maximising the tourism opportunities of common attractions such as lakes and waterways by improving the co-ordination of tourism marketing and destination management between regions. In relation to the first point all regions have smart specialisation strategies in place, however there are complementarities and synergies between regions which are not being realised. Although there are differences these regions share many areas of absolute advantage, and lack the scale to effectively maximise the benefit of them. There needs to be a greater level of engagement with local SMEs to connect them with new market opportunities at a regional, national and international scale, and research, innovation and skills resources provided at regional and national level. In terms of tourism there is a lot of good activity going on but it is not well connected with regional or cross-border strategies. More effort is required to link up destination management companies at a regional level, and ensure their work is connected to broader opportunities. This includes collaboration in eastern Finland linked to lakes and waterways, along the coast, and Lapland connecting with adjacent regions in Sweden and Norway. The provision of funding through the EU (ERDF, the EARDF, and cross-border initiatives) is vital for enabling these regions to deliver on these recommendations. It will also need to be accompanied by changes to governance and complementary policy measures at the national level.

There is scope for the national government to facilitate stronger collaboration between regions in regards to research and innovation

The government's national regional policy framework has a focus on smart specialisation. The importance of focusing on specialisations linked to regional strengths is a key objective, and a nationwide analysis of these regional strengths is identified as a priority action. It will be important that this analysis is undertaken in collaboration with regions. The circular and bioeconomy is also identified as a priority area and the government has recently released a national bioeconomy strategy (Ministry of Employment and Economic Affairs, 2015). The actions to realise the potential of the bioeconomy include through funding innovative projects and testing of new technologies, public procurement, and strengthening centres of competence to concentrate public and private sector expertise. However, advantages related to the Arctic environment and climate and tourism, which are important to the NSPA regions, are not identified as priorities. Other key issues for these regions including developing a more supportive environment for entrepreneurship, developing new markets for SMEs, and connecting universities with local industry are all priority areas for action. Although there is an interest in cross regional collaboration and connectivity there are not any clear measures to incentivise or facilitate this in relation to entrepreneurship and innovation. By putting in place specific measures the national government could play an important brokering role to help identify and maximise synergies between regions. There is scope for more collaboration between regions based on their smart specialisation strategies (e.g. in areas such as the bioeconomy, ICT and information systems, food and health and well-being).

Table 2.13. **Smart specialisation priorities: North and eastern Finland**

Region	Smart specialisation priorities
Central Ostrobothnia	Chemistry, minerals and bio-economy, smart and sustainable wood products and construction, high-end and customised boat building, clean and silent nature, creative industries, and ICT solutions.
Kainuu	ICT and information systems (measurement technology, games and simulators, data-centres), natural resources (green mining and from bio economy: forestry biomass, bioenergy and wood industry) and well-being (activity tourism and health, nutrition and sport innovations).
Lapland	Arctic natural resources (sustainable mining, bioeconomy, large scale projects), utilising Arctic natural conditions (sustainable tourism, research and testing environments), and cross cutting development (accessibility, start-ups, research and education).
North Karelia	Forest bioeconomy (bioenergy, bio refinery, technology and logistics), future growth areas (photonics, material knowledge, ICT, metals and plastics), and Russian know-how (co-operation, business skills, and tourism).
Northern Ostrobothnia	ICT and software applications, wood, steel and processing industries, clean technologies, and health and wellness technology.
Pohjois-Savo	Machine and energy technology, wood and bio-processing, food industry, health and well-being, air and water processes.
South Savo	New products and processes from forest biomass, clean technologies (especially clean water), smart and functional materials, digital management, and organic products and food safety.

Source: Analysis based on NSPA case studies of Finland in Part 2 of this publication (available online).

Box 2.1. **The importance of innovation to the forestry sector**

Large parts of the NSPA have had a forest based economy for much of their history and in most of these places future prosperity will continue to hinge upon successful exploitation of forests. However, there is general recognition within the NSPA region that the global forest sector has evolved rapidly in the last quarter of a century and that this evolution will continue. A large part of the evolution involves a decline in one of the major demands for wood as the global use of paper continues to fall. A second factor is falling use of labour as new machinery is introduced in harvesting, saw and pulp mills, and all other secondary wood product production. A third factor is increased competition from countries that until a few years ago were not wood exporters. These mostly tropical and sub-tropical locations have introduced rapid growth, single species plantations that make them efficient competitors with traditional more northern climate wood producers, such as Canada, Finland, Sweden and Russia. Finally, the NSPA is far from the emerging markets for wood and wood products in China and other Asian markets, which puts it a transport disadvantage. Consequently, despite large local forest reserves, the future of the forest sector in the NSPA region is not assured.

The future of forestry in the NSPA region seems to be tightly tied to innovation, both in terms of products and processes. New uses for wood including local uses and new export opportunities are central to the prosperity of the forest economies of the NSPA. The use of wood residues for bio-fuels to produce heat has been a major success in Europe with major improvements and increased adoption of wood pellet fired boilers both in district heating systems and for boilers in individual buildings. Export opportunities for wood pellets exist, but are limited by the relatively low value of the commodity and the presence of multiple supplying regions. Moreover, the market is largely restricted to locations where boilers are the dominant form of heating and heating is a major cost for households, firms or governments. This suggests this product is likely to experience only limited growth in the foreseeable future.

Box 2.1. **The importance of innovation to the forestry sector** *(continued)*

More promising, but more challenging, is the idea of the bio refinery where additional organic chemistry-based activities are connected to a traditional pulp mill. The tight coupling to the pulp production process makes hosting a modern pulp mill an increasingly central factor for regional success in the bio-economy. However, the complexity and cost of establishing this next generation of multi-product pulp mills, as well as the uncertainty of markets for cellulosic bio-fuels and other new wood based feed-stocks has slowed the pace of investment. If companies are successful in developing the technology to make wood a competitor with oil in all aspects of petro-chemical industry there could be a renaissance in the forest sector. Fostering this industrial renaissance will depend upon a number of factors including the future price of oil, appropriately located land sites and connecting infrastructure, and global climate policies which provide long-term certainty for investment.

National innovation policies need to be better integrated with the country's regional development agenda

Over the past 30 years Finland has developed a reputation as a world leader in innovation, which since this time has been one of the top policy priorities of successive governments. The international success of Finland has been widely attributed to the sophistication of its "triple helix" interaction model of government, industry and universities (OECD, 2005). This approach has enabled the development of a sophisticated national innovation system, which yielded significant progress in technological innovation in a small number of sectors and large businesses from the early 1990s until the crisis. In 2014 the National Research and Innovation Policy Council prepared a review and new policy directions for innovation policy (National Research and Innovation Policy Council, 2015). The impacts of the crisis coupled with technological change have led to a rapid restructuring of Finland's export industries, and the government recognises that a new approach is required for innovation policy. This includes a greater focus on intangible assets, and providing a more supportive environment for innovation with SMEs and start-ups. The new policy identifies five priority sectors for innovation support in the medium term: bioeconomy, cleantech, digital economy, the health sector and intangible value creation. Arctic expertise is also identified as a key area of expertise for the country. These are all areas that reflect areas of specialisation for north and eastern Finland.

The review recognises that integration with the regional development agenda needs to be strengthened (National Research and Innovation Policy Council, 2015). However, the proposals are relatively narrow and it is unclear how it will connect with the smart specialisation strategies currently being implemented in north and eastern Finland. Currently some small scale innovation activities are funded at the regional level, and also through the rural development programme. However, the majority of research and innovation resources are the responsibility of national agencies. Tekes is the main government financing and expert organisation for research and technological development, and provides R&D grants and loans to firms for technical research with public organisations. Another key player is Finnvera which provides businesses with loans, guarantees, venture capital investment and export credit guarantees. The review proposes programmatic and institutional changes to better link these national innovation policies with the country's regional and rural development agenda. Tekes is responsible

for delivering the Innovative Cities Programme (INKA) which is designed to develop internationally recognised clusters aligned with national priority sectors. INKA is place-based but is designed to link a consortium of cities around common themes. Currently, two of these clusters are based in north and eastern Finland: Joensuu (bioeconomy: CITY lead), and Oulu (future health: city lead, and Smart City and Renewable Industry: city support role). The other priority is to strengthen dialogue between the central government and urban regions to enable the joint identification of areas of competitiveness.

Better connecting regional and national innovation agendas will require further adaptation of national programmes and strengthening of institutional arrangements. Currently the ERDF and the EARDF are the main source of support for SMEs and innovation in sparsely populated areas. These funds give the flexibility for regional and local authorities to leverage local, regional, national and private sector funds to invest in activities which support innovation amongst SMEs in these regions. The regions have taken a proactive approach to building partnerships between different actors to mobilise endogenous resources and attract funding and financing from private and public sources. For example, the Oulu Innovation Alliance (a strategic agreement between the City of Oulu, University of Oulu, Oulu University of Applied Sciences, VTT Technical Research Centre of Finland, Technopolis, and Finnish Environment Institute) has been able to attract significant funding for innovation activities in the city. One example is the Business Kitchen in Oulu which provides a space for business start-ups and the provision of support services including linking with resources based at the University of Oulu. These types of intervention which provide skills development and brokering are important to build capacity and link together actors to build scale, and connect start-ups and SMEs with R&D and innovation systems. Given the shift in national innovation policy to supporting SMEs and start-ups there is a case for greater support and adaptation of national policy instruments and programmes that better suit the circumstances of sparsely populated areas. This will also need to be supported by institutional changes by ensuring regions become more involved in the design and delivery of national and regional innovation policies.

Measures to better encourage cross regional collaboration to promote tourism development are needed

North and eastern Finland has many of the tourism attractions which the country is known for internationally. This includes the Aurora Borealis and the midnight sun, lakes and wilderness areas, and ski resorts and routes. Lapland is a well-known international tourism destination with attractions and tourism assets include the Aurora Borealis and the midnight sun, skiing and the Sami people. Lakeland is also an important asset in a European context with activities including swimming, kayaking and boating. Summer cottages are also a significant part of the tourism offer and attract people from Finland and internationally to the lakes area. The country's current tourism strategy, *Achieving more Together – the Roadmap for Growth and Renewal in Finnish Tourism for 2015-2025,* does not explicitly focus on these assets instead focusing on the Finnish archipelago in the south of the country and promoting Finland as a stopover destination through the national hub of Helsinki (Government of Finland, 2015b). Regions are encouraged to work with Visit Finland to develop their own strengths and themes with the national government playing a co-ordinating role to ensure complementarities between different places.

At a regional level the ERDF, ESF, and the EARDF play a key role in facilitating the growth of tourism. This includes investment in innovation, skills and capacity building, and broadband projects. EU funded cross-border initiatives also provide support for

tourism development. The European Neighbourhood and Partnership Instrument (ENPI) and European Neighbourhood Instrument (ENI) cross-border co-operation programmes provide support for reducing barriers to cross-border mobility and cultural initiatives which support tourism activity with Russia. The Interreg-Nord programme also facilitates tourism-related co-operation between NSPA regions, and in the protection and development of natural and cultural assets. These initiatives should be further supported by complementary actions from the national government to develop distinctive branding for destinations which can be marketed and developed as part of the national strategy. This would include elevating the unique attractions of Lapland and northern regions, and the Lakeland region as international tourist destinations.

Infrastructure and accessibility: Key policy challenges and opportunities

This section of the chapter discusses the key policy challenges and opportunities related to infrastructure and accessibility, and how the national government can help address them. Accessibility to markets is critical for the future growth of the regions of north and eastern Finland. The key exporting industries of mining, forestry, technology and tourism-related services depend upon the capacity to efficiently move data, goods and people year-round. This also requires good intermodal facilities enabling the efficient transfer of people and goods across different water and land based transport modes. The overall quality of infrastructure in northern and eastern Finland is comparatively good within the context of the OECD (World Bank, 2016). However, the quality of infrastructure in the north and eastern areas of the country is generally lower than the southern areas of the country. Additional challenges in funding and maintaining infrastructure are present because of the long distances between key population centres, complexities generated by lakes and wilderness areas, and the Arctic climate. This emphasises the importance of ensuring different levels of government align and co-ordinate their investment in infrastructure, including between regions, to help achieve better accessibility and connectivity across the NSPA.

Accessibility and connectivity is generally improving across north and eastern Finland

Across north and eastern Finland, as with other areas in the NSPA, there is an overall trend of the population concentrating in fewer places. The populations of the larger urban settlements across these regions are generally growing at a fast rate. This trend is an advantage for these regions as it increases the size of functional labour markets and reduces the costs of delivering services. Governments can realise policy complementarities by concentrating service delivery, including administrative services, health care, shopping and so on, in specific places with transport and communications networks organised so as to make them as accessible as possible to the rural population of the surrounding areas. The national government recognises this trend as an opportunity and identifies the importance of improving connectivity and collaboration between cities to reinforce this polycentric development pattern (Government of Finland, 2015a and 2016).

The geography of the north and eastern regions of Finland is diverse and they have varying levels of accessibility to markets. South Savo benefits from its relatively close proximity to the metropolitan regions of Helsinki and Saint Petersburg. The other NSPA regions are further from the national capital and major metropolitan areas. However, this is not the only dynamic shaping the relative accessibility enjoyed by these regions. Pohjois-Savo (Kuopio), North Karelia (Joensuu), and Northern Ostrobothnia (Oulu) benefit from having larger cities with a diverse range of public and private sector services within their

respective regions. Central Ostrobothnia benefits from its location on the coast of the Gulf of Bothnia and its proximity and relationship with Sweden. Lapland is close to northern Sweden and northern Norway, which may become more of an opportunity in the future as the Arctic changes and develops. Furthermore, four of the regions (North Karelia, Kainuu, Northern Ostrobothnia, and Lapland) share a border with Russia with accessibility to the northern part of the country.

Significant challenges remain including in relation to freight and logistics, and air services

There are still significant challenges for these regions related to accessibility and connectivity. As outlined above growth is concentrating in a few population centres along with public and private services. Although population and services are concentrating in urban centres many people will still live in rural and remote communities. Some of these communities are connected by commuter flows and are part of a wider functional labour market. Rural communities close to these cities will also feel growth pressures. It will be important to make sure that spatial planning can make adequate provision for the supply of land for urban development, and ensure infrastructure and services are delivered in a co-ordinated way. Other communities are outside of the influence of cities and are not well connected. The populations of these areas are generally experiencing a faster rate of ageing and decline. Broadband provision and innovative on-demand transport services will be important in terms of ensuring people living, and businesses located, in these places can still access services and opportunities.

Along with these considerations about the movement of people, connectivity is also important for industry including the movement of bulky goods and farm products. The north and eastern regions face a common issue associated with deterioration in the quality of the secondary and local road network, and small scale bottlenecks as road and bridge capacities constrain the movement of goods. These issues increase transit times for the movement of wood from forest to processing sites, which impacts on cost competitiveness. Another issue is related to maintenance, speed and reliability on the rail network, which is particularly important for the forestry, processing and mining industries. Tourism and renewable energy are also becoming more important to the economies of these regions which can place new demands on the transport network. For example, in the case of tourism improving accessibility to lakes and waterways which requires combinations of water and land based transport. There are also a number of ports across these regions on the Gulf of Bothnia and the lakes areas. Some of these ports such as Kokkola face constraints including inadequate intermodal facilities to move goods between sea, road and rail transport modes.

The regions of north and eastern Finland share a common interest in advocating for improved transport linkages to southern Finland and the capital Helsinki. A concern was raised about the lack of diversity in air connections between these regions, the national capital, and other destinations in Europe. The Finnish aviation strategy is based on strengthening Helsinki as a transit hub; therefore, it favours direct flights from the capital to international destinations (Ministry of Transport and Communications, 2015). Direct air connections have emerged where there is demand, for example, in relation to tourism for Lapland, and Kokkola to Stockholm because of its Swedish minority and linkages to Sweden. Transport options for people travelling in and out of the eastern regions (South Savo, Pohjois-Savo, North Karelia, and Kainuu) are more limited. In this case, there is an opportunity to also investigate the viability of improving rail services to these regions and reduce travel times to Helsinki.

There is also the issue of improving east-west transport linkages, including to the Barents Sea and Russia (including Russian Karelia and the St. Petersburg region). Transport connections are generally orientated to Helsinki and this is generally reinforced through national transport policies. However, improving east-west connections could enhance connectivity and also increase competition and therefore productivity. The future potential of these cross-border connections are recognised in long-term planning for the transport system (Government of Finland, 2015a). However, transport planning and investment at this scale does not have a clear institutional home. The Joint Barents Transport Plan was prepared in 2013 by the Barents Euro-Arctic Transport Steering Committee. The Joint Barents Transport Plan builds upon national transport plans and strategies to identify projects that will improve connectivity and accessibility across the Barents region. However, there is not a regular or co-ordinated mechanism to ensure these priorities are considered in a national priority setting, or projects are sequenced and co-ordinated between different national jurisdictions. The Trans European Transport Network only extends to the southern area of the country, and does not include connections with Sweden, Norway and Russia. As a result there also does not appear to be a systematic approach to regional transport planning and prioritisation between the north and eastern regions of Finland (or with other NSPA regions in Norway and Sweden) which shapes how these regions invest and influence national transport planning.

A more co-ordinated and collaborative approach to infrastructure planning and prioritisation between the national government and the NSPA regions is required

The NSPA regions face common transport challenges due to their location and low population densities. Enhancing co-ordination in infrastructure planning and investment between the national, regional and municipal levels would assist in better representing these common challenges in national policies for transport. The planning, funding and prioritisation of transport infrastructure occurs at a national level. The national transport programme runs on a four year planning and investment cycle. Transport planning and investment is co-ordinated at a regional level through the Centres for Economic Development, Transport and the Environment (ELY). The ELY were established in 2010, and aim to deliver a more co-ordinated approach by bringing together regional administrative functions of national ministries at a regional level. ELYs lead a process of developing transport priorities at a regional level, and submitting these to the national ministry for consideration on an annual basis within a four year national transport planning cycle. Transport planning and prioritisation is not a competency of the regional or municipal level. However, the regional and municipal level has competencies for economic and regional development, and land use, which should be closely integrated with transport planning and prioritisation. As the regional government reform is implemented the national government should explore mechanisms that can enhance co-ordination between NSPA regions and the national government in relation to transport planning and investment. This can build on existing collaborations such as the Common Transport Strategy for Eastern Finland jointly produced by the ELY centres, regional councils, and municipalities.

The main recommendations that emerged across the regional case studies in terms of infrastructure and accessibility relate to two areas: i) better integrating regional transport planning with regional smart specialisation and land-use strategies; and, ii) improving east-west connections by enhancing cross-border co-ordination in relation to transport planning and investment. There needs to be closer alignment with strategic economic goals set out in regional development and smart specialisation strategies with transport prioritisation at a regional level. The regional reforms (outlined in the third section of the chapter) propose to

integrate the functions of the ELY with regional councils, which will help ensure better co-ordination. However, the time horizon of regional transport planning needs to be better aligned with regional development strategies (20-30 years), and regional land-use plans (10-20 years). This will aid in the integration of land-use and infrastructure planning, and provide a better platform for co-ordination of infrastructure planning between regions. The National Ministry will also need to play a stronger role in facilitating collaboration in long-term transport planning and prioritisation between the north and eastern regions of the country. This should recognise their unique status as sparsely populated regions, and the cross-border relationships they share with Norway, Russia and Sweden. Finally, there is a need to provide a more systemic approach to transport infrastructure planning and prioritisation at a supra-national scale in collaboration with Finland, Sweden, Russia and the EU. These institutional changes will help support the development of a more coherent strategy for improving accessibility and connectivity for north and eastern Finland that is supported by clear mechanisms for implementation.

Box 2.2. **Co-ordination platforms for regional development and subnational investment in OECD countries**

In order to ensure that various levels of government take a more co-ordinated approach to regional development and public investment, many OECD countries use vertical and horizontal co-ordination platforms. These can include institutional mechanisms, co-financing arrangements, formalised consultation of subnational governments, and platforms for regular intergovernmental dialogue. Practices in Australia, the Netherlands, New Zealand, Portugal and the United Kingdom provide relevant examples.

Infrastructure Australia (IA) was established in 2008 by **Australia's** federal government to co-ordinate investments of national importance with Australian states and territories. IA advises the national government on investment priorities in the transport, communication, energy and water sectors, and helps states identify infrastructure projects that align with national priorities. IA assesses individual state or territory applications for funding under the Building Australia Fund, which is the country's main mechanism for financing critical infrastructure projects.

In the **Netherlands,** the various levels of government establish their own vision documents: the SVIR at the national level, the Provincial Structural Vision (provincial level), and zoning plans (municipal level). These documents serve as input to Area Agendas, which help all levels of government discuss and align their questions and projects in the physical domain (i.e. housing, industry, infrastructure, public transport, environment and water). Within the multi-year investment programme (MIRT) each region has its own, collective Area Agenda, containing the co-ordinated vision, goals, questions and projects of the various government levels in the specific MIRT region. Aligning the visions, goals and projects of each level of government in an MIRT area leads to better solutions, greater efficiency, and ultimately greater effectiveness. While formal discussions take place multiples times per year, decision making on the content of Area Agendas occurs at an annual meeting at the political level (BO MIRT), with the outcome discussed in parliament.

New Zealand's government Policy Statement establishes high-level priorities for transport investment, which are then implemented through the New Zealand Transport Agency (NZTA) in collaboration with subnational governments. NZTA officials work with each local authority to determine co-funding arrangements for the maintenance and renewal of the country's regional and local roads (approximately 90% of all roads). Vertical co-ordination is largely confined to investment in Auckland. Auckland Council's special plan sets out long-term priorities for public investment, and is designed to guide the investment decisions of central and local government, particularly in transport, and also in social infrastructure (e.g. schools and hospitals).

Box 2.2. **Co-ordination platforms for regional development and subnational investment in OECD countries** *(continued)*

Portugal's *Comissão de Coordenação e Desenvolvimiento Regional* (CCDR) was created in 1979 for planning. Currently, the CCDR activities cover: spatial planning; promoting strategic and integrated regional development planning; monitoring the design and implementation of deconcentrated policies; and providing an opinion on the national government's public investment expenditure programme (PIDDAC) at the regional level. Under the EU Cohesion Policy, each region was requested to draft its own Regional Strategy 2020 under the direction of the CCDR in order to improve collaboration among the CCDR, municipalities and the regional directorates of various ministries operating in the regions.

Source: Adapted from OECD (2016c), *OECD Regional Outlook 2016: Productive Regions for Inclusive Societies*, http://dx.doi.org/10.1787/9789264260245-en.

Demographics, labour markets and service delivery: Key challenges and opportunities

This section of the chapter discusses the key policy challenges and opportunities related to demographics, labour markets and service delivery, and how the national government can help address them. Fiscal consolidation and regional and municipal reforms are changing the landscape for service providers in these regions and there is a continued need for identifying ways to innovate and deliver these services in more cost effective ways. Small and fragmented labour markets make the matching of worker skills to employer needs more difficult. In the context of an ageing population more needs to be done in terms of service delivery innovation and workforce activation.

The regions of north and eastern Finland face common challenges relating to an ageing population and declining workforce

The north and eastern regions of Finland all face the challenge of an ageing and in most cases declining population. Fertility rates that are below natural replacement rates, and there are high rates of youth outmigration, especially younger females with higher levels of education. These trends are more pronounced in rural areas of these regions. Northern Ostrobothnia is the exception to these trends and has experienced a growing population over the past 30 years which is centred on the city of Oulu and has a younger population. The population of Central Ostrobothnia has grown, albeit at a very slow rate over the same period. As set out earlier in the chapter the remaining regions have experienced population decline and ageing which is above the national average to varying degrees. At the other end of the spectrum Kainuu has experienced a population growth rate of -0.80% in the period 1990-2014 (compared to the national average of 0.37%), and has an elderly dependency ratio of 38.12 (compared to the national level of 31.31). There are a number of different challenges this presents for the north and eastern regions of Finland.

To varying degrees, the regions of north and eastern Finland face medium to long term risks associated with population ageing and a declining workforce. Despite current concerns with low levels of employment, there is a long term concern that the current labour force will not be replaced due to low rates of fertility, high rates of youth outmigration, especially by young females, and limited immigration. The case studies draw on demographic projections prepared by Nordregio at a municipal level (Nordregio, 2016). Nordregio uses two measures to assess the ability of the current labour force to be maintained. The first constructs the ratio

of the current cohort of 15 to 25 year olds to the current cohort of 54 to 64 year olds to see if there are enough new workers about to enter the labour force to potentially replace those about to exit. A ratio of less than one indicates too few new workers. Second, they calculate a gender balance to see if there will be enough females in the municipality to allow sufficient new births to, in principle, allow natural replacement to occur. This is done by taking a simple ratio of the number of females that are in the 15 to 24 age cohort and dividing by the number of males in the parallel cohort. A number less than one indicates a problem with the rate of natural replacement. The vast majority of municipalities across north and eastern Finland are facing a declining workforce and population. The exception is generally the main cities within each of these regions.

The regions are not maximising the potential of their existing labour force

In the context of structural change there are significant segments of the working age population who are disengaged from the workforce. The northern regions – to varying degrees – face a legacy of economic restructuring which has left some communities with higher levels of unemployment and disengagement from the workforce, and low skills. These problems are concentrated spatially in rural areas where forestry used to dominate and in small towns and cities where there was restructuring of the processing industry. These problems tend to be more prevalent amongst young and older men. The case studies of the Finnish NSPA regions show that both ends of the labour force in the north and eastern regions face employment challenges. Older workers are harder to retrain and can be less attractive to potential employers, especially if they do not have direct experience in that industry. In this case discouraged workers may withdraw from the labour force or seek work-related disability benefits. There are generally higher levels of working age people receiving welfare benefits in these regions. For youth a parallel problem occurs when young workers, particularly those with weak skills cannot find employment. Youth unemployment levels for these regions are generally higher than the national average. Labour markets in rural areas generally cover a very large territory with a dispersed population, so they are not especially well integrated, and this reduces scope for labour market matching.

In turn, these demographic and labour market trends place pressure on the delivery of services in rural locations. Outside of major population centres both public and private services are more limited and harder to access. Small communities with low rates of employment are less attractive for private enterprise, and more costly for government to serve. While Finland has a strong tradition of providing high quality services across its entire territory there will be increasing pressure on these arrangements in the future. Because many social services are provided at a municipal level it can become increasing costly to support service provision as populations in rural municipalities decline. An ageing population that requires more high cost services and the reduction in populations in smaller and more remote communities (in part due to weaker service availability) will create increasing gaps between larger and smaller communities.

Urban growth and improving broadband connectivity will go some way to addressing these challenges

One trend which will help address demographic and labour market challenges is the concentration of population into fewer places. This settlement structure will increase the size of functional labour markets which will help diversify these economies and the number of jobs which local people can access. Greater concentration of population will also reduce the costs of delivering public services. Larger urban areas also tend to be more attractive to younger people. These benefits to do not accrue automatically and will require sustained and

co-ordinated investment in new infrastructure and amenities that improve how these cities function, and provide social and economic opportunities for the people living there. An important growth strategy will be improving linkages between these cities and the rural areas surrounding them. This will improve connectivity for business, and the scope for people to access a greater diversity of jobs and services.

Increasing access to broadband will help improve access to services. Finland in general has embarked on a major effort to expand broadband coverage and much of the region now has access although there are remaining gaps in some smaller and more remote municipalities. Broadband is becoming more important as a mechanism for new ways to deliver public services in rural regions and there numerous examples of how municipalities have utilised broadband in innovative ways to deliver services. Strengthening broadband capacity and more importantly ensuring that individual households have the ability to fully utilise it will be essential in future years due to the combination of the exceedingly high cost of delivering health care services to the elderly in remote places and the growing share of the population in more remote communities being elderly. ICT also offers great potential for new ways of delivering both formal education in smaller communities, for delivering tailored training programmes to individuals in the workforce, and for increasing the efficiency of local government. Once again Finland has a long tradition of utilising ICT for these purposes.

Regional recommendations focus on service delivery innovation and inclusive growth

In response to these issues recommendations relate to two main themes: i) developing an integrated approach to service delivery innovation for rural communities; and ii) improving entrepreneurship, employment and skills outcomes, particularly for vulnerable and excluded communities. In relation to the first point there is a lot of good work already going on, particularly in the health system. However, not all regions are at the same level and there is scope to further extend accessibility for rural communities. This will require further investment in broadband capacity, and measures to build capacity and embed e-services in the work of service providers at a regional and local level. The second issue emphasises a collaborative approach to maximising the value of the potential workforce of these regions in the context of an ageing population. Some groups, particularly in terms of younger people, older men, and newly arrived migrants face additional barriers to workforce participation. These issues also tend to be concentrated within particular places. There is greater scope to address these issues in a more co-ordinated way at a regional level.

The coming regional reforms offer the potential to address these issues in a systemic way

The proposed regional reforms will also provide an opportunity to promote service delivery innovation. These reforms will be canvassed further in the following section of the chapter. The aim of the reforms is to ensure equitable access to health and social services in the future by shifting responsibility for these services from the local to the regional level. The government is also proposing to introduce competition into the health and social care system enabling consumers to choose between different public and private providers. Regions will be given greater decision-making autonomy over the design of services and will also be given responsibility for: rescue services, the duties of the regional councils, the duties of the Centres for Economic Development, Transport and the Environment within the scope of regional development and business finance, and possibly also environmental health care (Ministry of Social Affairs and Health and Ministry of Finance, 2015). These changes should generate economies of scale and increase the scope for co-ordination between different social services. However, the benefits of these reforms will diminish unless there is a coherent strategy for

ensuring access to services for rural communities. This includes access to sufficient broadband capacity at a competitive and equitable price, and ensuring that people have the skills and capacities to utilise these services.

Policy areas that have not been considered as part of the regional reform are education and training, and employment. These policy areas are important for addressing the lower participation/higher unemployment experienced by certain population groups – young people, older men, and newly arrived migrants – in north and eastern Finland. Some of the challenges here are structural and relate to employment regulations, incentives for shifting into employment, and lack of flexibility in wage setting (OECD, 2016a). The government is taking action on some of these areas including reform of unemployment benefits. However, further effort is needed on policies to increase workforce participation and improve education and skills outcomes for groups including young men and immigrants (OECD, 2016a). Regional policies can also complement these structural reforms to improve workforce and participation skills outcomes. For example, the European Social Fund (ESF) plays a key role in providing support for workforce and skills initiatives and is delivered at a regional level. As shown in Chapter 1, and earlier in this chapter, geography is also important in understanding labour market performance at a regional level. These regions are characterised by one larger labour market organised around the major city, and smaller labour markets in rural areas. These labour markets perform differently with local variations in workforce participation, unemployment, and people on unemployment security and other benefits. The ELY centres currently play a role in terms of providing guidance about labour demand within each region. However, this needs to be strengthened with greater flexibility provided for service providers to shift resources and adapt services to meet local and regional needs.

Box 2.3. **Workforce development in an evolving rural economy**

Workforce development and skills are a key part of any good practice of regional development strategy. The Choctaw tribe in Mississippi is a good example of this. It has relied upon an evolving workforce development strategy as a key part of an economic development effort that has reduced unemployment rates on the reservation from about 80% in 1969 to under 2% in 2007 while increasing the tribes population from 3 000 members to almost 9 700 in the same period. Initially the tribe had mainly low skilled workers, with the majority of members having less than a secondary school education. Early development efforts targeted firms that could use these workers, but at the same time the tribe invested its resources in: improving education, targeted training to provide firms with skills they currently required and broader skill development to attract firms with higher skill needs than the first round of employers. This strategic approach was important in allowing the Choctaws to overcome the loss of most of their first round of employers to Mexico after the NAFTA trade agreement was implemented in 1996. In response the tribe shifted to a tourism based strategy that created a wide range of jobs from low-skilled to high skilled. In addition to tourism the steady improvement in workforce skills has allowed higher skill manufacturing to remain an important source of employment.

The Choctaw nation provide compelling evidence that linking economic development strategies and workforce training programmes in an integrated and evolving way can contribute to improved standards of living and retaining local populations. While the Choctaw had some advantages in the form of access to funds restricted to indigenous people, they also faced some clear disadvantages in the form of high rates of poverty, low skills, a remote rural location and prejudice. A key point in the strategy is that the tribe recognised the necessity to partner with other organisations that could provide complementary workforce training resources including, firms, local community colleges, and state and federal agencies as the levels of skill they were trying to develop increased beyond their own capability.

Source: Froy, F., S. Giguère and A. Hofer (eds.) (2009), *Designing local skills strategies*, http://dx.doi.org/10.1787/9789264066649-en.

Governance arrangements for regional development

The national level has a key role in economic development and infrastructure

At a national level the Ministry for Economic Affairs and Employment takes a lead role for regional development policies, which is important because it links regional policies with key structural policies. The areas of regional policy responsibility include the design and allocation of the EU structural and regional policies in the country, regional development policies at a national level, and the ELY centres. The Ministry also has responsibility for policies related to business regulation and financing (including innovation and industry policies), energy (including energy efficiency and climate change), competition and consumer law, and the labour market (including the integration of migrants).

There are a range of other national Ministries which have a direct interest in regional and rural development. Key points of co-ordination are in relation to rural development, forestry and agriculture (the Ministry of Agriculture and Forestry), transport and communications infrastructure (the Ministry of Transport and Communications), and higher education, research, and skills (the Ministry of Education and Culture). Indeed, the main levers for regional development are located at the national level, which emphasises the importance of co-ordination with local municipalities and regions. The main areas of responsibility are set out below.

Table 2.14. **Regional and rural development responsibilities at the national level**

Ministry	Areas of responsibility
Ministry of Education and Culture	• Co-financing of EU structural funds • Financing and co-ordinating national education and research policies
Ministry of Agriculture and Forestry	• State's co-financing to rural development and fisheries programmes • Agricultural and forestry policies (including bioeconomy) • National rural policy
Ministry of Transport and Communications	• Maintenance of basic road networks • State aid for construction and maintenance of airfields • Purchasing and development of public transport services • Co-financing of EU structural funds
Ministry of Social Affairs and Health	• Co-financing of EU structural funds • State aid to municipalities for projects in social affairs and health
Ministry of the Environment	• Co-financing of EU structural funds • Support for land-use planning and environmental protection

The ELY centres play an important role as state regional bodies in the delivery and co-ordination of national level responsibilities at a subnational level. The ELY come under administrative responsibility of the Ministry for Economic Affairs and Employment. They also join together a number of responsibilities from other Ministries (Environment, Transport and Communications, Agriculture and Forestry, Education and Culture, and the Interior). ELY centres have three areas of responsibility:

- business and industry, labour force competence and cultural activities
- transport and infrastructure
- environment and natural resources.

There are 15 ELY offices across the country and some of them take care of these responsibilities on behalf of other regions (this is the case for Kainuu, South Savo and

North Karelia). There is an ELY centre for each region in north and eastern Finland with the exception of Central Ostrobothnia which is integrated with Ostrobothnia.

Finland is a unitary country, with a local government system composed of 313 municipalities and one autonomous region (Åland). Finland is one of the most decentralised countries in the OECD. Local authorities are responsible for a very large share of public expenditure (41% of total public expenditure in 2014), and have wide responsibilities, in particular in the sectors of education, health care and social protection. Their functions include schools, hospitals, health centres, social welfare, water supply and sewage services, and energy. Local governments in Finland are also a crucial actor in terms of public investment, representing 53% of public investment in 2014 (OECD, 2014b). Apart from giving them wide-ranging responsibilities, the Finnish constitution and subsequent laws grant municipalities a high degree of autonomy in terms of revenue and local management.

Governance of regional development at a subnational level

Co-ordination between the local and national levels is critical in designing and delivering regional development policies. Control over the main levers for economic development and infrastructure – innovation and entrepreneurship, transport and communications infrastructure, and rural development and industry policies – are located at a national level. The ELY centres play a key role in facilitating a co-ordinated approach to these different national policy areas at a regional level (including economic development, skills, transport and environment). The regional councils are currently responsible for regional development strategies and programmes, and physical planning, and may have other responsibilities including cultural planning and planning for transport. Local municipalities have the main responsibility for delivering social infrastructure and services. This includes education and training services and health care, and they currently have a much greater level of funding responsibility than the regional level.

Regional councils were created in their present form by the Regional Development Act of 1994. One specific characteristic of the Finnish system is that regions are constituted by aggregation of their municipalities, through their representation in the regional council. This means that in Finland, the classical scheme of decentralisation entailing devolution of certain powers to the regional level is not applicable. The regional councils are less the result of a delegation of powers from the central level than that of a sharing of powers between the municipalities themselves. Practically, co-operation between municipalities takes place through regional councils offering the critical size required for economic development strategies and joint municipal boards fostering collaboration in a smaller area. The major difference between the two resides in the fact that the former have the power to decide the use of state funds which is not the case for the latter.

The purpose of regional councils is to ensure that regional planning and development are steered and co-ordinated adequately across the country as a whole. These councils, by law, have two main tasks: i) regional development; and, ii) regional land-use planning. Within these broad tasks they undertake a number of different functions including: presenting objectives for regional infrastructure planning, leading regional and international co-operation, co-ordinating EU regional development programmes, developing a framework for business activities; and, looking after regional interests. Regional councils have no power of taxation. They are joint authorities formed and principally funded by their member municipalities, each contributing in proportion to its population. Regional Councils are significantly smaller than local municipalities. The total number of staff of all offices is about

650 persons and the budgets about EUR 50 million, or slightly less than EUR 10 per resident (Local Finland, 2016).

Each region has an assembly, elected by the municipal councils. Members of this assembly have to be members of the municipal councils and each municipal council elects its own representatives. Representation of municipalities in the assembly is proportional to their population. The Assembly elects a Board and appoints a Chairman of the Board. The head of the regional council, a civil servant appointed by the Assembly, is also managing director of the regional staff office assisting the regional council in its administrative tasks.

Each region in north and eastern Finland has established governance arrangements to ensure a collaborative approach to delivering their regional programme. Each region generally establishes a partner body to oversee the implementation of its Regional Development Programme. These committees include the Regional Council and its member municipalities, state authorities and key social partners including business associations and representatives of civil society. Some regions have also established different thematic sub-groups to oversee and co-ordinate implementation of regional development initiatives. For example North Karelia has established nine thematic groups covering topics such as forests and the bioeconomy, Russia, education and foresight, transport, tourism and mining. There are also various voluntary collaborations between regions in north and eastern Finland. There is also the voluntarily formed co-operation area of eastern and northern Finland, and Euregio Karelia. There are seven regions involved in the co-operation of eastern and northern Finland. In addition, three regions are involved in the eastern Finland co-operation, and four in the northern Finland co-operation. Euregio Karelia is a cross-border collaboration forum of Finland and Russia. Three regions from Finland and the Republic of Karelia from Russia are involved in the collaboration.

Regional reforms and key considerations

In 2015, the government confirmed a major programme of regionalisation. This reform programme is based around setting up self-governing regions elected via direct elections which would receive health care and social services from municipalities. The aim of the reform is to achieve greater efficiencies in the provision of health and social care services, and reduce inequalities in service provision across the country. Elections for the new regional bodies will be held in 2018, and the reform is due to come into force on 1 January 2019.

The approved regionalisation project includes the creation of 18 new autonomous regions with 15 being responsible for their own social and health care services (the last three will organise services in co-operation with other regions). There was intense debate about the number of regions, with proposals ranging from 5 large regions to 19 smaller regions. The government will implement the new autonomous regions based upon the current division of the country into "regional councils" (corresponding to the joint municipal bodies). They will be led by a directly elected regional council and will constitute a new level of government – hence Finland would pass from one to two levels of subnational governments (autonomous regions and municipalities). In parallel, the number of inter-municipal groupings (for joint service provision) will be substantially reduced.

In addition to responsibilities in health care and social protection, autonomous regions will gain functions from current regional councils, the ELY centres (within the scope of regional development and business finance), and rescue services. The legislation under preparation could include a special provision for autonomous regions with insufficient resources. They might seek approval from the central government and provide services in co-operation with another region; the resource capacities of each autonomous region will be

assessed at least every five years. The national government will play a strategic oversight, monitoring and funding role in the new system. The national government will have primary responsibility for financing the regions through fiscal transfers. There may be scope in future for regional governments to levy their own taxes. A national joint procurement unit as well as a national support services body, owned by the autonomous regions, is also under consideration. The national government will also be in charge of steering and monitoring, and disseminating best practices.

This reform is a significant change to intergovernmental arrangements in Finland and will transform how health and social care services are delivered. There will also be impacts in terms of regional development policies. In a sense regional development will become a more junior partner in relation to the more resource intensive and larger scale health and social care functions. However, there is also potential for this reform to strengthen regional development policies. These policies will now be formed by an autonomous elected level of government at a regional scale rather than an institution representing municipal interests. This should give more scope to make policy choices and trade-offs which represent regional rather than local interests. The allocation of some functions from the ELY centres will also give the regional level greater control over key policy levers for regional development. The implications of this reform for regional development policy are discussed below.

Stronger policy and co-ordination role for regions

Strengthening the regional level will need to be accompanied by greater capacity for policy development, co-ordination, and monitoring and evaluation. The regional reform programme will change the relationship between the regional and local municipal level. Currently regional councils are relatively small, lack control over resources, and are governed by local municipalities. The regional level will become an independently elected level of government with its own source revenue and significantly expanded functions. Local municipalities will lose their most significant function (health and social care) and will focus in future on education and training, and the provision of local infrastructure. The regional level will need to boost its policy capacities to take a lead role in the design, delivery, monitoring and evaluation of regional development strategies. Careful consideration will also need to be given to how local municipalities and other stakeholders are included in this process. The design of these structures will also evolve from existing arrangements, which already promote a collaborative approach to regional development.

Potential for a more integrated approach to regional development

The regional reform programme has not canvassed changes to how regional development policies are designed and delivered in Finland. Current arrangements are designed around the regional strategy and programme, and the delivery of the EU structural funds with a strong focus on innovation and entrepreneurship and social and welfare issues. There is less of an emphasis on issues related to infrastructure and accessibility. These areas of focus reflect the funding allocations under the EU structural funds, and the differing areas of responsibility for these policies between levels of government. Despite these issues there is scope to broaden the focus of the regional development programme so it is more inclusive of these policy areas. Planning and investment cycles for regional development, economic development, and land-use planning and infrastructure should be better aligned at a regional level. Regions should also take a stronger leadership role in better aligning local education and service providers with the demand for skills from business and public service providers at a regional level.

Better adapt national policies at a regional level

At the moment there is limited scope for regions to tailor and adapt national policies to meet needs and circumstances at a regional level. For example, policies related to employment and training, and transport and communications infrastructure are primarily designed at a national level. Under the current governance model the ELY centres play a key role in co-ordinating planning and investment between the national and regional level. After the regional reform programme is implemented some of these functions will sit with the regional level. The national government will need to establish effective mechanisms to co-ordinate regional development policies at a subnational level. The establishment of an autonomous regional level of government provides greater scope to adapt national policies to the differing circumstances of growth and development across the national territory. There are already examples of this in the Finnish context including the Regional Innovations and Experimentations (AIKO) initiative which sets out three tools for collaboration with regions: i) measures for anticipated structural change; ii) growth agreements with selected cities; and iii) establishing nationally important growth zones. Consideration should be given to how these instruments can be adapted to develop a genuinely whole of government approach to regional development policies, which also gives scope for regions to shape and adapt national policy settings. For example, the regional development programme could be expanded to include agreements about adjustments to employment and training services, or national innovation policies and programmes to deliver on mutually agreed outcomes.

Deepen interregional co-operation

Currently forms of co-operation between the regions of north and eastern Finland are relatively weak and narrow concerning mostly regional development issues. The regional reform programme includes a provision to increase co-operation in the delivery of health and social care services, which is a positive step. However, these regions also share a common set of characteristics including that they are low-density regions, with a harsher climate, and are close to Russia (and Sweden and Norway in the case of Lapland and Northern Ostrobothnia). There is obviously greater scope for these regions to work together on how national policies can be better adapted to better meet their needs and circumstances. The new autonomous regions should explore a more systemic way of co-operating between them so their interests are better represented at a national level, which would help facilitate the design of specific programmes and tools within national policy settings that are better suited to them. This should also increase the scope for co-operation across different policy areas. For example, forming shared priorities related to transport and communications infrastructure investments, and better sharing of resources related to research and innovation. The regions interests should also continue to be represented at an EU level especially via the East and North Finland EU Office.

Strengthen integration with the rural development programme

The Rural Development Programme for mainland Finland (2014-2020) is the tool for the implementation of the European Agricultural Fund for Rural Development (EAFRD) under Pillar 2 of the Common Agricultural Policy (CAP). Objectives of the programme related to resource efficiency, social inclusion and economic development have a strong relationship with regional policy. For example, regional objectives to develop the bioeconomy, diversify SMEs, and extend broadband coverage. The Rural Development Programme is led by the Ministry of Agriculture and Forestry which prepares the rural development programme at a national level with other national ministries, municipalities and other private and third sector actors. There is a risk of disconnect with regional policies particularly as regions become

autonomous and take on greater responsibilities. Consideration should be given to how to strengthen co-ordination between the new autonomous regions and the rural programme (and vice versa).

Developing stronger partnerships between the national, regional, and local levels

The shift to the new autonomous regions will also require a re-thinking of the policy and fiscal relationships between levels of government. Currently, regional councils are responsible for regional development in Finland, and represent the municipalities of their region. ELY centres are the national government's agencies in the region acting under the auspice of the Ministry of Economic Affairs and Employment and represent a number of different ministries (Environment, Transport and Communications, Agriculture and Forestry, Education and Culture, and the Interior). Many of these functions of the ELY centres and the regional councils will be allocated to the new regional autonomous authorities along with responsibility for health care and social protection from the municipalities. There will be a need for close co-operation between the new autonomous regions and the national government in relation to health care, and also the potential for the new regional bodies to adapt the national sectoral policies identified in this report (e.g. innovation and research, education, and transport infrastructure). This is particularly important for the regions of north and eastern Finland to ensure that considerations related to sparsely populated areas are effectively considered in national policies. For this to be achieved mechanisms to support a partnership approach between the levels of government will need to be strengthened. This section sets out some key lessons and examples that Finland and the NSPA regions can learn from in implementing this major programme of regionalisation.

Most OECD countries have developed informal and formal co-operation and co-ordination mechanisms between central/federal and subnational governments to facilitate stronger partnerships between levels of government (OECD, 2011). Within the Nordic countries there is generally a strong focus on in-formal co-ordination mechanisms based on dialogue between political and administrative representatives across different levels of government. In addition to these informal arrangements OECD countries also utilise various formal co-ordination mechanisms as an integral part of their multi-level governance reforms. OECD experiences show that countries with well-developed co-ordination arrangements, such as intergovernmental committees and regular formal meetings, have had a comparative advantage to facilitate the introduction and implementation of future reforms, as it takes time to build co-operation arrangements and trust (OECD, 2013). These types of structures provide a good basis for advice and better understanding of the needs and problems at different levels of government, to submit proposals and comments, to negotiate with the central level and finally to help in the design, implementation and monitoring of reforms.

Formal co-operation arrangements are well-developed in federal countries and in some regionalised states, where vertical co-ordination often takes place through dedicated permanent policy exchange forums or "conferences". In Spain, vertical co-ordination between central governments and regions takes place through the Conference of Presidents created in 2004, chaired by the prime minister and grouping the presidents of the 17 regional governments and the 2 autonomous cities as well as sectoral conferences. There is also a National Commission for local Administration. In Italy, there are three levels of "conferences" between the central and subnational governments which serve as fora for intergovernmental co-ordination: the Conference of State-regions instituted in 1988, the Conference of State-Municipalities and other Local Authorities (since 1996) and the Unified Conference of State-Regions-Municipalities and Local Authorities (since 1997), which includes all the members of the two other Conferences. This type of co-ordination mechanism

is also widespread in Nordic countries where co-ordination is ensured through regular formal meetings held between representatives from central and local government, in particular associations of local governments (Finland, Norway, Sweden, etc.). Consulted on any legislative changes that impact subnational government interests and participating in the dialogue and negotiations with the central government, subnational government associations can play a key role in the reform process.

But it is above all in the fiscal sphere that co-ordination efforts at multi-level have been made since the crisis, in particular to improve the governance of public investment and more globally of public finance. In fact, almost 60% of public investment is carried out by subnational governments in the OECD on average. In nearly all OECD countries, public investment is a shared policy competence, making its governance particularly complex, especially in a context of public finance under pressure following fiscal consolidation strategies. Therefore, managing relations between different levels of government in the field of public investment through co-ordination mechanisms is crucial to strengthen the efficiency and effectiveness of public investment (Allain-Dupré, 2011). Effective co-ordination among levels of government helps to identify investment opportunities and bottlenecks, to manage joint policy competencies, to minimise the potential for investments to work at cross-purposes, to ensure adequate resources and sufficient capacity to undertake investment, to resolve conflict, and to create trust.

The OECD member countries have acknowledged the importance of better governing public investment by adopting the Recommendation of Effective Public Investment Across Levels of Government in March 2014 (OECD, 2014b). The Recommendation groups 12 Principles into three pillars, including one dedicated to the co-ordination across government and policy areas (OECD, 2015a). The Implementation Toolkit provides basic guidance to help policy makers at all levels of government implement this principle in practice, providing concrete examples and good practices from countries such as contractual arrangements between central and SNGs e.g. State-Region Planning Contracts in France (*Contrats de Plan Etat-Region* or CPER) that serve as a key planning, governance and co-ordination instrument in regional development policy.

Box 2.4. **OECD Principles on Effective Public Investment Across Levels of Government**

The OECD Instrument groups 12 principles under three pillars: co-ordination, capacities and framework conditions.

- **Pillar 1:** Co-ordinate across governments and policy areas
    1. Invest using an integrated strategy tailored to different places
    2. Adopt effective co-ordination instruments across levels of government
    3. Co-ordinate across subnational governments to invest at the relevant scale
- **Pillar 2:** Strengthen capacities and promote policy learning across levels of government
    4. Assess upfront long term impacts and risks
    5. Encourage stakeholder involvement throughout investment cycles
    6. Mobilise private actors and financing institutions
    7. Reinforce the expertise of public officials and institutions
    8. Focus on results and promote learning

Box 2.4. **OECD Principles on Effective Public Investment Across Levels of Government** *(continued)*

- **Pillar 3:** Ensure sound framework conditions at all levels of government
  9. Develop a fiscal framework adapted to the objectives pursued
  10. Require sound, transparent financial management
  11. Promote transparency and strategic use of procurement
  12. Strive for quality and consistency in regulatory systems across levels of government

Source: OECD (2014c), *Recommendations of the Council on effective public investment across levels of government*, www.oecd.org/gov/regional-policy/Principles-Public-Investment.pdf.

There have been also particular efforts since the crisis to reinforce intergovernmental fiscal co-ordination in macroeconomic management and multi-level fiscal frameworks to promote sustainable public finances and intensify fiscal discipline across levels of government through co-operation agreements, internal stability pacts and "fiscal councils". These later may have a monitoring, assessment and advisory role. Since the crisis, many have been reinforced or set up (OECD 2015a) particularly in federal countries such as the High Council of Finance in Belgium (and its now official intergovernmental "Consultative Committee"), the Fiscal Advisory Council in Austria created in 2013, the Fiscal and Financial Policy Council in Spain, the German Stability Council in Germany (and its new Independent Advisory Board created in 2013). Several unitary countries have also reinforced or introduced new mechanisms to co-ordinate fiscal policy across different levels of government in line with the OECD Recommendation of the Council on Budgetary Governance (OECD, 2015b) such as Portugal with the Public Finance Council in Portugal established in 2011 or Italy and the Parliamentary Budget Office set up in 2012.

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PART I

Chapter 3

Norway's northern sparsely populated areas

The purpose of this chapter is to provide recommendations about how the national government can work better with the country's northern regions to improve growth, employment and service delivery outcomes. It begins with an overview of the growth opportunities and challenges facing these regions and the policy priorities for addressing them. The second part of the chapter discusses how well national policy settings related to regional development are adapted to the needs and circumstances of northern Norway. The third part of the chapter discusses how to improve governance arrangements for regional development.

Key findings and recommendations

Key findings

- **The three northern counties in Norway (Finnmark, Nordland and Troms) constitute 7.7% of the national economy, 9.4% of the population, and 35% of Norway's land area.** A significant proportion of the country's natural resources, amenities, heritage, and indigenous culture are also located in this part of the country. Petroleum related products makes up two-thirds of Norway's exports. A significant proportion of recent and planned offshore activities are located in the north of the country in the Norwegian and Barents Sea. The northern regions also play an important role in the national energy sector with hydroelectricity and wind power. As the exchange rate has depreciated in recent times due to lower oil prices it is important that the country continues to diversify its economy. Northern Norway is competitive in fisheries and aquaculture and tourism, which are two areas where Norway has opportunities in a global context.

- **Although these regions have strategic assets and opportunities they also face permanent disadvantages related to their location and climate.** Businesses located in northern Norway face longer distances to markets. People generally have to travel further to access services. The population of these places, particularly in rural areas, are also ageing at a faster rate than the country as a whole. There is a higher cost for maintaining public services and infrastructure in these places. Maintaining a certain level of public infrastructure and services in these regions helps ensure people living in remote rural areas have access to similar levels of public services. This support contributes maintaining the level of population needed for production in key export industries such as oil and gas, fisheries and tourism. These regions are also at the forefront of risks and opportunities for Norway and the European Union (EU). This includes the future development of extractive industries and infrastructure in the Arctic region, and geopolitical relationships in the region including with the Russian Federation (hereafter 'Russia'). Securing the prosperity and well-being of the northern regions and the wider NSPA region will help address these risks and opportunities.

- **The absolute advantages of these regions are primarily related to their resource endowments and natural amenities.** All three regions share similar strengths in fisheries and aquaculture, renewable energy, and various forms of nature and cultural based tourism activities. Finnmark is the smallest in terms of population size and the most peripheral. Its economy has a strong dependence upon extractive industries. Nordland and Troms have larger economies but quite different growth dynamics. The economy of Nordland is based around the historical relationship between extractive industries, processing and energy production. By contrast, the public sector plays a more important role in Troms with the presence of the university and hospital in Tromso, and other numerous public administration functions spread across the entire county.

- **Despite relatively high levels of prosperity and well-being in the context of the OECD the regions of northern Norway are lagging compared to the country average.** Compared to the OECD average of USD 35 812, levels of GDP per capita are relatively high in the northern regions (USD 49 869 in Finnmark, USD 49 490 in Troms, and USD 48 883 in Nordland). The percentage gap with the national level in terms of GDP per capita is -16% for Finnmark, -17% for Troms, and -18% for Nordland. In the period 1997-2012 GDP growth for Finnmark was 0.9%; Nordland was 0.56%, and Troms 0.41%, which is on average 1% lower than the rate of growth for the country. The strongest economic performer in the north has been Finnmark with productivity growth at the same level as the country and higher growth in the employment rate. As a result, it has been closing the gap in GDP per capita with the country level. Nordland and Troms have experienced productivity growth rates lower than the country average, and have diverged from the national average in terms of GDP per capita.

- **Norway's regional policy provides considerable support for rural areas and the north of the county through the tax system, and through specific economic and community development programmes.** In addition, the government has a High North Policy which provides specific investments to strengthen growth and competitiveness in Arctic areas. These policies are designed to meet the goal of balanced national development and maintain the existing settlement structure of the country. Overall, the focus of the government's regional policy is relatively narrow (regional planning, broadband infrastructure, and support for business), which reflects the portfolio of responsibilities of the Department of Local Government and Modernisation.

Key findings and recommendations *(continued)*

- **The northern counties take a broad and inclusive approach to regional planning which encompasses a wide range of sectoral policies; however, national sectoral policies are not well adapted or integrated with regional plans.** Realising policy objectives at a county level will be dependent upon improved co-ordination and alignment with sectoral ministries at a national level. Beyond specific programmes funded by the Ministry of Local Government and Modernisation, national policies related to innovation, research and higher education are not well connected to the development strategies of the counties. Similarly, engagement in regards to transport planning and prioritisation at a national level is done in a top-down way and consideration of how these investments contribute to and align with regional development strategies can be strengthened. The regional level also lacks influence over the design and delivery of key social services, which is apparent in the education and skills system.
- **Improving the governance of regional development will go some way to addressing these issues.** Norway currently has a strongly sectoral approach to policies with the national government setting the priorities and funding arrangements through individual ministries. Local municipalities play a strong role in the delivery of public services and infrastructure, however; they are relatively small and this generates complexity in service delivery at a regional and local level. The government is currently preparing a new white paper on regional policy. There are also two white papers that have been prepared on regional and municipal reform which propose some measures to give more power and autonomy to counties and municipalities, and improve mechanisms for vertical and horizontal co-ordination. These reforms should provide the scope for a more integrated place-based approach to regional and rural development.

Recommendations

1. Support **entrepreneurship and innovation** in the northern regions of Norway by:
   a. Enhancing initiatives that **build scale and link together small and medium-sized enterprises (SMEs) to access external markets, and R&D and innovation opportunities** (particularly niche value adding in relation to fisheries and aquaculture, the processing industry, and tourism).
   b. Facilitating **linkages and complementarities between the smart specialisation strategies being developed by each of the three counties**, including scope to link related firms, and building relationships with research institutions in southern Norway and across the NSPA.
   c. Improving **access to finance for local start-ups and SMEs** through a combination of brokering and facilitating relationships with investment funds in the south of the country, and investigating the viability of a venture capital fund for the north based on a community development finance model.
2. Improve **transport and accessibility** for northern Norway by:
   a. Providing targeted regional incentives and support for rural areas (where there is a lack of sufficient scale for private providers) in the northern regions **to address broadband gaps, extend e-services initiatives for rural communities**, and **share good practices** (particularly in terms of providing choices and transition support for school students in remote areas).
   b. Supporting the three northern counties to **develop a joint position on transport priorities which can be considered and responded to within the process of setting priorities in the national transport plan** (a more integrated approach for these regions is justified because of the unique mix of issues related to climate conditions, coastal and island communities, low population densities, and cross-border transport linkages).
3. Strengthen the **role of county councils to co-ordinate skills and education in partnership with relevant stakeholders**. This includes setting strategic priorities for education and training, increasing the scope for adapting and tailoring courses to local needs, and working proactively with businesses (particularly the SME sector) to address skills mismatches.

Key findings and recommendations *(continued)*

4. Ensure the rural and regional policy white paper includes an assessment of **how national sectoral policies can be better adapted to support enabling factors for productivity growth in northern Norway** (e.g. skills, employment, higher education and research, and transport).
5. Improving the **governance of regional development** in the northern regions by:
   a. Supporting municipalities to **organise planning and service delivery at the scale of local labour markets (LLMs)**, particularly to enhance linkages with urban areas.
   b. Further **supporting and incentivising collaboration and joint** ventures **between the three northern counties in the design and delivery of national policies** (for example in relation to the prioritisation and delivery of improvements to the transport network).
   c. Aligning the **geographic boundaries of administrative offices of national ministries** at a regional level to provide a better platform for co-ordination between levels of government.
   d. Strengthening **mechanisms to engage national sectoral ministries** in regional and rural development planning and decision making.
   e. Strengthening the **regional dimension in the government's High North Policy** by ensuring northern counties are engaged in the prioritisation and design of initiatives developed under this policy.

Introduction

Northern Norway makes an important contribution to the national economy through the production and export of goods and services related to extractive industries, energy, fisheries and aquaculture, agriculture, and tourism. These regions constitute over a third of the land mass of Norway and are in a key strategic position close to the Arctic. These areas also face challenges in terms of population ageing, and the ability to maintain access to public services in more remote areas. There is scope to improve how national and regional level governments respond to these issues. The purpose of this chapter is to provide recommendations about how the national government can work better with the country's NSPA regions to improve growth, employment and service delivery outcomes. The chapter finds that the national government should work in a more integrated way with these regions, and give them greater authority and resources to deliver policies which are adapted to the different needs and circumstances of northern Norway. The chapter begins with an overview of the growth challenges facing these regions and the policy responses to address them. The second part of the chapter examines governance arrangements for regional development, and discusses how well national policy settings are adapted to the needs and circumstances of northern Norway.

Growth opportunities and challenges for northern Norway

Northern Norway makes an important contribution to the economic growth and well-being of the country. The three northern counties constitute 7.7% of the national economy, 9.4% of the population, and 35% of Norway's land area. A significant proportion of the country's natural resources, amenities, heritage, and indigenous culture are also located in this part of the country. Petroleum related products make up two-thirds of Norway's exports (OECD, 2016a). A significant proportion of recent and planned offshore activities are located in the north of the country in the Norwegian and Barents Sea. The northern regions also play an important role in the national energy sector with hydroelectricity and wind power. As the exchange rate has depreciated in recent times due to the lower oil price it is important that the

country diversifies its economy. Northern Norway is competitive in fisheries and aquaculture and tourism which are two areas where Norway is competitive in a global context.

In addition to being important to the national economy, northern Norway is also important in a geopolitical sense. This includes energy developments in the Barents Sea, the impacts of climate change and the potential for an Arctic sea route, and relations with Russia. The economic and geopolitical importance is reflected in the government's High North and Arctic policies. These policies set long term objectives to ensure Norway continues to be a responsible manager of natural resources, exercises its sovereignty in the Arctic, and continues close co-operation with its neighbours and allies. Improving the well-being and prosperity of northern Norway and the wider NSPA region will be an important part of managing these strategic risks and opportunities. Policy settings will also need to continue to recognise the permanent disadvantages these northern regions face relative to other areas in Norway. Extreme climatic conditions, relatively small populations and the distances between them mean these regions face unique challenges compared to others within the EU single market.

In the context of these broader opportunities and challenges over the past decade or so the northern regions have experienced economic growth. In the period 1997-2012 GDP growth for Finnmark was 0.9%, Nordland was 0.56%, and Troms 0.41%, which is on average 1% lower than the rate of growth for the country. The strongest economic performer in the north has been Finnmark with productivity growth at the same level as the country and higher growth in the employment rate (Table 3.1). Finnmark has been closing the gap in GDP per capita with the country level, while Nordland and Troms have experienced productivity growth lower than the country average, and have diverged from the national average (Table 3.2). In terms of levels of GDP per capita these are relatively high in the northern regions compared to the OECD average of USD 35 812.

Table 3.1. **Percentage difference between the regions of northern Norway and the national average for key growth indicators (1997-2012)**

	GDP (%)	Productivity (%)	Employment rate (%)
Finnmark	-0.9	0.0	+0.2
Nordland	-1.2	-0.3	0.0
Troms	-1.4	-0.8	0.0

Source: OECD (2016b), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 9 January 2017).

Table 3.2. **GDP per capita gap between northern regions and the national average**

	GDP per capita (USD, 2012)	1997 (%)	2012 (%)
Finnmark	49 869	-17	-14
Nordland	48 883	-13	-18
Troms	49 490	-5	-17

Source: OECD (2016b), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 9 January 2017).

The three regions of northern Norway have a favourable demographic structure at the moment in the context of rural and remote regions within the OECD. Their populations have continued to grow and the ageing of the population is not significantly above national level (with the exception of Nordland). However, population growth rates are much lower than the national level and continued ageing of the population will present future risks. Maintaining living standards will depend upon lifting migration and increasing productivity and workforce participation. An ageing population will also

increase demand for services and this is revealed in the relative importance that health and social services play in the labour market of these regions.

Table 3.3. **Norway's northern regions: Key demographic indicators**

	Population (2014)	Population growth (1990-2014) (%)	Elderly dependency ratio (2014)
Finnmark	75 207	0.06	24.49
Nordland	240 887	0.02	29.30
Troms	162 050	0.42	24.78
National	**5 107 970**	**0.78**	**24.30**

Source: Statistics Norway – Population (https://www.ssb.no/en/befolkning) and OECD (2016b), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 9 January 2017).

The NSPA regions in Norway are small economies where the tradeable sector links to the natural resource base plays a key role. The areas of specialisation vary across these regions (Table 3.4). Each region has a different economic structure which reinforces the need for a place-based approach. Relative to the national level these regions are highly specialised in fisheries and aquaculture and to a lesser extent agriculture. Mining is relatively more significant for the economy of Finnmark. In terms of value-adding manufacturing Nordland has a specialisation in this area linked to the processing industry. Tourism related activity is increasingly important across the three regions, which is revealed in the relative specialisations in accommodation and food services, transport and wholesale trade.

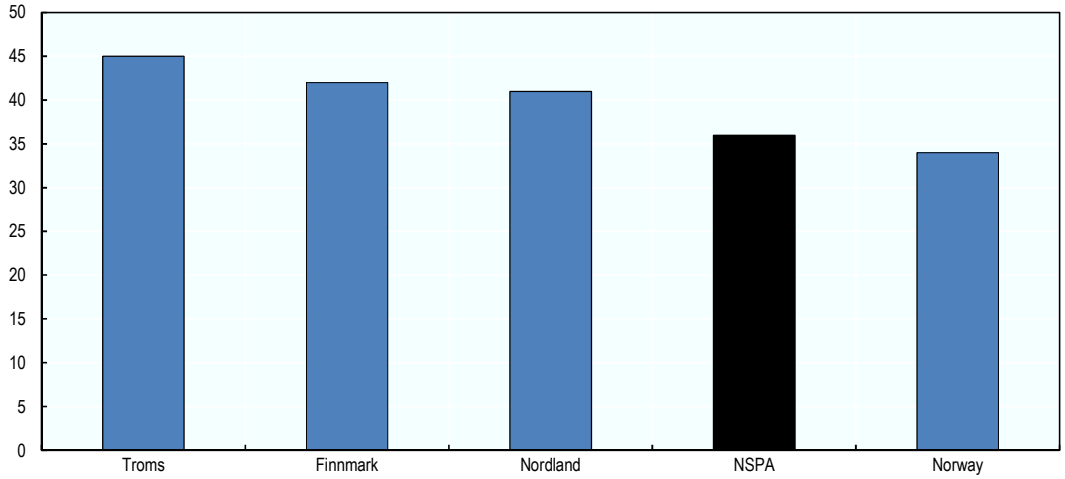
Table 3.4. **Norway's NSPA regions: Areas of specialisation compared to the national economy (GVA, 2011)**

	Agriculture, forestry and fishing	Mining and quarrying, and electricity and water supply	Manufacturing	Accommodation and food services, transport, wholesale trade
Finnmark	**5.22**	0.40	0.60	**1.01**
Nordland	**4.53**	0.02	**1.19**	**1.02**
Troms	**3.01**	0.01	0.60	**1.14**

Source: OECD (2016b), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 9 January 2017).

The public sector also plays an important role in the economies of the northern regions. Employment in the public sector is relatively high in Norway and there is a higher proportion of the labour force employed in the public sector within these regions than the national average (Figure 3.1). This is due to locational and demographic factors which lead to higher public sector spending. The over-representation of the public sector is also a symptom of a weak private-sector economy, and is a risk for the future as fiscal consolidation and population decline in some areas may lead to reductions in public sector employment.

Figure 3.1. **Share of employment in the public sector, 2011**



Source: OECD (2016b), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 9 January 2017).

Box 3.1. **The enabling role of the public sector in economic growth and competitiveness**

The public sector can also play an important enabling role in the economic growth and competitiveness of the northern regions. Public funded institutions can be established which align with the absolute advantages of the regions and develop relationships with the private sector to generate investment and jobs. For example:

- Nordland is home to a number of important national institutions which relate to the absolute advantages of the region and has enabled it to build expertise in certain areas. Bodø houses the seat of the Joint Rescue Co-ordination Centre for Northern Norway, the Civil Aviation Authority of Norway, The Armed Forces Operational Headquarters and the administration of the Norwegian Public Health Care for the northern regions. The Royal Norwegian Coastguard also has their headquarters in Sortland municipality. Andøya municipality is the home of Andøya Space Center and the Norwegian Centre for Space-related Education (NAROM). These institutions are important because they help develop specialised skills, attract related private sector firms, and also provide scope to build research and training expertise.
- The University of Tromsø and the University Hospital of Tromsø also play an important role in the economy of the Troms County. The university hospital provides research, education and training for medical staff, and also has a role in facilitating health care innovation across northern Norway and beyond. The University of Tromsø has an increasing focus on aligning education and research with existing and potential growth industries in the region. For example, the university works closely with several nationally leading companies within the field of satellite based remote sensing to help them use research based knowledge to develop new commercial applications.

The northern regions in Norway have a small range of absolute advantages primarily related to their resource endowments. They have been able to diversify activities related to these advantages in terms of processing and the provision of specialised professional and technical services. All three regions share a common strength in fisheries and aquaculture, renewable energy, and various forms of natural and cultural based tourism activities. Finnmark is the smallest in terms of population size and the most peripheral. Its

economy has a strong dependence upon extractive industries. Nordland and Troms have larger economies but quite different growth dynamics. The economy of Nordland is based around the historical relationship between extractive industries, processing and energy production. The public sector plays a more important role in Troms with the presence of the university and hospital, and other public administration functions.

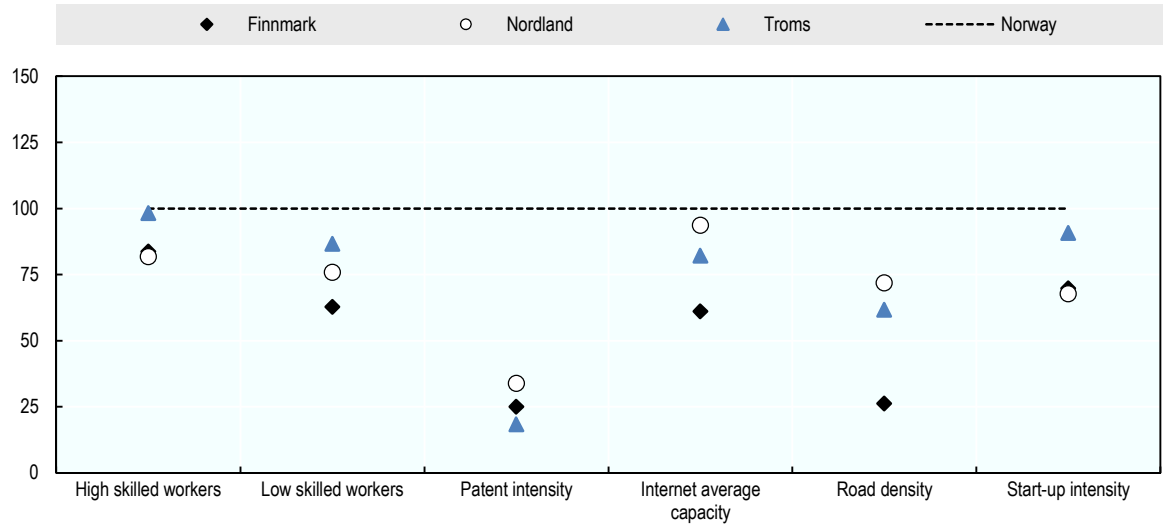
Table 3.5. **Norway's NSPA regions: Absolute advantages**

Region	Absolute advantages
Finnmark	Proximity to Russia and the Arctic port and industrial centre of Murmansk, oil and gas reserves in the Barents Sea, indigenous communities and heritage, mineral endowments on land, and a coastal and Arctic climate for tourism and aquaculture.
Nordland	Offshore oil and gas reserves, embedded capital and skills associated with the processing industry, renewable energy production, indigenous communities and heritage, specialised services related to the processing industry and offshore activities (including emergency response), and unique coastal and island landscapes which support tourism, fisheries and aquaculture.
Troms	Service sector within Troms including the university, attractive coastal and mountainous landscapes, offshore oil, coastal topography well suited to aquaculture, fisheries, and specialised agricultural and food production.

Source: Analysis based on NSPA case studies in Part 2 of this publication (available online).

The high level benchmarking analysis of the northern regions reveals that these regions are lagging the country in relation to key enabling factors for productivity growth (skills, innovation and business environment, and infrastructure) (Figure 3.2). The only region close to the national average is in terms of high skilled workers in Troms, which would be due to the presence of the university and regional hospital. The low levels of skills are a concern because this is a key determinant for the growth of lagging regions (OECD, 2012). In terms of innovation there is a mixed picture. Given the industry structure, lack of research presence, and remote location the patent levels would be expected to be low relative to the country average. However, start-ups are also low, and there is probably scope to increase this, particularly for activities related to tourism. Internet capacity may be a binding constraint in this sense, which is lower than the national average, and there is also a significant range between the regions, which indicates regionally specific geographic and policy factors. Future prosperity will depend upon building new business opportunities linked to areas of absolute advantage, which can be realised through support for existing SMEs and for entrepreneurs. Continuing to mobilise private and public sector actors through collaborative processes such as a smart specialisation strategies will be important. Bottlenecks and gaps related to transport and communications infrastructure will also need to be addressed. Skills levels and labour market matching, particularly at the lower end will need to be improved. Addressing skills mismatches and improving workforce participation for at-risk groups should be a future priority particularly given the impacts of an ageing population.

Figure 3.2. **Benchmarking Norway's NSPA regions against key growth factors (100 = country average)**



Note: A higher value for low skilled labour force (LF) means the region has a lower share of low-skilled labour.

Source: Statistics Norway – Labour market and earnings (https://www.ssb.no/en/arbeid-og-lonn), Statistics Norway – Technology and Innovation, Internet Survey (https://www.ssb.no/en/teknologi-og-innovasjon), Statistics Norway – Establishes, enterprises and accounts – newly established enterprises (https://www.ssb.no/en/virksomheter-foretak-og-regnskap), Statistics Norway – Nature and the environment, land use and land cover (https://www.ssb.no/en/natur-og-miljo) and OECD (2016b), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 9 January 2017).

Regional policy and governance arrangements

Addressing the growth opportunities and challenges highlighted in the previous section will require a collaborative approach between levels of government, business and communities at a regional level. The national government plays a key role in shaping regional development strategies at a subnational level. This includes setting the policy framework and funding for regional development policy, and setting guidance for the planning and governance arrangements to design and implement strategies at a regional level. In the context of the OECD, Norway has a relatively centralised approach to strategic planning and policy development. This approach has been important in delivering an equitable level of infrastructure and services across the national territory. However, this approach may also diminish the capacity to adapt polices to the needs and circumstances of different places, and integrate across different sectoral ministries. This section of the chapter outlines Norway's approach to regional development policy and governance, and discusses how well it is adapted to its northern regions.

Norway's regional policy framework has a strong focus on balanced regional development

The traditional challenge for regional development in Norway has been the sparse population across much of the country, combined with peripheral areas that experience accessibility problems due to long distances to regional centres and markets (OECD, 2008). Norway's regional and rural policy is guided by a white paper which is released every four years. The key objectives of the current white paper are: i) to ensure

jobs and service provision; ii) to overcome small labour markets and long distances to work; iii) to manage the limited industrial environment and to release growth potential; and iv) to make rural and small urban settlements attractive to live in, especially for young people and women, and to make small and medium-sized towns attractive alternatives to bigger towns and cities.

There is a high level of continuity in Norway's regional policy framework with a strong commitment to balanced regional development and maintaining the features of the existing settlement pattern (OECD, 2010). This territorial structure has been historically characterised by small scattered settlements, particularly in areas of the country with topography such as mountains, river valleys, and fjords. As with many other OECD countries it combines elements of "old" and "new" paradigms of regional policy (OECD, 2010). Within the context of the OECD, Norway's regional and rural policies are underpinned by a strong commitment to equitable public infrastructure and services across the national territory, targeted subsidies and support for businesses in remote locations, and investments which mobilise local assets and opportunities.

The key challenges facing Norway's regions relate to population growth and urbanisation, emerging inequalities, and the lack of competitiveness in certain traditional industries. Two key trends are identified within the government's regional and rural policy. The first is the faster rate of population growth that the country is experiencing with the vast majority of this growth occurring in a small number of major cities particularly in the south. The other is the small number of key industries where Norway is competitive (petroleum, maritime, and seafood). Growth in other industries (tourism related services and manufacturing) are constrained by a high exchange rate and policy settings which support uneconomic forms of production in the case of agriculture (OECD, 2016a). These trends have a particular territorial dimension with northern Norway as one area which is largely disadvantaged by these trends. There are a number of other challenges which are not discussed but are likely to impact upon the future prosperity of northern Norway. This includes the ageing of the population, the costs and benefits of climate change, and the protection and management of natural resources.

Table 3.6. Challenges identified in the white paper for Regional and Rural Policy (2013)

Population growth and urbanisation	Historical trend of population growth concentrating in major urban centres in the south of the country. Many rural areas are struggling to maintain public and private services, and there are pressures on services and housing markets in major cities. Smaller cities in these regions are generally growing and need to be better connected to rural areas.
Skilled jobs	Norway has a high cost base and workers need to upskill in order for firms to be competitive. In areas reliant upon traditional industries that restructured there is a legacy of long-term disengagement from the workforce.
Bifurcation of the economy	Large cities and coastal communities are generally prosperous because they are connected to petroleum, seafood and maritime sectors and the business services which add value to them. Other communities reliant on more traditional industries, and small unconnected labour markets are not (this includes inland areas in the south, and northern Norway).

Source: Ministry of Local Government and Regional Development (2013), *On rural and regional development - Report No.13 to the Storting - summary*, Norwegian Government Administrative Services.

The White Paper No.13 has a strong focus on economic development and competitiveness (Ministry of Local Government and Regional Development, 2013). Six priority areas are identified: i) attractive local communities; ii) public access in a digital world; iii) differentiated business policy; iv) action zone in Finnmark and northern Troms; v) the mountain region; and, vi) state localisation policy. Again, the policy

framework includes elements of the old and new paradigms of regional development (OECD, 2016c). Subsidies and state aid to individual firms plays a prominent role, particularly in compensating the north of the country for its distance to major markets. However, there is also recognition of the different nature of development challenges and opportunities across the national territory, and the need for a decentralised approach led by counties and municipalities working with local communities and other stakeholders. In terms of enabling factors the policy framework has a focus on skills, access to broadband, and regulation. Issues related to transport infrastructure and innovation are not considered as part of the white paper because they are not within the portfolio of responsibilities of the Department of Local Government and Modernisation.

Table 3.7. **White paper for Regional and Rural Policy: Priorities and focus areas**

Priorities	Action areas
Attractive local communities	• Inclusion of local communities in development efforts • Capacity building measures for counties and municipalities • Housing development programme for municipalities facing growth pressures from newly arrived migrants
Public access in a digital world	• Securing access to broadband with sufficient capacity for more communities, including consideration of subsidies in small markets
Differentiated business policy	• Targeted support for low-density regions through the tax system and with direct aid • Programmes for higher education institutions to better match education and training with local labour demand • On-line portal to facilitate information dissemination and sharing for entrepreneurs • Improve framework conditions for resource-based industries (regulatory arrangements regarding environmental approvals and natural resource management)
Action zone in Finnmark and northern Troms County	• Continue incentives and subsidies including depreciating student loans to attract and retain skilled labour in these areas
The mountain region	• 5 year programme of initiatives to develop expertise and networks, and entrepreneurship and innovation in mountainous areas
State localisation policy	• Relocation of public sector employment to deliver more balanced regional development

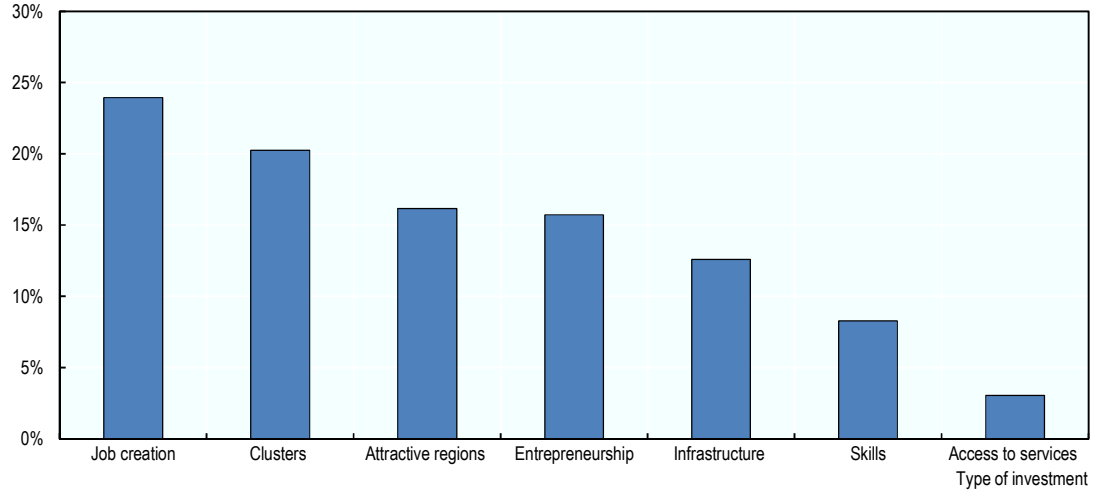
Source: Ministry of Local Government and Regional Development (2013), *On rural and regional development - Report No.13 to the Storting - summary*, Norwegian Government Administrative Services.

The government is currently preparing a new white paper on *Regional Development, Sustainable Cities and Strong Rural Areas*, which indicates some shifts in the policy framework. The new white paper will be set in the context of a more challenging economic environment for the country with a declining petroleum price and currency which is impacting upon public finances and generating higher unemployment, particularly in the southern areas of the country. A changing climate and the impacts of migration and an ageing population are also acknowledged as key challenges. There is likely to be a greater focus on social and environmental objectives including the potential of clean technologies. There is also likely to be a greater focus on cities as growth engines. It will be important that this focus on cities is complemented by the importance of enhancing urban-rural linkages (OECD, 2013). The scope of the national regional and rural policy will also be expanded to include a greater focus on fostering the development of regional innovation systems.

The white paper provides a framework for state aid and regional programme funding

The regional development white paper provides a framework for the allocation of the regional development budget through the Ministry for Local Government and Modernisation. Funding is allocated each year through the national budget. The majority of funding for the current budget period (2015-16) is outlined in Figure 3.3. The total budget for 2014 was EUR 230.4 million. A total of EUR 94.1 million or 41% of this funding was allocated to the three northern counties (compared to their share of the national population of 9.4%). The largest amounts of funding for the northern counties were allocated to support for existing businesses, and physical and digital infrastructure. At a national level close to a quarter of the budget is spent on assistance to existing firms, and 20% on innovation clusters. Other areas of investment include activities to improve regional attractiveness, entrepreneurship and physical and digital infrastructure. The smallest amounts of funding are allocated to initiatives related to skills and access to services.

Figure 3.3. **Norway's rural and regional policy: Areas of investment, 2016**



Source: Department of Local Government and Modernisation, unpublished.

Norway is not a member of the EU; therefore EU regional policy does not directly apply. However, Norway is influenced by EU regional policy in two ways (OECD, 2010). The first relates to Norwegian participation in EU regional policy programmes under Pillar 3 (cross-border and interregional co-operation), where EU rules are applied for Norwegian partners. Secondly, the EU state aid rules represent important framework conditions for the Norwegian rural and regional policies. The regional aid guidelines, guidelines for aid to R&D and innovation as well as the block exemption regulation are all relevant regulations, as is the *de minimis* regulation.

These guidelines define the types of grants allowed at a regional level (purposes/eligible costs), maximum aid and geographical delimitations. These maxima apply to traditional regional aids: regional development grants, regional risk loans and related advice and development support. Core regional investment aid needs to be refreshed, the regional transport aid to be continued (if funding is provided by

interested municipalities). Further, an aid scheme was introduced in 2008 for small, recently established enterprises with growth potential (*Nyvekst*), as permitted under the guidelines.

The most favourable arrangements are in the north of the country which is designed to compensate these places for their low density and distance to markets. It includes a number of measures in the tax system to encourage business and population growth. The policy instruments are: exemption from payroll tax (social insurance contribution); lower personal tax; exemption from tax on electricity consumption; student debt relief/cancellation; wage subsidies for preschool teachers (repealed 2012). The main mechanism for regional financial support is in the form of regionally differentiated employer social contributions. Lower rates apply to five geographical zones: rates range from 10.6% in the southernmost zone to 0% for the northernmost zone, the so-called "Action Zone".

Each region has developed a distinct approach to regional planning within this national framework

Counties in Norway have their own regional planning regime which is set up and approved by the national government. Each county is required to prepare a four year strategic plan, which can set up to a ten year timeframe and sets broad priorities. It also sets out which other regional plans and strategies will be developed over the period, and who will be involved. Regional plans are comprehensive and cover a broad range of economic, social, and environmental issues. These regional plans also provide a framework and guidance for the development of plans at a local municipal level. Each county has its own approach to regional planning. For example, Finnmark has a strong focus on industry sector plans (wind power, petroleum and energy, minerals, fisheries and aquaculture, and agriculture). Nordland on the other hand has developed a Smart Specialisation Strategy which focuses on prioritising investment in innovation for the processing industry (linked to mining), seafood, and tourism.

The three regions share a common focus on promoting research and development, innovation and higher education, upgrading transport and communications infrastructure, and better linking education and training with industry needs. Variations in emphasis come from the different locational assets and challenges faced by them. Finnmark has a strong focus on co-operation with Russia, accessibility for remote communities, and the inclusion of the Sami community in the development process. Troms has a focus on connecting with the High North Policy, industrial development, predictable land management, and improving the quality of secondary school education. Nordland's County Development Plan sets objectives such as strengthening the role of the ten cities as engines of growth for the seven regions in the county, and supporting further industrial and economic development in the region.

The new white paper provides an opportunity to modernise and broaden the scope of regional development policy

Norway's current regional and rural development policy framework has a strong emphasis on seeking to maintain the current settlement structure of the country. In doing so it combines a focus on regional equity and competitiveness. Regional equity is achieved through targeted incentives and state aid provided to businesses in the north of the country. Competitiveness is reflected in the priorities for improving local attractiveness and investing in broadband infrastructure. Overall, the scope of the policy

is relatively narrow (regional planning, broadband infrastructure, and support for business), which reflects the portfolio responsibilities of the Department of Local Government and Modernisation. On the other hand counties have a broad approach to regional development policy which incorporates a range of economic, social and environmental policy issues. Realising these policy objectives at a county level will be dependent upon co-ordination and alignment with sectoral ministries at a national level. In particular, the degree to which ministries such as Health and Care Services, Education and Research, Agriculture and Food, Trade, Industry and Fisheries, and Petroleum and Energy also have a place-based approach which is integrated with the national governments regional policy framework.

There are also some structural changes and trends which are beginning to unsettle the long-term continuity of regional policy in the country. Increasing urbanisation, the lack of diversification in the economy and changes in the oil price, and fiscal constraints are placing pressure on the commitment to balanced regional development. The national government is beginning to re-think its policy framework with a greater emphasis on urban development and regional innovation. These are important steps in the right direction. Cities are key drivers of growth and there is an overall trend across the OECD of higher rates of population growth in urban areas (OECD, 2014d). However, many of Norway's comparative advantages are located in rural areas (oil and gas, maritime, fisheries and aquaculture). It is here where innovation policies need to be adapted to a rural context where formal science based innovation may be absent. This includes working with SMEs on small and incremental innovations. In other cases it will be important to strengthen locally based universities so they can generate and apply new technologies related, for example, to the Arctic climate and industries located in these regions. In addition, consideration should also be given to how the national governments regional and rural policy framework can be broadened to include objectives and measures which encompass other enabling factors for growth at a regional level. This would include education and skills, employment, transport and Sami relations.

Innovation and entrepreneurship: Policy challenges and opportunities

This section of the chapter discusses the key policy challenges and opportunities related to innovation and entrepreneurship, and how the national government can adapt policy settings to address them. The key is for the northern regions to identify where they have niche markets (based on areas of absolute advantage – see Table 3.5) and where they can generate more value related to them. These areas of advantage are mainly directly and in-directly related to the natural resource base of these regions. Opportunities for growth are related to valorising new economic activities in these areas, and diversifying around them. It also relies upon developing new markets for local goods and services, which may exist in urban areas of Norway, or outside of the country. In the case of these regions economic opportunities are primarily related to fisheries and aquaculture, oil and gas, renewable energy, and tourism.

Identification of niche markets will be important for growth related to tourism and aquaculture

Fisheries and aquaculture are growing strongly across the three northern counties but there is further scope for specialisation and value adding. Fish farming has an important flow on effect for local economies. Fish are slaughtered and processed within the region, there are a variety of services that rely on fisheries, and technological

innovation is important to realising efficiencies and growing new markets. The wild fish catch is also significant, and small family owned businesses are predominant in this part of the industry. This has provided an environment where self-employment and small business is an accepted way of life, and indicates there is probably more scope to capitalise on this entrepreneurial culture in other sectors. Fisheries and aquaculture are still based on a strategy of increasing volumes, which carries some risk as more supply comes onto the market within Norway, and other countries such as Canada and Chile. There has been less focus on creating more niche products and value adding within northern Norway. Fostering ongoing innovation including adding additional value through further processing should be a key strategy for the northern counties.

Tourism is also a strength for the three northern counties and is growing strongly. While the northern counties are located far north of the Arctic Circle, which makes them distant from the population centres and markets of Europe, this location has certain advantages for tourism, which is becoming a more important industry. Tourism largely revolves around four elements – the midnight sun in summer, the Aurora Borealis (northern lights) in winter, the presence of a considerable Sami population that still engages in traditional activities and a broad spectrum of outdoor recreation opportunities mainly focused on fiords and islands. The counties are also beginning to more proactively link food production with tourism activities, which is also important in terms of developing a regional food brand and identity. Tourism opportunities are strongly connected to the Hurtigruten coastal shipping enterprise, which is increasing its tourism offer and provides a key marketing role. The key for the region will be creating "add-on" opportunities in fishing, bird watching, kayaking, hiking, mountain-biking and other activities that would encourage tourists to get off the ship for one or two days and stay in the community. Importantly, because no single place is a "destination", a more collaborative effort along the entire Norwegian coast to fully tap this potential is required.

Extractive industries will continue to be important

The oil and gas sector is well-established in northern Norway but continues to be an important source of investment, skills and business development. The oil and gas industry has emerged over the past two decades and provides direct and in-direct benefits for the regions. This includes the on-shore supply of goods and services, investment in transport and energy infrastructure, and emergency response and environmental protection services. The most significant future opportunity for the three northern counties is the increasing exploitation of oil and gas in the Barents Sea including on-shore processing and servicing of the industry through Kirkenes. This is likely to deliver a range of flow-on benefits. It will require a significant upgrade of port and logistics infrastructure in Kirkenes, and also investment in the transmission network to provide power for oil and gas extraction and processing. In addition, there is a requirement that energy for oil and gas extraction comes from renewable sources, which will create further opportunities for investment in wind energy.

There is scope for further collaboration but each region also has particular strengths to build on

Although the regions share common economic characteristics (particularly fisheries and aquaculture, nature-based tourism, and oil and gas) they also have some differences, which reinforce the need for a place-based approach. Nordland has mineral and also significant fresh water resources which have been utilised for energy

production. This reliable and low cost energy resource coupled with the mineral resources has enabled the growth of heavy manufacturing in the region including the processing of metals and minerals, chemical manufacturing and the production of metal products and machinery. The economy of Troms is more orientated to the public sector, and benefits from the location of a major regional hospital, and the Arctic University of Norway. The university's areas of specialisation (marine ecosystems, Arctic environments, telemedicine and biotechnology) align with local advantages and there has been an increasing focus on industry engagement. Finnmark will benefit most from future oil and gas developments, close proximity to Russia, and also continues to have an important mining sector.

There is further scope for measures to strengthen regional innovation systems

There has been an overall trend of improvement in public policies to support regional innovation. There has been significant investment in higher education and innovation infrastructure such as industry parks and business gardens. There are some encouraging new initiatives to help facilitate better engagement between higher education institutions and industry in the region. However, the commercialisation of research and integrating research with business needs is not a traditional strength of these institutions, and the linkages with business are generally weak and still evolving. There is also a lack of demand for research and development from many SMEs within the region. The education level of the workforce is low and there are very few people with academic degrees related to R&D activities, and only a very small proportion of the private sector workforce is engaged in R&D activities.

Innovation within local SMEs tends to happen in an incremental way as different processes and technologies are applied to realise efficiencies in the production process. Entrepreneurs can have difficulty finding support and resources, and engaging with relevant innovation systems. There can be a level of risk aversion due to the lack of venture capital and a supportive environment for start-ups. Venture capital funds are usually located in metropolitan areas and where there is a sufficient density of high potential start-ups and firms. Because these conditions are not usually evident in rural areas other mechanisms such as Community Development Finance Institutions have been established to bridge this gap (see Box 3.2). Other barriers identified in the region include the lack of: private sector finance for R&D, knowledge about market trends and opportunities amongst business owners, informal networks between research institutions and business, and an appetite by business to invest in longer-term research projects.

Box 3.2. **Increasing access to finance for businesses in rural areas**

Community Development Finance Institutions (CDFI)

Financing a start-up can be a particular challenge in rural areas because the financial intermediation system is weak. Incomes are lower in rural areas, leading to less ability for the entrepreneur to raise equity funds from own sources or family and friends. Banks tend to be less capable of assessing business plans and are more risk averse. Start-up costs can be higher in rural areas because facilities may have to be constructed rather than rented and equipment must be imported. Mainstream venture capital is designed to bridge this gap but is primarily designed for high growth/high return ventures which are also not normally evident in rural areas. Rural areas in other OECD countries have bridged this gap through the creation of Community Development Finance Institutions (CDFI) which provides revolving loan funds to local SMEs and start-ups. CDFIs can be banks, credit unions, loan funds, microloan funds, or venture capital providers. The initial capital for the institution may be raised from the local community, other financial institutions, and government. CDFIs are normally accountable to their local community and operate on a not-for-profit basis with legislative and funding support from governments. For example, the United States Treasury provides technical and financial assistance including load guarantees to CDFI across the country.

CDFI: The case of Kentucky Highlands Investment Corporation (KHIC)

Kentucky Highlands Investment Corporation (KHIC) was formed in 1968 as a community development corporation. The main purpose of KHIC's activities throughout its history has been to create jobs within the local community. This has been a challenge due to declines in the traditional industries of coal mining and agriculture. A further challenge has been the fact that 80 percent of venture capital is invested in the east or west coasts of the United States, leaving very little for other regions of the country.

Kentucky Highlands has succeeded in developing ways to attract capital to their region of the country and have had a very large impact on the employment level in their service area. KHIC has taken a dual approach to job creation, using both loan mechanisms and a variety of investment tools to create jobs in the area. A method known as "development venture capital" has been created in order to meet the needs of the local residents. Development venture capital investing involves a more active participation with management of the businesses than does traditional venture capital investing. In order to better carry out its job creation role, KHIC has formed for-profit subsidiaries, including a Small Business Investment Corporation, an industrial real estate development corporation and a management consulting company.

KHIC offers a variety of loan programmes that are each tailored to the size and needs of local small businesses.

- Micro-enterprise Loan Fund: this fund was established to serve very small businesses with loans of up to USD 35 000. Loans are offered at fixed rates for a maximum of 72 months. Loans can be used for either working capital or equipment.
- Small Business Loan Fund: this fund provides loans up to USD 250 000 to small businesses at a fixed rate for periods of 5 to 15 years. Business expansions and start-ups are the types of uses supported through this programme. Working capital, equipment and real estate are all eligible uses for the loan.
- Working Capital or Lines of Credit: these specific needs are typically met through loans of one year. A portion of these loans are sometimes sold to banks. Turning Point Capital Fund is the vehicle for some of the working capital needs. Part of Turning Point's capitalisation came from a grant from US Department of Housing and Urban Development's Rural Housing and Economic Development program. Other funds came from a 2.75% loan from the Federal Home Loan Bank of Cincinnati.

Box 3.2. **Increasing access to finance for businesses in rural areas** *(continued)*

One of KHIC's main tools for creating jobs is through direct investment in small businesses. This offers the possibility of a larger financial return to the KHIC, but also carries with it a larger risk.

- Venture Capital Fund: KHIC is the managing partner in a new USD 12.5 million venture capital fund, the Southern Appalachian Fund, which covers Kentucky, Tennessee, and the Appalachian counties of Georgia, Alabama, and Mississippi. The fund was capitalised through the New Markets Tax Credit Program and includes as partners: Bank One, Concord EFS, Farmers & Merchants, First Bank, National City Bank, and Tennessee Commerce Bank.
- Venture Capital: KHIC has a total of USD 40 million in venture capital funds that can be used for investment in local businesses.

Source: US Treasury (2016), *Community Development Financial Institutions Fund*, www.cdfifund.gov/Pages/default.aspx; US Department of Housing and Urban Development (2016), *Kentucky Highlands Investment Corporation*, http://portal.hud.gov/hudportal/documents/huddoc?id=19564_KentuckyHighlands.pdf.

In response to these issues the main recommendations at a regional level relate to providing more effective support for entrepreneurs and SMEs to better connect them with support for skills, capital, innovation, and internationalisation. The northern regions are at different points in regards to their economic development and innovation strategies. Nordland has developed a smart specialisation strategy which provides a framework to focus on core strengths. Troms is currently developing this framework, and Finnmark has a sector based approach. The regions have also made investments alongside the national government in infrastructure and networks to support start-ups and SMEs. However, more effort is required to prioritise these efforts on a small number of key areas, leverage linkages between sectors (e.g. food production and tourism), and better engage with SMEs and entrepreneurs in rural areas. There is also scope for greater collaboration in areas such as tourism development between the three regions and other areas of the NSPA given their shared economic assets and challenges.

Norway has a history of strong public sector commitment to investment in research and development (R&D) (Smith et al., 1996). As Norway's oil and gas sector since the 1970s it has driven significant structural change in the economy, which includes a reduced role for the manufacturing sector. Revenues from oil and gas have also allowed for higher levels of public sector saving and investment. Innovation policy has been seen as a way to help diversify the economy (Smith et al., 1996). This includes support for R&D through the higher education system, the provision of risk capital, and technology transfer schemes between higher education and research institutions and industry. The government's white paper on innovation, *An Innovative and Sustainable Norway*, sets the framework and direction for innovation policy (Ministry of Industry and Trade, 2009). It includes a focus on simplifying rules and administrative tasks related to business innovation, increasing resources for R&D, and improving access to capital for new enterprises. The national innovation policy is focused on where Norway can build global leadership and does not directly engage at a regional level, or with rural issues. The policy identifies areas of strength at a national level (e.g. fish, tourism and maritime industries) but does not articulate how policy instruments will be adapted to a regional

and rural context. The government's High North Policy (2006) and Arctic Policy (2014) set out commitments for northern Norway to play a key role in the country becoming a world leader in knowledge and innovation related to economic opportunities in the Arctic region. This includes support for research in areas such as fisheries and aquaculture, energy, and the impacts of climate change.

Box 3.3. **Smart specialisation: Policy messages**

A recent OECD report on smart specialisation identified the following key policy messages (OECD, 2015):

- **Policies for entrepreneurial discovery.** The smart specialisation approach calls for an "entrepreneurial selection" of market opportunities (e.g. to minimise failures and to avoid ill-informed policy decisions). While successful companies will constitute the new specialisation of the country/region (self-discovery), the role for policy is to develop a flexible strategy focusing on measurable intermediate goals, identifying bottlenecks and market failures and ensuring feed-back into policy learning processes. The approach includes incentives to strengthen entrepreneurship and encourage agglomeration.
- **Promoting general purpose technology platforms and networks.** Given the range of applications of general purpose technologies, technology platforms involving public and private actors but also standards settings organisation can help increase productivity in existing sectors and help identify sectors in which to concentrate resources.
- **Diagnostic and indicator based tools and infrastructure.** Smart specialisation requires regions and countries to maintain an infrastructure and indicator base to monitor and evaluate performance and policies.
- **Strategic governance for smart specialisation.** Good governance and the development of local capabilities are key to identifying local strengths, aligning policy actions, building critical mass, developing a vision and implementing a sound strategy.
- **Openness to other regions.** The specialisation strategy of regions should take into account that other regions are also involved in knowledge creating activities and that duplication might lead to lower effectiveness and finally failure. Hence, co-operation with other regions with complementary capabilities and strategies is important.

Source: OECD (2015), *The Innovation Imperative: Contributing to Productivity, Growth and Well-Being*, http://dx.doi.org/10.1787/9789264239814-en.

Innovation Norway is the national government's lead agency for innovation and business development. It is co-funded by the national government (51%) and Norway's counties (49%). Innovation Norway provides support for start-ups, makes commercial loans, provides grants to business, and helps facilitate access to global markets. Innovation Norway is an important player at a regional level and is directly involved in the delivery of economic development initiatives with counties. However, there is scope for further support for SMEs particularly in rural areas. One of the key issues identified for the northern counties is to better link SMEs with new opportunities for growth. Firms in rural areas are generally smaller and more isolated and they require support in terms of building absorptive capacity, and brokering relationships amongst firms to build scale and help disseminate information. By building scale and capacity these initiatives can assist small rural areas to develop new skills and competencies, adopt technologies, and access capital and new market opportunities. This requires close engagement with firms and

flexibility in policy instruments. Regional clusters are one way of delivering this support. Clusters were identified by policy makers as important in terms of helping facilitate process innovations, and enabling the public sector to work closely with SMEs in rural locations to build trust and transmit information about new technologies and market opportunities. Another aspect is in terms of access to finance (see Box 3.2). Innovation Norway currently provides commercial loans for firms involved in R&D initiatives so there is still a gap in terms of financial intermediation which can be addressed through instruments such as CDFI. These existing initiatives should be strengthened and expanded to ensure they are inclusive of firms located in rural and remote areas of the northern counties.

Infrastructure and accessibility: Policy challenges and opportunities

This section of the chapter discusses the key policy challenges and opportunities related to infrastructure and accessibility, and how the national government can adapt policy settings to better address them. Accessibility to markets is critical for the future growth of the northern regions of Norway. The key exporting industries of aquaculture and tourism-related services depend upon the capacity to efficiently move goods and people year-round. The overall quality of infrastructure in northern Norway is comparatively high. However, there are challenges presented by the unique topography and Arctic climate. This emphasises the importance of ensuring high quality investment in infrastructure which helps achieve the region's economic development objectives.

Northern Norway's unique topography generates challenges in terms of accessibility

Across northern Norway there is an overall trend of the population concentrating in fewer places. The populations of the larger urban settlements are generally growing at a faster rate than the balance of the region. This trend is an advantage for these regions as it increases the size of functional labour markets and reduces the costs of delivering services. Governments can realise policy complementarities by concentrating service delivery, including administrative services, health care, shopping and so on, in specific places with transport networks organised so as to make them as accessible as possible to the rural population of the surrounding areas (OECD, 2016c). However, there are still significant challenges for the regions of northern Norway related to accessibility and connectivity. Although population and services are concentrating in urban centres these settlements are a long way apart and difficult to access, and many people still live in rural and remote communities. Norway's unique physical geography and topography – a long and narrow country characterised by fjords, mountains and valleys – brings significant challenges in terms of accessibility.

Infrastructure quality is high in Norway and these regions are strategically located

Compared to other rural and remote regions within the OECD the three northern counties have relatively good transportation infrastructure. Norway's infrastructure is considered at a good standard internationally. Norway ranks 17th in the world in terms of quality of infrastructure according to the World Bank's Logistics Performance Index (World Bank, 2016). National roads (the E6 and E8) connect the northern regions to southern and northern Norway, Sweden and Finland. There are regular airline connections to other regional destinations in Norway and Oslo. Tromso also has regular

services to Stockholm, and London. The government also supports airline services to more remote communities. The region also has a number of ports for cruise/passenger ships and fisheries. Transport planning and prioritisation is complex due to the coastal and island geography of the region coupled with multiple transport modes.

Although the northern counties are a long way from the national capital they do benefit from their strategic location close to the Arctic. This includes the relationship with Russia, which provides benefits for these regions, particularly Finnmark, in terms of economic development and trade. Cross-border collaboration is becoming more important as sea freight, fisheries, and oil and gas extraction increases in the Barents Sea. For example, managing biodiversity and disease issues associated with aquaculture, and transport and logistics for the oil and gas industry. Narvik in Nordland is also an export point for iron ore extracted in northern Sweden. The regions of the north share complementary tourism attractions and economic and social ties with Sweden and Finland. This includes wilderness areas for winter and summer tourism activities, Sami culture, and supply chains for industry (Nordregio, 2015).

Addressing challenges related to the secondary and local road network and land-use planning will be important

The quality of key infrastructure linking the northern regions to the south of Norway is high. Although the overall quality of the transport network is good, there are problems related to the secondary and minor road networks. Secondary and minor roads are important in terms of access for rural communities and the supply chain for rural based industries. There is estimated to be a significant existing backlog in roads maintenance across the three counties, and the growth of renewable energy, tourism, and aquaculture are putting new demands on the road network. These regions also face higher costs in the provision and maintenance of infrastructure for remote coastal and island communities. New infrastructure investments, and maintenance and upgrades are important for unlocking productivity improvements and new economic development opportunities particularly in aquaculture. Regional supply chains are also complex and often require different modes of transportation (road, sea, rail and air). Although the northern counties are compensated for geographic factors within the income system, the overall public funds available for transport are declining due to recent reforms. To increase cost efficiency the counties are examining how to improve the efficiency of transport routes and schedules, and maintenance costs, which is important in the context of these reductions in funding support.

Land-use planning is important for the development of the northern regions because it provides a long-term framework to plan land uses and infrastructure connections. These regions have high amenity coastal and inland landscapes that are valued by local communities and are also an attraction for visitors. Economic change generates new land use and infrastructure requirements. Fostering the growth of the tourism industry may require new transport and communications linkages, and the protection of environmental assets and amenities. Traditional indigenous land uses are also important in terms of reindeer herding. These interests can conflict with other rural industries such as aquaculture, mining, and renewable energy. Land-use planning operates within a common legislative framework but is predominantly designed and administered at the local level. Municipalities set their own strategic plans and are not obliged to follow planning priorities at a regional level. If the county or other municipality objects to a planning decision then the County Governor can adjudicate it. The exception to this local role is projects of national significance where the national government becomes the planning

authority. These current arrangements raise the risk of co-ordination failures, and also increase the time and complexity of gaining approval for industry development and new infrastructure (OECD, 2016c).

A more integrated approach to infrastructure and land-use planning is required

In response to these issues the main recommendation at a regional level relates to implementing a more integrated approach to regional transport planning and prioritisation, which includes how these infrastructure priorities align with land use and economic development objectives. Local labour markets (LLMs) in the northern part of Norway are generally small and fragmented due to the challenging topography. The transport network is also complex and often requires movement via different modes of transportation (road, sea, rail and air). Transport planners and decision makers also have to manage the impacts of extreme climatic conditions. These features make planning for the transport network a challenging task. At the same time transport infrastructure is vital for regional competitiveness. As each region develops or updates its economic development strategies it will be important that these objectives are reflected in long-term planning and prioritisation for the transport network. Likewise, land-use planning will also need to be better co-ordinated with long-term planning for infrastructure at a regional and local scale. The regions in the north should focus on how they develop joint positions amongst themselves, and other NSPA regions, to better influence national transport planning and policy settings.

The current National Transport Plan (2014-2023) articulates how the national government intends to support the strategic development goals for the high north. The plan indicates that north-south and east-west connections are important. These priorities are reflected in key projects for the north including upgrades to the E6 (the main north-south national highway), and increasing the capacity of the rail line from Trondheim to Bodo. The rail line currently stops in Bodø, with the only other railway line being between Narvik and Kiruna in Sweden. Most of the road infrastructure upgrades are to north-south connections with some investment in the E105 which connects Kirkenes to the Russian border. The plan also indicates an interest in new border crossing rail connections from Sweden, Finland and Russia to ice-free Norwegian ports. However, there is no funding commitment from the Norwegian government or the other governments of these countries to these projects due to analysis which suggests traffic volumes which are too low to justify the investment. The government also commits to maintaining the national system of decentralised airports to provide access for remote communities. The issue of sea ports and sea-based transport for the high north is not as strongly emphasised in the plan as airports, rail and road. Although there is an overall commitment to increase freight movements by sea, the particular issues related to sea based transport for mainland and island communities in the north is not discussed.

There is currently a new national transport plan under development which will have a 12-year outlook. The next national transport plan is an important opportunity to develop a more integrated and place-based view about transport needs in the north. Counties are already involved in the process for developing the national transport plan but consultation is primarily done in a top down way with input provided by counties and other stakeholders to the national ministry. In developing the next national transport plan it is important that there is an integrated and shared view amongst the northern counties about their priorities for the future development of the transport network. This should be built upon in regional transport plans which are based on close consultation with local industry, municipalities and community groups. Counties will need to ensure that there is

strong alignment between these plans and objectives for regional economic development. In turn, these priorities will also need to align with land-use planning at a county and local municipal level. These plans can then be presented as a package to the national ministry for consideration as part of the next national transport planning cycle.

National transport planning would also benefit from strengthening cross-border collaboration. There are some good examples of cross-border collaboration in regards to transport which involves Finland, Norway, Russia and Sweden, and is supported by the European Commission. For example, the Barents Euro-Arctic Transport Steering Committee's preparation of the Joint Barents Transport Plan is a good example of this type of collaboration. The Steering Committee is part of the Barents Euro-Arctic Council (BEAC) and was established in 1992 as a forum for intergovernmental and interregional co-operation for the Barents region. The Council includes representatives from Finland, Norway, Russia and Sweden. The Barents Transport Plan builds upon national transport plans and strategies to identify projects that will improve connectivity and accessibility across the Barents region. However, there is no regular or co-ordinated mechanism to ensure these priorities are considered in a national priority setting, or to monitor the delivery of projects and ensure they are sequenced and co-ordinated between different jurisdictions.

Demographics, labour markets and service delivery: Key policy challenges and opportunities

This section of the chapter discusses the key policy challenges and opportunities related to demographics, labour markets and service delivery, and how the national government can adapt policy settings to better address them. There is a strong commitment from the national government to maintain the existing settlement structure across the country, and the northern regions of Norway currently have a favourable demographic structure compared to other NSPA regions. Small and fragmented labour markets make the matching of worker skills to employer needs more difficult. In the context of an ageing population more needs to be done in terms of service delivery, innovation and workforce activation.

The regions of northern Norway generally have more favourable demographic conditions than other parts of the NSPA

The northern regions of Norway generally have a more favourable demographic situation than NSPA regions in Sweden and Finland. Over the past two decades the population of the three regions has grown but at a lower rate than the national average. The rate of natural replacement is positive and since 2008/09 the northern regions have been gaining migrants, particularly from overseas. Over recent years refugees and asylum seekers have made up a larger proportion of this intake. Population ageing is not as significant a risk as with other regions in the NSPA, with the exception of Nordland, which is ageing at a faster rate than Finnmark and Troms. These trends are more pronounced in rural areas of these regions. There are a number of different challenges this presents for the northern regions of Norway.

The northern regions still face challenges related to skills and workforce participation

Although the northern regions of Norway have more favourable demographic trends than other rural regions they still face a long-term trend of declining human capital. The

populations of the three northern counties are ageing and the size of their potential workforce is declining. This problem is more acute in the rural areas and the topography and low density of the region means there are constraints to labour mobility. They all have a higher proportion of lower skilled workers and lower levels of tertiary attainment. Girls tend to have higher educational achievement than boys which also translates into more women leaving the region, and this is resulting in a gender imbalance. Maximising the existing human capital of the region is a key challenge in this context.

Skills and workforce development is made harder by small and fragmented labour markets. The northern regions have small populations in total and to a greater degree than other NSPA members the population is scattered across a large number of small settlements that are not well connected, except by sea. This dispersed population means that local markets for any firm are small and hard to expand, even within the county. LLMs are also small and disconnected, which leads to problems for individuals seeking employment, firms seeking workers and the general matching of worker skills to employer needs. However, there is a general trend of population growth concentrating in larger settlements, which should improve the performance of LLMs by increasing the number of workers and broadening the range of skills available.

Some local communities, particularly in rural areas are affected by long-term disengagement from the labour market. Rural areas in the north generally have lower levels of educational attainment and higher levels of disengagement from the workforce. In recent decades there has been significant restructuring of the fishing industry. For example, there are now around 11 000 registered commercial fisherman in Norway, compared with around 20 000 in 2000 (OECD, 2016a). Many of these rural areas are relatively isolated and often reliant on a single industry and a small number of firms for jobs. When firms restructure or close the LLM is too small to absorb them and job opportunities may be beyond a reasonable commuting distance. This restricts labour mobility and results in either people leaving and/or long term disengagement from the workforce. There are also challenges associated with education and vocational training, particularly in rural areas. A smaller workforce and low skills will become an increasing constraint upon regional growth and affect the ability of the counties to achieve their economic development and innovation objectives.

The lower populations of these regions, coupled with small and fragmented labour markets, generates challenges associated with skills mismatches. These mismatches are affecting the private and public sectors. This includes industries such as health and social care, construction, real estate, business services, retail and vehicle repair. Increasing and better targeted migration is one potential solution to this issue. Migration has been an important source of new workers, particularly in construction and tourism related services. However, these migrants are generally temporary and attracted to high wage or seasonal work. The larger number of new refugees and asylum seekers is also seen as a potential source of new workers. However, these migrants face skills, language and cultural barriers, and there is little reason to expect they will stay long term in the northern regions. Cultural dissonance and the severe climate are likely to lead to large outflows once restrictions to movement are removed.

Another key challenge is the sustainability of local services in rural areas

In addition to workforce and skills development these demographic trends also generate challenges in terms of the sustainability of delivering services in rural locations. Outside of major population centres both public and private services are more limited and

harder to access. Small communities with low rates of employment are less attractive for private enterprise, and more costly for governments to serve. While Norway has a strong tradition of providing high quality services across its entire territory there will be increasing pressure on these arrangements in the future. An ageing population that requires more high cost services and the reduction in population in smaller and more remote communities (in part due to weaker service availability) will generate increasing gaps in service provision between larger and smaller communities. Municipalities are addressing these challenges in rural areas by forming partnerships to achieve economies of scale and pool expertise (OECD, 2016a).

One trend which will help address demographic and labour market challenges is the growth of the population in larger centres such as Alta, Kirkenes, Tromso, Bodo and Narvik. This concentration of population will increase the size of functional labour markets which will help diversify these economies and the number of jobs which local people can access. Greater concentration of population will also reduce the costs of delivering public services. Larger urban areas also tend to be more attractive to younger people. These benefits are being realised for Tromso which has developed a critical mass of public and private service industries. These benefits to do not accrue automatically and will require sustained and co-ordinated investment in new infrastructure and amenities that improve how these cities function, and provide social and economic opportunities for the people living there. An important growth strategy will be improving linkages between these cities and the rural areas surrounding them. This will improve connectivity for business, and the scope for people to access a greater diversity of jobs and services.

Another positive trend is the proactive approach the regions are taking to service delivery innovation. For example, Finnmark as the northernmost county with a small population and long distances from markets faces significant challenges related to education and skills. The region has introduced innovations to address the costs of delivering services in smaller communities, problems related to school drop outs, and lower participation in education and training. To address issues related to the transition to employment, relationships have been strengthened between schools and local employers, greater flexibility has been introduced into the delivery of apprenticeship programmes, and labour and welfare officers have been employed within schools to deliver early intervention initiatives. E-technologies have been utilised to deliver remote teaching programmes through a network of secondary colleges, and partnership agreements between primary and secondary schools have been introduced to manage student transitions and share resources. Increasing broadband access and its use in service delivery is helping households and businesses become more connected in spite of the longer distances in these regions. The northern regions have taken a proactive approach with the municipalities to co-invest in improving broadband access in rural areas where it is not viable for private operators. It is important that these initiatives are continued particularly to deliver broadband access for more remote areas, and to encourage further partnerships with the private and community sectors.

Regional level recommendations relate to skills and workforce participation

In response to these issues recommendations at a regional level relate to two main themes: i) promoting innovation and flexibility in the delivery of education and training, ii) improving entrepreneurship, employment and skills outcomes, particularly for vulnerable and excluded communities. In relation to the first point there is a lot of good work already going on, particularly within the school system. However, not all regions are at the same level and more effort is required to better link post-secondary education

and training with the needs of the local economy. Collaboration between municipalities, counties and the national government will be important in delivering a more integrated and tailored approach. This will also require further investment in broadband capacity, particularly for rural communities, and measures to build capacity and embed e-services in the work of service providers at a regional and local level. The second theme emphasises a collaborative approach to maximising the value of the potential workforce of these regions in the context of an ageing population. Some groups particularly in terms of younger people, older men, and newly arrived migrants face additional barriers to workforce participation. These issues also tend to be concentrated within particular places. There is greater scope to address these issues in a more co-ordinated way at a regional and local community level.

Reforms are currently being considered by the national government to give regions and municipalities more power and autonomy and this would provide greater scope to improve education and skills outcomes

Delivering better service delivery outcomes at a regional and local level will depend upon ensuring sufficient flexibility and control over decision making and resources at a county and municipal level. Currently, the national government sets the policy framework, regulations and funding arrangements, and wages and conditions in key service areas, which are then delivered at a county and municipal level (OECD, 2016a). There is also a strong sectoral approach to policy and service delivery, and a lack of effective co-ordination of national ministries at a regional level. Although this system is good at guaranteeing equity across the national territory it can have the effect of reducing flexibility and innovation at regional and local levels. This lack of flexibility is due to the application of nationally applied rules through sectoral ministries coupled with the predominant role of public sector agencies in service delivery. Municipalities are also comparatively small which leads to variations in quality between jurisdictions and complexities in terms of horizontal and vertical co-ordination (OECD, 2016a).

These problems are apparent in the skills system in Norway where problems with horizontal and vertical co-ordination limit the possibilities for delivering an integrated place-based approach (OECD, 2014a). However, this is where the counties could play an important role in terms of better aligning education and training with local and regional economic conditions, and co-ordinating the various stakeholders involved in delivering it. County Vocational Training Boards currently play an advisory role about labour market needs but their roles and responsibilities could be strengthened. For example, by increasing the capacity for counties to adapt and tailor courses in a flexible way to meet the needs of vulnerable communities and displaced workers. These boards could also play a stronger role in engaging local SMEs in vocational and upper secondary education to provide better employment pathways for young people.

In 2014 the OECD worked with the government of Norway on a national skills strategy project (OECD, 2014a). As a follow-up to the recommendations from this project the government will release a national skills strategy for joint efforts and improved skills system effectiveness in early 2017. This will include actions to improve the effectiveness of the skills system at a regional and local level. The government has also recently released two white papers on regional and municipal reform, which propose measures which are currently being considered by the government. These reforms are designed to give counties and municipalities more power and autonomy, and also improve how national ministries co-ordinate with subnational governments. The implementation of

these reforms would improve flexibility and co-ordination in regards to education, skills, and employment policies at a regional and local level, and therefore provide greater scope to improve education and skills outcomes in the northern counties.

Box 3.4. **Linking SMEs with skills development opportunities in Newfoundland and Labrador, Canada**

The Department of Innovation, Business and Rural Development in Newfoundland and Labrador (Canada) is responsible for ocean technology, regional development, trade and export activities, innovation, strategic industries and business development. The department has a strong focus on the growth and expansion of SMEs in rural areas. Integration and co-ordination among government authorities is critical since many departments in the provincial government have some responsibility for labour market development. Intra-governmental co-ordination has helped ensure that the various resources available are being used. Access to capital is a primary consideration for SMEs, but more than money is at stake. To create vibrant enterprises, much is required: improving cluster development, increasing the capacity for innovation, positioning companies to participate in the global economy, access to high-quality education and good-quality public infrastructure.

The department's workplace skills enhancement programme provides non-repayable contributions to SMEs. Training of employees can cut into the SMEs' bottom line if, as often happens, they have to leave to get training. Through this programme, employers have not only been educated, but their productivity and competitiveness have been enhanced by providing support for advanced skills training for their employees, as well as technical skill development, on-the-job training and workplace-specific skills. Most importantly, this training is brought to the local level, and it is also available for industry associations acting on behalf of SMEs. A project for the Canadian manufacturers and explorers of Newfoundland and Labrador helped train hundreds of employees in lean manufacturing, which resulted in significant savings for companies.

For training and skills development, in-depth knowledge of local businesses and SMEs is necessary, beyond simply reading the research and statistics. Each business is unique, and representatives go into the field to talk to them one on one. A business retention and expansion diagnostic tool is used in working directly with companies, and a complete diagnosis of marketing, human resources, financial management, operations, etc. is conducted. Action plans are also formulated with the company. This has helped link the SMEs to more than CAD 3.5 million in programming in a very short period, the majority of which was spent on skills development. The diagnostic approach has made it possible to identify what will make an operator more compatible and productive. In certain cases, new product lines have been introduced, leading to savings from lean manufacturing, savings in resources and so on.

Source: OECD (2014b), *Innovation and Modernising the Rural Economy*, http://dx.doi.org/10.1787/9789264205390-en.

Governance arrangements for regional development

The national government plays a strong role in shaping strategic policy settings

At a national level the Ministry of Local Government and Modernisation is responsible for developing, co-ordinating and overseeing policy related to regional development. The Ministry is also responsible for housing policy, planning and building, local government finances and local administration, ICT Policy and Public Sector Reform, rural and regional policy, and Sami and minority affairs. There are a range of

other national ministries which have responsibility for key issues highlighted in this country analysis and the case studies.

Table 3.8. **National Ministries and key responsibilities**

National ministry	Responsibilities
Labour and Social Affairs	Labour immigration and workforce participation, pensions and welfare policy
Defence	Security and defence policies
Health and Care Services	Policy and funding of health and care services
Children, Equality and Social inclusion	Integration of immigrants
Justice and Public Security	Asylum seeker policies, and immigration
Climate and Environment	Cultural heritage, climate, and biodiversity
Education and Research	Schools, vocational and higher education, and research
Agriculture and Food	Forestry, food and agriculture and reindeer herding
Trade, Industry and Fisheries	Fisheries and aquaculture, mining, industry and trade policies
Petroleum and Energy	Energy, oil and gas
Transport and Communications	Aviation, roads and rail, sea transport and ports
Foreign Affairs	High north and Arctic policies

Source: Government of Norway (2016), *Ministeries*, www.regjeringen.no/en/dep/id933/ (accessed 10 January 2017).

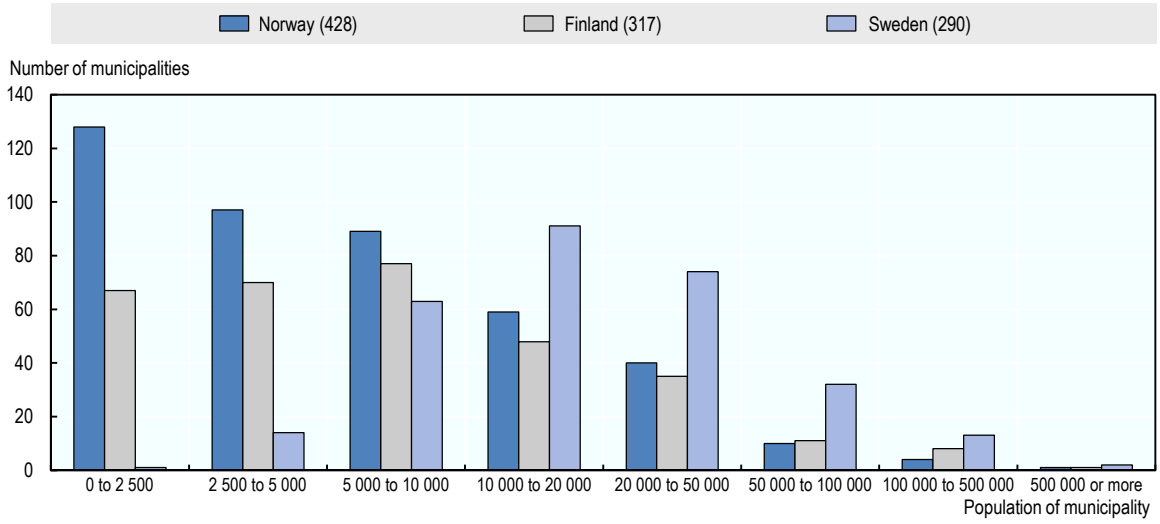
The number of different agencies combined with a tendency for a sectoral based approach to policy and delivery emphasises the importance of vertical and horizontal co-ordination mechanisms. In 2005, the previous government established a Cabinet Sub-committee on Rural and Regional Policy, the first permanent sub-committee on this theme in order to improve policy co-ordination across ministries. Although an advisory body, this was an important step in a country where sectoral ministries are traditionally powerful. The sub-committee was chaired by the Minister of Local Government and Modernisation and had six other ministers as permanent representatives. The committee co-ordinated government measures with substantial regional impact, addressed challenges, initiated interministerial processes, and contributed to setting the political agenda of the government. The Committee was not continued by the current government which was elected in 2013.

State owned agencies also play a key role in the delivery of regional policies. Innovation Norway (IN), a state-owned organisation mainly involved in direct business support, is an active and important regional policy player, in particular through its involvement in the development and implementation of regional development plans and in delivering support at the regional level. IN is funded basically by the three ministries: the Ministry of Local Government and Modernisation; the Ministry of Trade, Industry, and Fisheries; and the Ministry of Agriculture and Food. Industrial development funds are also channelled through SIVA and the Research Council of Norway.

Subnational governments play a key role in delivering investment and services

Norway's sub-national government comprises 19 counties and 428 municipalities of widely varying population (Figure 3.4). Oslo, with a population of around 650 000 or about 12% of the population, is both a county and a municipality. Meanwhile, the smallest county, Finnmark, has a population of 75 000 and nearly 130 municipalities have populations of less than 2 500.

Figure 3.4. **Size distribution of municipalities**



Source: OECD (2016a), *OECD Economic Surveys: Norway 2016*, http://dx.doi.org/10.1787/eco_surveys-nor-2016-en.

To overcome cost pressures and lack of scale and expertise inter-municipal co-operation is frequent in Norway. In 2006, the Local Government Act of 1992 was amended to widen the range of tasks that can be delegated from municipalities and county councils to inter-municipal co-operative bodies. A municipality can also delegate certain tasks and responsibilities for public service provision to another municipality (host municipality). Such co-operation between municipalities seldom leads to voluntary amalgamations. To promote amalgamations, the government assures that during the ten years following a merger, the amount of block grants allocated to the merged municipality will not be reduced. Thereafter, the extra income is phased out during a period of five years. The government also contributes to impact assessments, public hearings and information collection by municipalities in order to investigate the amalgamation possibilities.

Counties and municipalities are responsible for substantial segments of education, health services, social support and infrastructure (Table 3.9). The dividing lines on government responsibilities are, in general, similar to those found in many other countries. For instance, in education local government runs primary and lower secondary schools, regional government is responsible for upper secondary education and some types of tertiary education, while national government runs the university sector. However, there are some unusual features. In particular, in the health care system, primary and secondary services are strongly separated with the former being run by municipalities while the latter are supervised by national government.

Norway combines a highly decentralised system for the provision of economic development welfare services with a relatively centralised system for strategic planning and infrastructure investment. Indeed, 49% of public investment is conducted at the subnational level in Norway – compared to 59% on average for OECD countries. However, this is shifting as subnational investment has been rising over the past 15 years at a higher rate than the OECD average (OECD, 2014c). In the years 2008-13 the main areas of public investment at a subnational level were education (27.2%), economic

affairs (21.9%), recreation (12.6%), housing (11.1%), and environmental protection (9.2%) (OECD, 2014c).

Municipalities, being responsible for public service provision (e.g. primary health, primary and secondary education, and elderly care), have always had a relatively strong position within the Norwegian system while the role of counties has been weaker. However, in 2004 and 2010, counties gained increased responsibility (e.g. regional business development, broadband, main roads and regional R&D). In partnership with the municipalities, Innovation Norway and the private business sector, the counties became responsible for the allocation of financial resources. In this context, regional plans and regional strategies have become more central to regional policy implementation. The county governor is the central government's regional representative. The county councils and the municipal councils are both directly elected and funded through a combination of income taxes and national grants.

Table 3.9. **The division of responsibilities across levels of government**

	Municipal government (428 jurisdictions)	County government (19 jurisdictions)	National government
Education	• Primary and lower secondary school	• Upper secondary school • Vocational training colleges	• University sector
Health care	• Primary health care	• Dental care	• Oversees secondary health care, including 4 regional health authorities for hospitals
Welfare	• Kindergarten services and most child welfare • Safety net support (cash and in kind services) • Elderly care • Housing support		• Most cash welfare benefits • Employment services and labour market training
Water, transport, energy and communication	• Fresh water and waste water • Most hydropower facilities • Local (municipal) roads	• Regional road construction and maintenance • Local and regional public transport	• National roads • National rail system • Telecommunications and energy
Other notable roles and responsibilities	• Local planning and development	• Regional planning development, including attracting greenfield investment and tourism	• National defence, immigration, foreign policy and the justice system

Source: OECD (2016a), *OECD Economic Surveys: Norway 2016*, http://dx.doi.org/10.1787/eco_surveys-nor-2016-en.

Counties have a partnership based approach to regional development

Over the past decade regional plans and regional strategies have become more central to regional policy implementation (OECD, 2014d). Each county's strategic plan sets broad priorities, and also sets out which other regional plans and strategies will be developed over the period, and who will be involved. Regional plans are comprehensive and cover a broad range of economic, social, and environmental issues, and provide a framework and guidance for the development of plans at a local municipal level. As outlined already each county has its own approach to regional planning. A partnership based approach to regional governance has been developed to design and implement regional plans and strategies.

Each of the northern counties has established a regional partnership which includes municipalities and representatives from the private sector, unions, universities and community organisations. The Sami Parliament is also represented in these partnerships. These regional partnerships are used as a strategic forum for planning and co-ordination amongst key stakeholders. For example, municipalities and county authorities can submit plans for discussion and input. These forums help clarify and harmonise national, regional and municipal plans, facilitate information sharing and discussion, and monitor the implementation of planning priorities.

Different subgroups have then been established by each of the northern counties. For example, Nordland has established Plan Forum Nordland, which includes all the municipalities and has a particular focus on discussing community and land-use planning challenges at an early stage, avoiding objections and increasing understanding of different challenges municipal regions face. Nordland has also established sub-groups on agriculture, health, and education which include representatives from the three levels of government and other stakeholders. Similar collaborative structures exist in Finnmark and Troms. These structures are important in facilitating a more co-ordinated approach to regional development prioritisation and investment, and public service delivery across the regions.

This collaborative approach to governance has enabled the development of more sophisticated approaches to regional planning. For example, Finnmark has strengthened its role as a facilitator and broker of relationships across the public, private and community sectors. Strong collaborative networks have been developed between municipalities and service providers, which provide a platform for better co-ordination and service delivery innovation. The latest development plan for Finnmark was informed by a collaborative foresight process. This involved engaging government, business and community organisations across the region to identify how the region will adapt and take advantage of key changes such as the oil and gas industry and geopolitical risks. The 10 year regional development plan and programme now provides a vision, goals and a road map of actions across key policy areas including employment, transport and indigenous issues.

There is scope to develop a more integrated place-based approach to regional development

As outlined earlier in the chapter Norway has a relatively narrow approach to regional policy which is defined within the parameters set by the Ministry of Local Government and Modernisation. This includes regional economic and community development programmes (e.g. business funding, grants for entrepreneurs, and business gardens), lower requirements for social security contributions, and the so-called Action Zone – North (which includes measures such as discounts on various taxes for businesses located in this area). These regional programmes are delivered in partnership with the counties and through Innovation Norway. Other Ministries which make a significant contribution to development in the north are not reflected in the design and implementation of Norway's rural and regional policy (e.g. Labour and Social Affairs, Defence, Climate and Environment, and Agriculture and Food). The Cabinet Sub-committee on Rural and Regional Policy is a positive step, however; there needs to be greater articulation of how sectoral ministries contribute to the regional development agenda.

The government is currently finalising a white paper on Regional Development, Sustainable cities and strong rural areas, which goes some way to addressing these issues.

The white paper includes a focus on cities as drivers of growth and has been prepared in close collaboration with the land use policy agency within the Ministry of Local Government and Modernisation. This close collaboration is important because it will enable a better strategic integration between regional development and land-use policies. In turn, this should help with further integration with infrastructure policy and delivery at a national and local level. Currently, the counties can set planning provisions to protect areas of national or regional consideration or interest, and there is a right for national agencies or municipalities to object to these provisions. Local municipalities set the land-use framework within municipalities. There are limited incentives for co-operation between the regions and municipalities in terms of land-use planning and infrastructure provision (OECD, 2016a). It is not clear within the current proposed reforms how this partnership between regional development and spatial planning will be operationalised at a regional level.

The other key policy areas for regional and rural policy are related to the skills system, and national research and innovation policies. As outlined earlier in the chapter there are problems with horizontal and vertical co-ordination within the skills system, which limit the possibilities for a more integrated place-based approach. There is a need to better articulate how the country's national education and skills policies can better contribute to regional development outcomes. This is important because of the geographical diversity of the country, and the number of small and fragmented labour markets in rural areas. Regional planning and co-ordination can play an important role in facilitating better labour market matching and skills development outcomes, for example the case of competency platforms in Sweden. In terms of innovation and research the Ministry of Local Government and Modernisation provides some small scale programmes. However, there needs to be stronger linkages formed between national innovation and higher education policies and the government's regional development agenda.

Addressing these problems of horizontal and vertical co-ordination will require some systemic changes to the roles, responsibilities and relationships between the three levels of government. The white papers on regional and municipal reforms set directions to give municipalities and regions more power and autonomy to undertake regional development, and improve co-ordination of national and regional policies. This reform is designed to encourage the creation of a smaller number of municipalities and regions (municipalities on a voluntary basis), and it is argued that increased scale will result in more power and autonomy. It is proposed this will also be accompanied by a shift from earmarked to untied grants, and increasing the scale and capacity of municipalities through mergers gives scope to do this (OECD, 2016a). There is also a direction to align regional administrative boundaries of the national ministries, and for the Local Government and Modernisation Ministry to play a stronger role to improve vertical co-ordination, and better engage national ministries in regional planning and decision making.

Delivering on the objectives of the High North policy depends on close co-operation with the northern counties

The Ministry of Foreign Affairs is leading the delivery of policies related to the high north and Arctic. This leadership reflects the geo-political importance of northern Norway and the Arctic region to the county's future development and security. The High North policy aims to promote economic development in the north of the country through investment in research, business development, infrastructure and emergency preparedness (Government of Norway, 2015). The government's Arctic Policy was released in 2014

and includes the following four priority areas: international co-operation, the development of a knowledge-based business sector, knowledge development, infrastructure, and emergency preparedness and environmental protection. This policy sets out a range of initiatives which will impact the three northern counties such as strengthening long-term industry orientated research, marketing for the tourism industry, further investment in the transport network, and a new grants scheme, Arctic 2030, for projects that align with the four priorities.

The co-ordination challenges with the High North and Arctic Policies are three-fold. The first is ensuring that policies and investments are aligned with the national regional development policy, and regional plans and priorities developed by the counties. The second is mobilising other national ministries to adapt national sectoral policies to achieve the objectives of the High North and Arctic Policies. The third dimension is strengthening co-ordination and formalising input from the three northern counties to the design and delivery of this policy. To help address this third challenge the national government established a political forum for dialogue with Nordland, Troms and Finnmark counties and the Sami Parliament in September 2016. The main purpose of the forum is to improve the dialogue and co-ordination between national and regional authorities. There is a common understanding between the national and the regional level on the importance of strengthening and integrating the regional dimension in the government's High North Policies. Over the next six months a new strategy for the government's High North Policy will be developed in close co-operation with these stakeholders.

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PART I

Chapter 4

Sweden's northern sparsely populated areas

The purpose of this chapter is to provide recommendations about how the national government can work better with the country's northern regions (Norrbotten, Jämtland Härjedalen, Västerbotten, and Västernorrland) to improve growth, employment and service delivery outcomes. It begins with an overview of the growth opportunities and challenges facing these regions and the policy priorities for addressing them. The second part of the chapter discusses how well national policy settings related to regional development are adapted to the needs and circumstances of northern Sweden. The third part of the chapter discusses how to improve governance arrangements for regional development.

Key findings and recommendations

Key findings

- **Northern Sweden makes an important contribution to the economic growth and well-being of the country (Norrbotten, Jämtland Härjedalen, Västerbotten, and Västernorrland).** These regions constitute 8.6% of the national economy, 9.1% of its population, and 54.6% of its national land area. Wood and paper, chemicals, minerals and basic metals are all major exports for Sweden and important to the overall economic performance of the country. These industries are mostly located in the north of the country. The northern regions also play an important role in the national energy sector with over half of the country's energy production coming from hydroelectricity. These regions are also at the forefront of risks and opportunities for Sweden and the European Union (EU). This includes the future development of extractive industries and infrastructure in the Arctic region, and geopolitical relationships in the region including with the Russian Federation (hereafter 'Russia'). Securing the prosperity and well-being of the northern regions and the wider NSPA region will help address these risks and opportunities.

- **There is mixed economic performance compared to the national average.** The strongest performers have been the northernmost regions of Norrbotten and Västerbotten. In **the** period 1995-2012 these regions grew at a rate of 2.23% and 1.87% compared to the national average of 2.43%. Norrbotten, in particular has benefited from its strong mining base. Both of these regions have also combined increasing productivity and jobs growth at levels above the national level. The weaker performers have been Västernorrland and Region Jämtland Härjedalen. In the same period the economies of these regions grew at an annual average rate of 0.97% and 0.98% respectively. However, Västernorrland has also had an impressive productivity performance with a significant proportion generated by shedding labour. Jämtland Härjedalen has experienced weakening productivity and jobs growth, particularly after the crisis. Youth unemployment is also rising more rapidly in these regions in the aftermath of the crisis compared with Norrbotten and Västerbotten.

- **There are different growth dynamics in these regions based on their resource endowments, location, industrial industry, and population size and density.** These regions are in the far north, which generates challenges (e.g. in terms of road maintenance) but also significant opportunities (e.g. data centres and technology testing). Norrbotten benefits from iron ore mining and to a lesser extent forestry and related value adding. Västernorrland and Västerbotten have large forest industries but have also been able to develop urban economies based around the provision of public and private services and value-adding manufacturing. Västerbotten also benefits from a significant higher **education** presence and also from mining activity. Jämtland Härjedalen has a strong focus and history of tourism development, and on engineering intensive manufacturing.

- **Although these regions have strategic assets and opportunities they also face permanent disadvantages related to their location and climate.** Businesses located in northern Sweden face longer distances to markets. People generally have to travel further to access services. As such, ensuring that the transport network can accommodate the needs of heavy industry and local communities is important to the future development of northern Sweden. The population of these places are also ageing at a faster rate than the country as a whole. These trends are more pronounced in the rural and remote areas of these regions. However, these problems are off-set to some extent by the concentration of population growth in larger urban centres within these regions and improved access to broadband. Maintaining a certain level of public infrastructure and services in these regions helps ensure people have access to similar levels of public services. It also helps support communities that can help sustain production in key industries such as mining and tourism.

Key findings and recommendations *(continued)*

- **A place-based approach to regional and rural development will be crucial in organising and delivering this approach to investing in key enabling factors.** Consistent with OECD good practice the national regional policy framework *Sweden's National Strategy for Sustainable Regional Growth and Attractiveness* provides a framework for investing in these enabling factors and guides the use of the European Regional Development Fund (ERDF) in the country. Each region's development strategy applies this framework to their needs and circumstances. However, this funding is relatively small, and realising the growth potential of these regions depends upon effective engagement with and influencing of national sectoral policies. In Sweden, national sectoral policies and services tend to be designed in a top down way for the whole national territory. As such, the northern regions are currently not effectively influencing or co-ordinating the delivery of these key national sectoral policies (e.g. skills, innovation and transport infrastructure).
- **Improving the governance of regional development will go some way to addressing these issues.** There are currently three different governance models for regional development across the four northern regions. Two of the regions (Norrbotten and Västernorrland) still rely on national agencies, through County Administrative Boards that take a lead role in regional development. From 1 January 2017 directly elected county councils will take over this role in the two regions. Region Jämtland Härjedalen and Västerbotten have respectively established directly, and indirectly, elected bodies with a mandate for regional development. Of the three approaches, the directly elected model provides the best scope for greater cohesion in setting regional scale priorities, and for more effective co-ordination both with national policies, and at the municipal level.

Recommendations

1. Increase the **productivity and competitiveness** of the northern regions by:
   a. Supporting these regions to facilitate new economic opportunities by **linking smart specialisation strategies with areas of absolute advantage** (including niche manufacturing and services associated with resource extraction, energy production, and forestry, and leveraging the Arctic climate and know-how).
   b. Facilitating **access for small and medium-sized enterprises (SMEs)** related to these core areas of absolute advantage **to build scale, and connect them with opportunities to access external markets, and R&D and innovation opportunities** (particularly specialised services related to the primary sector and health technologies).
   c. Ensuring that **the national tourism strategy includes clear measures to better link and co-ordinate existing marketing and destination management efforts across the northern regions** (for example better linking up efforts along the coast of the Gulf of Bothnia), and facilitate a co-operative approach with regions that have complementary assets in Norway and Finland.
   d. Increasing the scope of Regional Competency Platforms to **adapt vocational training and education and employment services within their region** (including at the scale of local labour markets [LLMs]).
2. Improve connectivity and access to services by:
   a. Providing better incentives and support for the northern regions to **extend e-services initiatives for rural communities**, and share good practices such as the provision of e-health services in the region of Västerbotten.
   b. **Reducing barriers and disincentives for service delivery innovation** in rural communities, including sharing resources and involving voluntary organisations in the design and management of services.

Key findings and recommendations *(continued)*

3. Improve the **governance of regional development** in the northern regions by:
   a. Strengthening **the role of county councils in setting priorities and co-ordinating projects under the European Structural and Investment Funds (ESIF)**.
   b. Improving the **alignment of administrative boundaries of state agencies** at a regional level to provide a better platform for co-ordination between levels of government.
   c. Ensuring that proposals for regional and municipal mergers **properly consider the costs and benefits of these changes for communities in low-density/sparsely populated areas**.
   d. Allocating a **competency for spatial planning and transport planning and co-ordination** to the body responsible for regional development in the region, and ensuring these regional spatial plans are integrated with planning for regional transport and communications infrastructure (thereby helping to facilitate urban-rural linkages and complementarities in land use and infrastructure between different rural municipalities).
   e. Ensuring the **relevant regional level body with competency for regional development has a lead role** alongside the County Administrative Board **in the development of the National Transport Plan**.

Introduction

Northern Sweden makes an important contribution to the national economy through the production and export of goods and services including wood and paper, hydropower and other renewable energy sources, machinery and other manufactured goods, tourism-related services, and mining (e.g. Norrbotten currently accounts for 90% of the iron ore production in Europe). These areas also face challenges in terms of population ageing and decline, and the ability to maintain access to public services in more remote areas. There are a number of issues which governments will need to address to overcome these challenges including facilitating new economic activity and jobs, improving infrastructure, and access to services. There is scope to improve how national and regional level governments respond to these issues. The purpose of this chapter is to provide recommendations about how the national government can work better with the country's NSPA regions to improve productivity, employment and service delivery outcomes. The chapter finds that the national government should better adapt and integrate sectoral policies to the challenges and opportunities facing these regions, and strengthen regional governance arrangements to support productivity and growth. The chapter begins with an overview of the growth challenges facing these regions and the policy responses to address them. The second part of the chapter examines governance arrangements for regional development, and discusses how well national policy settings are adapted to the needs and circumstances of northern Sweden.

Growth opportunities and challenges for northern Sweden

The northern regions of Sweden constitute 8.6% of the national economy, 9.1% of its population, and 54.6% of its national land area. Wood and paper, chemicals, minerals and basic metals are all major exports for Sweden (OECD, 2015). These industries are mostly located in the north of the country. The northern regions also play an important role in the national energy sector with over half of the country's energy production coming from

hydroelectricity, and they also have emerging strengths in bioenergy and wind energy. The economic performance of northern Sweden is important for the country as a whole. In northern Sweden iron and wood is extracted and then processed in larger centres in cities such as Luleå, Umeå and Sundsvall along the coastal corridor. These processed products (e.g. steel products, wood and pulp) are transported further afield to locations in southern Sweden and across Europe. This provides critical inputs for the manufacturing sector in southern Sweden, and for professional and technical services located in the capital. The transportation of these goods, and their importance to the national economy, reinforces the importance of the capacity and efficiency of the transport network for northern Sweden.

The NSPA regions are also at the northern border of the EU. In the next century this region is likely to provide new growth opportunities and potentially security threats for the EU (EU, 2016). This includes energy developments in the Barents Sea, the impacts of climate change and the potential for an Arctic sea route, and relations with Russia. Improving the well-being and prosperity of the NSPA and northern Sweden will be an important part of managing these strategic risks and opportunities. Policy settings will need to continue to recognise the permanent disadvantages these northern regions face relative to other areas in Sweden and the EU. This includes the extreme climatic conditions, relatively small populations and the distances between them.

In the context of these broader opportunities and challenges over the past decade or so the northern Swedish regions have experienced economic growth. There is a mixed performance compared to the national average. The strongest performers have been the northernmost regions of Norrbotten and Västerbotten. Norrbotten, in particular has benefited from its strong mining base. Both of these regions have also combined increasing productivity and jobs growth at levels above the national level. The weakest performers have been Västernorrland and Region Jämtland Härjedalen. Västernorrland also has an impressive productivity performance with a significant proportion of it generated through shedding labour. Jämtland Härjedalen has experienced weakening productivity and jobs growth, particularly after the crisis. Youth unemployment is also rising more rapidly in these regions in the aftermath of the crisis compared with Norrbotten and Västerbotten.

Table 4.1. **Percentage difference between the regions of northern Sweden and the national average for key growth indicators (1999-2012)**

	GDP (%)	Labour productivity (%)	Employment rate (%)
Norrbotten	**+0.67**	**+0.59**	**+1.14**
Västerbotten	**+0.04**	**+0.22**	**+0.19**
Jämtland Härjedalen	-0.85	-0.10	**+0.06**
Västernorrland	-0.96	**+0.56**	-0.47

Source: OECD (2016a), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 9 January 2017).

Levels of GDP per capita are relatively high in the northern regions compared to the OECD average of USD 35 812. The best performer relative to the national level is Norrbotten which has a GDP per capita level 7% higher than the national level of USD 42 082, and has shifted significantly in relation to the national level in the period 1995-2007. This shift is largely due to the increasing importance of mining to the regional economy and rising commodity prices. The other regions have continued to lag the national level and have fallen further behind.

Table 4.2. **GDP per capita gap between northern regions and the national average**

	GDP per capita (USD, 2012)	1995 (%)	2012 (%)
Norrbotten	44 826	-5	**+7**
Västernorrland	38 388	**+1**	-9
Västerbotten	36 975	-11	-12
Jämtland Härjedalen	35 160	-8	-16

Source: \ OECD (2016a), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 9 January 2017).

As with many other rural and remote regions in the OECD, in the same period most of the northern regions have experienced a declining and ageing population. This presents risks and opportunities for these regions. Population ageing will lead to a smaller workforce. Maintaining living standards will depend upon lifting migration and increasing productivity and workforce participation. An ageing population will also increase demand for services and this is revealed in the relative importance that health and social services play in the labour market of these regions. The exception to this ageing trend is Västerbotten which has experienced a low level of population growth (0.51% during the 1991-2005 period), and has a relatively younger population compared to the other NSPA regions. This outcome is primarily due to the city of Umeå which is the administration centre for the region and has a large university and hospital.

Table 4.3. **Sweden's northern regions: Key demographic indicators**

	Population (2015)	Population growth (1991-2015) (%)	Elderly dependency ratio (2015)
Norrbotten	249 987	-0.22	36.79
Västerbotten	262 362	+0.17	32.39
Jämtland Härjedalen	126 765	-0.28	37.41
Västernorrland	243 061	-0.30	38.72
National	**9 747 360**	**+0.51**	**30.56**

Source: Statistics Sweden – Population Statistics,http://www.scb.se/en/finding-statistics/statistics-by-subject-area/population/population-composition/population-statistics/ and OECD (2016a), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 9 January 2017).

The NSPA regions in Sweden are small economies where the tradeable sector linked to the natural resource base plays a key role. The areas of specialisation vary across these regions (Table 4.5). Forestry is an important sector across all the regions. Norrbotten is highly specialised in the mining industry with the iron ore mine at Kiruna. The processing industry is relatively more important in Västernorrland and Västerbotten. In terms of the services sector tourism plays an important role, in particular for Jämtland Härjedalen.

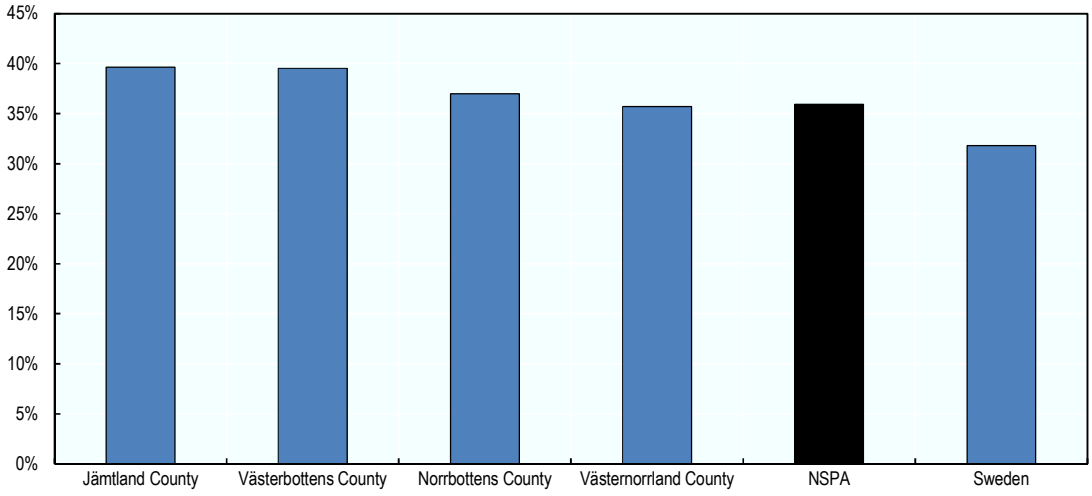
Table 4.4. **Sweden's NSPA regions: Areas of specialisation compared to the national economy (GVA, 2012)**

	Agriculture, forestry and fishing	Mining and quarrying, and electricity and water supply	Manufacturing	Accommodation and food services, transport, wholesale trade
Jämtland Härjedalen	**5.0**	0.8	0.4	0.9
Västernorrland	**3.1**	**1.7**	0.9	0.8
Västerbotten	**2.4**	**2.5**	0.9	0.8
Norrbotten	**2.0**	**28.3**	0.5	0.9

Source: OECD (2016a), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 9 January 2017).

The public sector also plays an important role in the economies of the northern regions. Employment in the public sector is relatively high in Sweden and there is a higher proportion of the labour force employed in the public sector within these regions than the national average (Figure 4.1). This is due to a comparatively lower proportion of services employment in these regions, and locational and demographic factors which lead to higher public sector spending. The over-representation of the public sector is also the symptom of a comparatively weaker private-sector economy, and is a risk for the future as fiscal consolidation and population decline in some areas will most likely lead to reductions in public sector employment.

Figure 4.1. **Share of employment in the public sector, 2012**



Source: OECD (2016b), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en (accessed 9 January 2017).

The common thread linking the growth dynamics of these regions are a small range of absolute advantages primarily related to their resource endowments. These regions are also part of the Arctic which generates challenges (e.g. in terms of road maintenance) but also significant opportunities (e.g. data centres and technology testing). Västernorrland and Västerbotten have also been able to develop urban economies based around the provision of public and private services and value-adding manufacturing. Jämtland Härjedalen has a strong focus and history of tourism development, and small-scale engineering intensive manufacturing.

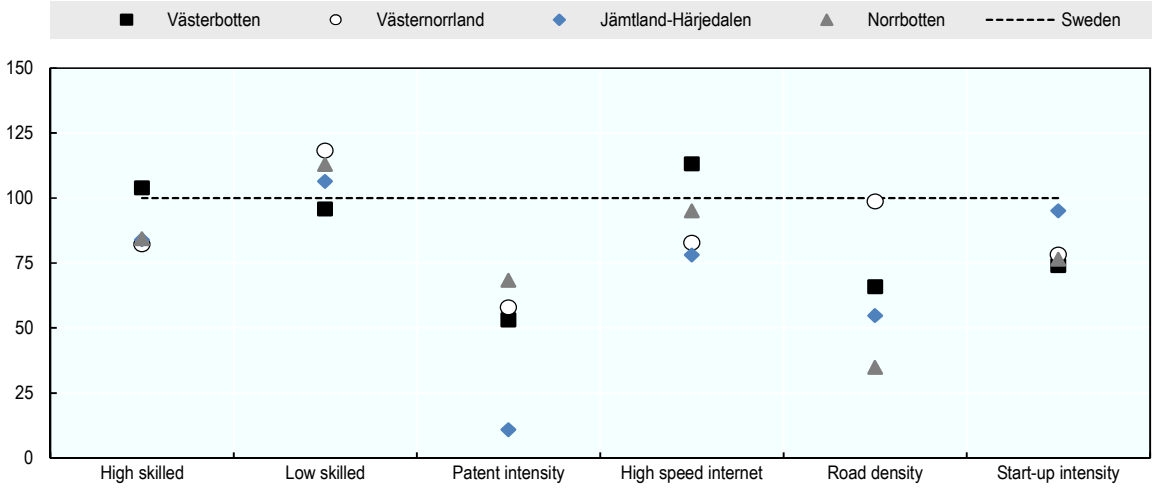
Table 4.5. **Sweden's NSPA regions: Absolute advantages**

Region	Absolute advantages
Jämtland Härjedalen	Attractive landscapes (mountains, lakes, rivers and wilderness areas), proximity to Trondheim, a history and tradition of tourism related activity, and food producers which are integrated with the tourism industry.
Västerbotten	Mineral endowments and forestry resources, a history and tradition of manufacturing and services linked to these natural resource based industries, its attractive landscapes and proximity to Norrbotten and Lapland, and the research and innovation infrastructure based around Umeå University.
Norrbotten	Mineral endowments and forestry resources, attractive landscapes (mountains, lakes and rivers, wilderness areas), industry-research networks embedded within the Luleå University of Technology, and proximity to Norway and Finland.
Västernorrland	Proximity to Stockholm and relatively lower land costs, attractive landscapes (e.g. high coast), a history and tradition of heavy industry and related activity, and it's urban and transport infrastructure.

Source: Analysis based on NSPA case studies in Part 2 of this publication (available online).

The benchmarking analysis of the northern regions reveals relative strengths in terms of skills and infrastructure, and weaker performance in terms of innovation and entrepreneurship (Figure 4.2). Innovation and entrepreneurship is a clear priority for these regions. This relates to building new business opportunities linked to areas of absolute and comparative advantage, which can be realised through support for existing SMEs and for entrepreneurs. Continuing to mobilise private and public sector actors through collaborative processes such as a smart specialisation strategy will be important. At a national level Sweden performs relatively strongly in terms of infrastructure performance (World Bank, 2016). However, for the northern regions there are issues related to infrastructure gaps including the availability of broadband, and bottlenecks and maintenance issues for infrastructure that can facilitate the movement of bulky goods. Spatial planning is also a key issue, which is related to how to better manage urban growth and rural industries which have competing interests. For example, tourism businesses generally seek to protect natural amenities and landscapes which are attractive to their customers whereas mining and renewable energy have different land-use requirements. Although the Swedish education system delivers strong and equitable outcomes this does not necessarily translate into appropriate skills and good workforce participation outcomes in rural areas. Addressing skills mismatches and improving workforce participation for at-risk groups should be a future priority particularly given the impacts of an ageing population.

Figure 4.2. **Benchmarking Sweden's NSPA regions against key growth factors (100 = country average)**



Note: High skilled: share of population 16-74 with education International Standard of Education 4, 5, 6 (2015). Low skilled: share of population 16-74 with education International Standard of Education 1-2 (2015). Patent intensity: PCT patent applications, per million inhabitants (2011). High speed internet: at least 100 Mbit/s (2015). Road density: road surface (km^2) divided by total land surface (2010). Start-up intensity: start-ups per 1 000 residents 16-64 (2014).

Source: Statistics Sweden – highest level of education by region, http://www.statistikdatabasen.scb.se/pxweb/en/ssd/START__UF__UF0506/Utbildning/?rxid=0a7212fa-25d6-4757-8c3f-f858b0d8b6b1 (accessed January 2017), Broadband Survey, statistik.pts.se/bredband , Statistics Sweden- road area, http://www.statistikdatabasen.scb.se/pxweb/en/ssd/START__MI__MI0816/VagArealKategori/?rxid=3d2f22e8-856f-4de3-ac98-885546da96d6, (accessed January 2017), Tillväxtanalys - Start-ups, http://statistikportalen.tillvaxtanalys.se/default.aspx?nocookie=1 (accessed January 2017) and OECD (2016a), *OECD Regional Statistics* (database), http://dx.doi.org/10.1787/region-data-en.

Regional policy and governance arrangements

Addressing the growth opportunities and challenges highlighted in the previous section will require a collaboration between levels of government, business and communities at a regional level. The national government plays a key role in shaping regional development strategies at a subnational level. This includes how EU regional funding is implemented in Sweden, setting the policy framework for regional strategies, and establishing the governance arrangements to design and implement these strategies. In the context of the OECD, Sweden has a relatively centralised approach to strategic planning and policy development. This approach has been important in delivering an equitable level of infrastructure and services across the national territory. However, this approach may also diminish the capacity to adapt polices to the needs and circumstances of different places. This section of the chapter outlines Sweden's approach to regional development policy and governance, and discusses how well it is adapted to its northern regions.

National policy framework for regional and rural development

National Strategy for Regional Growth and Attractiveness (2015-2020)

Sweden's regional policy, Sweden's National Strategy for Sustainable Regional Growth and Attractiveness, was released in 2015. The strategy provides a policy framework for the development of all regions in Sweden, and focuses on investing in enabling factors utilising a place-based approach. The national strategy for regional growth provides a framework for investing in regions and rural areas. The national policy goal for regional development is to develop the potential in all parts of the country with stronger local and regional competitiveness (Government of Sweden, 2015).

The strategy identifies four challenges related to demographic trends, globalisation, climate change, and social cohesion. Population ageing and its impact on rural areas is identified as a key risk and opportunity for regions in Sweden. This includes the need to maximise the potential workforce. Increasing globalisation and climate change will also be major drivers of change. A significant proportion of Sweden's exports comes from the northern areas of the country (forestry, mining, and related processing), and these industries are impacted by increasing competition and the need for firms to reposition to mitigate the impacts of climate change and develop new climate friendly goods and services.

Table 4.6. **Challenges identified in the National Strategy for Sustainable Regional Growth and Attractiveness (2015-20)**

Demographic development	Ageing of the population in rural areas generates challenges and opportunities. There is a risk these changes will continue to result in declining services and employment for some communities. Immigration and demand for services from older people will generate new business and employment opportunities.
Globalisation	Regions are more exposed to global competitive pressures and their degree of exposure is influenced by their size, business structure and dependence on exports.
Climate change, environment and energy	Climate change is an opportunity and a risk. Sweden is in a strong position to benefit from growing global demand for environmental technologies.
Social cohesion	Addressing social exclusion and maximising the competencies and creativity of the whole population.

Source: Ministry of Enterprise and Innovation (2015), Sweden's National Strategy for Sustainable Regional Growth and Attractiveness, www.government.se/contentassets/ad5c71e83be543f59348b54652a0aa4e/swedens-national-strategy-for-sustainable-regional-growth-and-attractiveness-20152020---short-version.pdf (accessed 10 January 2017).

Priorities of the strategy focus on key enabling factors for regional competitiveness. The following priorities areas are outlined: i) innovation and business development (including R&D, environmental technologies, access to capital, and internationalisation); ii) attractive environments and accessibility (including improving accessibility, access to services, spatial planning, and tourism); iii) provision of skills (including labour market matching, skills and lifelong learning, and reducing barriers to labour-force participation); and, iv) international co-operation (regional co-operation within the EU and globally, and export and trade promotion). Within these priorities a number of focus areas are identified.

Table 4.7. **National Strategy for Sustainable Regional Growth and Attractiveness (2015-20): Priorities and focus areas**

Priority: 2015-20	Focus areas: 2015-20
Innovation and business development	• Innovation and research – regional innovation environments
	• Entrepreneurship and business development
	• Business development in environmental technology and energy
	• Support for SMEs (commercialisation, internationalisation, provision of capital)
Attractive environments and accessibility	• Using transport systems and ICT to improve accessibility
	• Commercial and public service
	• Spatial planning and housing
	• Culture, leisure, and tourism
Provision of skills and competence	• Labour market matching
	• Education and training structures
	• Increase supply of skilled labour through integration and diversity
International co-operation	• Deepen regional co-operation globally and with neighbours
	• Export and trade promotion
	• Cross-border integration
	• Exchange of experiences and learning

Source: Ministry of Enterprise and Innovation (2015), Sweden's National Strategy for Sustainable Regional Growth and Attractiveness, www.government.se/contentassets/ad5c71e83be543f59348b54652a0aa4e/swedens-national-strategy-for-sustainable-regional-growth-and-attractiveness-20152020---short-version.pdf (accessed 10 January 2017).

Compared to the previous national regional policy the greatest area of change compared to the previous strategy is in relation to workforce participation and skills, and this is important for the northern regions. The crisis has led to increasing unemployment and lower labour-force participation in these regions. At the same time rural areas are experiencing problems with labour supply due to an ageing population and skills mismatches. The national government has identified the following focus areas in terms of skills and competencies:

- regional co-ordination between different actors that provide education and training services (particularly secondary and vocational education)
- collaboration between education and training providers and employers
- regional analysis and forecasting of labour market needs
- local and regional co-ordination related to youth unemployment, lay-offs, and the integration of newly arrived migrants.

Sweden's national regional policy also has a stronger focus on improving policy coherence between levels of government and EU, and building capacity to implement it. The policy is based on more clearly setting out policy priorities, and roles and responsibilities. The national strategy specifies the areas that counties should focus on within each priority theme. Regions are responsible for preparing regional development strategies, which set out the vision, goals and priorities for sustainable development and growth. Funding is provided for projects and activities which align with these regional

plans. The government appropriates 1.5 billion Swedish krona (SEK) annually to support regional growth measures, and is mostly used alongside other funding sources from the region, municipalities, and the EU. There is also SEK 0.4 billion for transportation aid in sparsely populated areas within the budget for regional growth. To facilitate co-ordination between levels of government a Forum for Sustainable Growth and Attractiveness has been established. The Forum provides an opportunity for regular dialogue for both politicians and civil servants.

Cross-regional collaboration and spatial planning are two areas that should be strengthened within the current approach to regional policy at a subnational level

Regional strategies at a county level broadly align with the national strategy. They all share a strong focus on innovation and entrepreneurship, transport and digital connectivity, and educational attainment. Variations within the plans are associated with the different development issues facing these regions. For example, Norrbotten has a focus on infrastructure for the mining and processing industries, Region Jämtland Härjedalen on culture and creativity as an economic asset, and Västernorrland on inclusion and workforce participation. The areas where there is less emphasis across the regions is in terms of spatial planning, regional and cross-border co-operation (with the exception of Norrbotten), and export and trade promotion. Spatial planning is not a competency of the regional level; however, it has direct impacts on the capacity for these regions to achieve their population growth and economic development objectives. Building connections with other regions within Sweden, Scandinavia, and elsewhere is not embedded consistently across the different strategies. This is important across various dimensions including transport infrastructure, skills, research and innovation, and business development.

Table 4.8. **Regional strategies for northern Sweden: Key themes**

Region	Innovation and entrepreneurship	Infrastructure and accessibility	Demographic, labour markets and service delivery
Norrbotten	• Regional innovation strategy • Entrepreneurship • Cross-border collaboration	• Rail investment for the mining industry • Extending broadband coverage	• Integration of migrants • Young people finishing upper secondary school • Co-ordination between business and training providers
Region Jämtland Härjedalen	• Entrepreneurship and venture capital • Role of the university • Renewable energy • Culture and creativity	• Transport and digital connectivity	• Secondary school and tertiary attainment • Social inclusion and health care • Welcoming new inhabitants
Västerbotten	• Regional innovation system and venture capital • Renewable energy • Internationalising SMEs	• Transport and digital connectivity	• Leisure, culture and amenities • Secondary school and tertiary attainment • Workforce participation
Västernorrland	• Regional innovation system • Entrepreneurship	• ICT connectivity • Addressing bottlenecks • Air services	• Amenities and culture • Social inclusion • Secondary school and tertiary attainment • Workforce participation and labour market matching

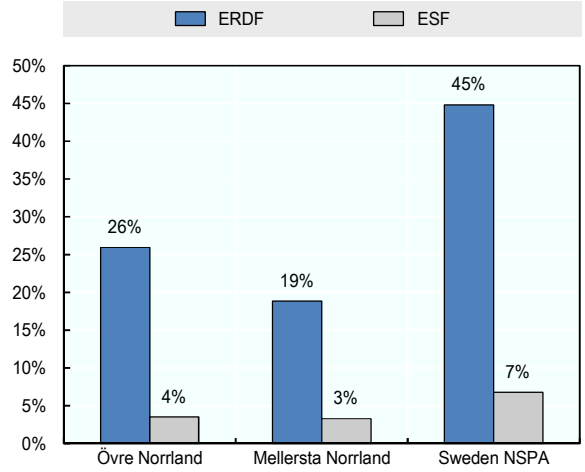
Source: Calculations based on thematic analysis of regional strategies for Sweden's NSPA regions.

Sweden's regional policy establishes a framework for focusing investment on enabling factors for regional development. The framework covers the range of economic, social and environmental elements which contribute to regional well-being. The variations in each region's areas of absolute advantage are largely reflected in the differences between regional development strategies across the four regions. The ERDF provides a vehicle to invest in these priorities at a regional level. These investments are designed to build regional competitiveness and productivity and address market failures in the provision of infrastructure in sparsely populated areas. Achieving these outcomes will also be dependent upon integration with other national policy areas including transport, innovation, and education. The following sections outline the important role of the European Structural and Investment Funds (ESIF) in enabling the delivery of regional growth strategies, followed by an assessment of how key national sectoral policies are integrated with regional development.

European Structural and Investment Funds

The European Structural and Investment Funds (ESIF) is the EU's main investment tool to deliver on the objectives of the Europe 2020 Strategy. Europe 2020 is the EU's ten year jobs and growth strategy. Sweden focuses on the following priorities linked to the Europe 2020 Strategy: foster competitiveness, knowledge and innovation; strengthen the sustainable and efficient use of resources for sustainable growth; and increase employment, promote employability and improve access to the labour market. There are three main funds which are important in the Swedish context. They are the European Regional Development Fund (ERDF), the European Social Fund (ESF), and the European Agricultural Fund for Regional Development (EARDF). All three funds play a key enabling and catalytic role for regional and rural development activities across the three northern regions. In Sweden, a large share of ERDF for the period 2014-20 has been allocated to NSPA regions (45%), while the share of ESF allocated to these regions is relatively small (7% of the total) (compared to their share of the national population which is 9.1%).

Figure 4.3. **Share of ERDF and ESF (Sweden) allocated to NSPA regions, 2014-20**



Note: Ovre Norrland includes the regions of Norrbotten and Västerbotten while Mellersta Norrland includes the regions of Jämtland Härjedalen and Västernorrland. National co-financing is included, for ERDF all 8 regional programmes except one programme have 50% co-financing (one has 60%). National co-financing for ESF is as follows: "promotion of skills and enhance transitions to work" 50% and "youth employment initiative" 33%. Technical assistance, and funds not allocated at the regional level are excluded.

Source: Ministry of Enterprise and Innovation, unpublished.

European Regional Development Fund

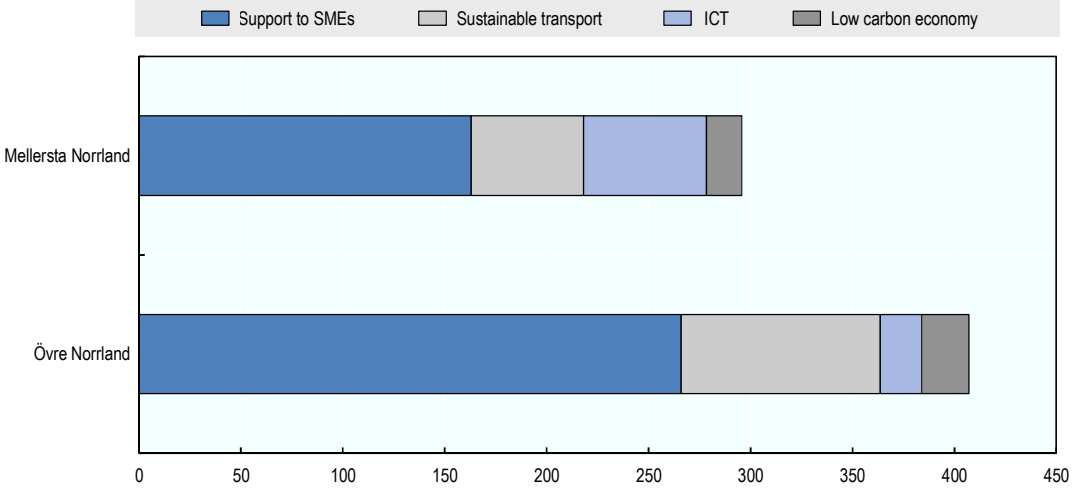
The European Regional Development Fund (ERDF) is one of the European Structural and Investment Funds (ESIF). The main purpose of the ERDF is to address regional inequalities in the EU to achieve economic and social cohesion. The four key priorities of the ERDF are: i) innovation and research, ii) digital agenda, iii) supporting SMEs, and, iv) low carbon economy. The level of development of a region determines the allocation mechanisms of ERDF: 80% of the funds should target at least two priorities in more developed regions, 60% in transition regions and 50% in less developed regions. Special attention is given to geographically disadvantaged regions, such as remote, mountainous or sparsely populated areas, as well as outermost regions.

Table 4.9. **Sweden's ERDF: Thematic objectives and allocation**

Thematic objectives	Proportion of total allocation (%)	Areas of investment
Support to SMEs	31	Entrepreneurship, venture capital, and internationalisation linked with regional smart specialisation strategies.
Research and innovation	28	Strengthen the interaction between research and industry, and increase the commercialisation ability.
Low-carbon economy	10	Firm and cluster level interventions to promote more efficient use of energy and use of renewable energy, and develop technologies to reduce emissions.
ICT	10	Provide businesses and organisations with access to high speed broadband. Priority given to high capacity broadband in areas where commercial conditions for the deployment of broadband are missing.
Transport and infrastructure	8	Investments that address bottlenecks, improve connections to the TEN-T network, multimodal solutions and the reduction of greenhouse gas emissions.

Source: European Commission (2013), *Summary of the Partnership Agreement for Sweden, 2014-20*, http://ec.europa.eu/contracts_grants/pa/partnership-agreement-sweden-summary_en.pdf.

Figure 4.4. **Allocation of ERDF in NSPA regions (Sweden) by objective, 2014-20 (EUR million)**



Note: Technical assistance, and funds not allocated at the regional level are excluded. National co-financing is included. For ERDF 2014-2020 co-financing for all 8 regional programmes except one programme have 50% (one has 60%).

Source: Ministry of Enterprise and Innovation, unpublished.

In the current programming period the total investment from the ERDF in Sweden for this period is EUR 945 million with the overall aim of fostering regional competitiveness and sustainable growth. The funding is allocated to a number of thematic objectives, and areas of investment. Close to 80% of the funding focuses on SMEs, research and innovation whilst about 20% is focused on infrastructure. The infrastructure funding has a particular focus on the northern sparsely populated areas of the country. The managing authority for the ERDF in Sweden is *Tillväxtverket* (The Swedish Agency for Economic and Regional Growth).

European Social Fund

Another part of the ESIF is the European Social Fund (ESF). The main difference with the ERDF is that the ESF directly targets people instead of regions. The main purpose is to improve employment and education in the EU and it focuses on the most vulnerable people. In particular, human capital is the top priority with an investment of more than EUR 80 billion from 2014 to 2020. Youth employment is also a key objective of this fund. The ESF is also based on the principle of "thematic concentration" and the four thematic priorities are: i) employment and labour mobility, ii) social inclusion and the fight against poverty, iii) education, skills and lifelong learning, and iv) institutional capacity and the efficiency of public administration. Social inclusion and fighting poverty are also addressed by an investment of 20% of the ESF.

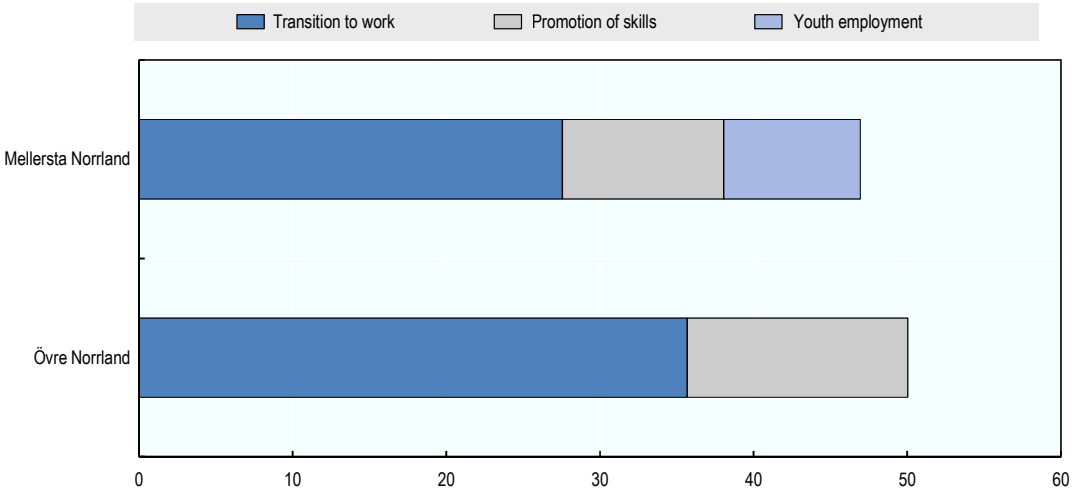
In Sweden, the ESF budget for the period 2014-20 amounts to EUR 774 million. Moreover, an additional EUR 44 million are allocated to the Youth Employment Initiative (YEI) for three NUTS 2 regions. In percentage terms, the ESF budget has increased during the current programming period: 45% of the Structural Funds for 2014-20 versus 42.5% in the previous period. More than 70% of the budget supports the integration of marginalised people in the labour market. The Managing Authority is the ESF Council (the *Rådet for europeiska socialfonden i Sverige*) which is composed by eight regional offices. One single Operating Programme has been created for the delivery of most of the ESF (EUR 810 million). To strengthen the place-based dimension of the interventions, eight regional action plans have been established. In terms of priorities, ESF focuses on three main priorities: the promotion of sustainable and quality employment and support of labour mobility, the investment in education, training for skills and lifelong learning and the promotion of social inclusion and the fight against poverty and discrimination.

Table 4.10. **Sweden's ESF: Thematic objectives and allocation**

Thematic objectives	Proportion of total allocation (%)	Areas of investment
Employment and labour mobility	49	Reduction of unemployment (in particular youth unemployment), lengthen working careers, alleviate gender segregation.
Education, training and lifelong learning	27	Ensure availability of a skilled workforce, promote educational equality, reinforce professional knowledge and innovative abilities of the workforce.
Social inclusion and poverty	20	Reduction of poverty, marginalisation and prevention of social exclusion.

Source: European Commission (2013), *Summary of the Partnership Agreement for Sweden, 2014-20*, http://ec.europa.eu/contracts_grants/pa/partnership-agreement-sweden-summary_en.pdf.

Figure 4.5. **Allocation of ESF in NSPA regions (Sweden) by main objective, 2014-20 (EUR million)**



Note: Technical assistance, and funds not allocated at regional level are excluded (funds allocated at national level). National co-financing for ESF is as follows: "promotion of skills and enhance transitions to work" 50% and "youth employment initiative" 33%. Transition to work refers to "Enhance the transition to work among people who are far from the labour market and facilitate the establishment of young people at work".

Source: Ministry of Enterprise and Innovation, unpublished.

European Agricultural Fund for Rural Development

A key funding mechanism for rural (economic) development is the Rural Development Programme (RDP). The Programme is the common tool for the implementation of the European Agricultural Fund for Rural Development (EAFRD) under Pillar 2 of the Common Agricultural Policy (CAP). Sweden has one RDP and the priority areas for the 2014-20 programming period are:

- knowledge transfer and innovation
- agricultural competitiveness
- food chain organisation and risk management, including animal welfare
- environment and climate
- social inclusion and economic development in rural areas.

There has been an increasing focus within the RDP on improving broadband infrastructure and access to services. The total budget for the programming period is EUR 4.3 billion, which combines national government and EU funding sources. The largest priority area is the preservation of environmental goods related to agriculture, which is common across the EU. There is also a significant focus on social inclusion, poverty reduction and economic development which takes up 20.8% of the total budget. This is an increase compared to the previous programming period and reflects greater investments in broadband and in initiatives to retain services in rural communities, such as, convenience stores and fuel stations. The final priority area, knowledge transfer and innovation, has no specific funding attached to it as it is considered a cross cutting theme across the other priority areas.

Table 4.11. **Proportion of Sweden's RDP budget allocated to each priority area for 2014-20**

Priority area	Proportion of the total budget (%)
Restoring, preserving and enhancing ecosystems	61.0
Social inclusion, poverty reduction, economic development	20.8
Competitiveness of all types of agriculture and farm viability	8.3
Food chain organisation and risk management	4.4
Resource efficiency, low carbon climate resilient economy	1.8
Other	3.6

Source: European Commission (2013), *Summary of Regional Partnership Agreement for Sweden, 2014-2020*, http://ec.europa.eu/contracts_grants/pa/partnership-agreement-sweden-summary_en.pdf.

The development of priorities and implementation is organised through national level agencies. The Ministry of Enterprise and Innovation is responsible for the overall design of the RDP, the Swedish Board of Agriculture, which is located within the Ministry for Enterprise and Innovation, is responsible for the day to day implementation and administration of the RDP. Once the priorities are agreed the implementing bodies (the Swedish Board of Agriculture, the County Administrative Boards, the Swedish Forest Agency, the Sami Parliament, the Swedish Agency for Economic and Regional Growth) develop regional or thematic strategies for the implementation of the programme on a more detailed level. The regional strategy is developed by the County Administrative Boards, which are an administrative agency of the national government, tasked with implementing national policy priorities at a regional level. At a national level the monitoring Committee for the RDP (including the Swedish Agency for Economic and Regional Growth which is the Managing Authority for the European Regional Development Fund) has an advisory role to support the design and implementation of the programme.

An important tool for integration at a local level in Sweden is Community Led Local Development (CLLD); however, there is not a direct line of accountability between this programme and institutions at a regional level. CLLD focuses on local development based on local commitment and co-operation between the public, private and non-profit sector, targeting the specific needs and conditions in each area. CLLD is delivered through local action groups (LAGs) which prepare local development strategies which deliver on these programme objectives and reflect the priorities embedded in the different funds that support it. CLLD is funded through the EAFRD, European Maritime and Fisheries Fund (EMFF), ERDF, and the ESF with the EARDF making the largest contribution. The LAG develops a local action plan and then selects the actions it prefers to use in the implementation of its strategy. The LAGs are accountable to the Swedish Board of Agriculture as their managing authority.

Maximising the benefits of EU investment in the northern regions

The ESIF play a critical role in enabling the implementation of regional and rural development strategies of the NSPA regions in Sweden. These funds provide a significant amount of additional resources which can be used by these regions to invest in productivity enhancing initiatives (particularly in terms of SMEs and innovation, workforce development and skills, and to a lesser extent transport and communications infrastructure). In addition, they have a catalytic effect by leveraging a significant amount of public and private sector investment, particularly from the national government. Because these funds activate other public and private funding they help promote co-ordination and the realising of policy complementarities. The design of the ERDF and the EARDF also encourage co-ordination between levels of government. In the case of the ERDF, between the national

and regional level, and in the case of the EARDF, between the national and local municipal levels.

Enhancing the delivery of the various components of the ESIF in Sweden depends upon developing a more integrated approach to planning and investment at a regional level. There are currently different governance models for regional development, and bodies responsible for regional development within the region do not have similar responsibilities for the prioritisation and delivery of the ESF and EARDF. There are obvious synergies between the EARDF and ERDF and it makes sense to move toward a model whereby the same body is responsible for setting priorities for both at a regional level. Given the importance of workforce development and skills to regional development there is scope to better integrate the regional action plans for the ESF with regional strategies.

Achieving greater consistency in the regional governance of the ESIF is consistent with the European Commission's direction to enhance co-ordination of EU supported programmes. For example, the new Integrated Territorial Investment Tool developed by the European Commission emphasises the importance of using a cross-sectoral integrated development strategy that addresses the development needs of the area to guide funding decisions (European Commission, 2014). The following sections of the chapter discuss three policy areas in greater depth (innovation and entrepreneurship, infrastructure and accessibility, and demographic change, labour markets and skills), and how national and EU policies can be better integrated and adapted to better support development outcomes in northern Sweden.

Innovation and entrepreneurship: Key policy challenges and opportunities

This section of the chapter discusses the key policy challenges and opportunities related to innovation and entrepreneurship, and how the national government can adapt policy settings to address them. The key is for the northern regions to identify where they have niche markets (based on areas of absolute advantage – see Table 4.5) and where they can generate more value related to them. These areas of advantage are mainly directly and in-directly related to the natural resource base of these regions. Opportunities for growth are related to valorising new economic activities in these areas, and diversifying around them. It also relies upon developing new markets for local goods and services, which may exist in urban areas of Sweden, or outside of the country.

The regions of northern Sweden are globally competitive in a small range of areas

The key is for the northern regions to identify where they are competitive in international markets. The northern regions of Sweden have a small range of areas where they have an absolute advantage (see Table 4.5). In the case of these regions economic opportunities are primarily related to natural resource based activities (forestry, mining and associated processing, and tourism), and activities which leverage Arctic know-how and climate (e.g. data centres and technology testing). The bioeconomy (economic activities relating to the invention, development, production and use of biological products and processes) is an obvious area of potential advantage (OECD, 2009). Policy objectives and regulatory provisions to reduce carbon emissions provide an incentive for the creation of new business opportunities (such as renewable energy), particularly linked to the forestry sector. Each of these regions has developed specialised services (e.g. in areas such as engineering, maintenance, and managing environmental impacts) where there is also potential to expand markets. Tourism activity is also increasing with a greater focus on building summer and winter attractions, and linking with local food production and Sami

culture. The Arctic climate also generates opportunities related to technology testing and data storage. For example, the Swedish Proving Ground Association in Norrbotten provides a venue for automatic testing in cold climates linking researchers, engineers and other service providers with automobile manufacturers. There is an established space industry in Kiruna with the Esrange base for satellite management and rocket launching capacity, an institute for space research, and an emerging space tourism industry. The regions have drawn on European and national funding to proactively invest in these areas of absolute advantage, and engage universities and other actors to build an innovation system around them.

There is scope to improve support for entrepreneurs and SMEs at a regional level

There are challenges to promoting innovation and entrepreneurship in these areas (OECD, 2014a). Entrepreneurs can have difficulty finding support and resources, and engaging with relevant innovation systems. There can be a level of risk aversion due to the lack of venture capital and a supportive environment for start-ups. Within these economies there are a higher proportion of small businesses. Many of these small businesses lack the scale to connect them to other businesses and market opportunities, and also have a lack of understanding about the value of higher education and research in the economy. They may be locked into a small number of long-term supplier relationships to larger firms which are owned by multi-national companies. In this case the plant owned by the multi-national does not have a tendency or incentive to invest in local R&D, and the smaller businesses lack the incentive and scale to invest in it (Dicken, 2011). However, the lack of productivity growth and diversification can become problem if technologies or external markets change. There is also scope to improve how universities and research institutions located in these regions engage with start-ups and SMEs, which includes building networks amongst firms to help them access new markets, promote innovation and upgrade skills in dispersed rural areas. Governance arrangements also tend to be organised at a regional or sub-regional scale, and there is scope to better link economic development activities between regions. For example, relationships also need to be strengthened with university and R&D actors outside of the region to build sufficient scale and access specialised expertise to develop new commercial opportunities.

Regional level recommendations relate to better support for SMEs and entrepreneurs, and cross-regional collaboration

In response to these issues the main recommendations emerging from the regional case studies relate to two areas: i) better integrating areas of absolute advantage into smart specialisation strategies, and in particular linking with SMEs; and, ii) improving the co-ordination of tourism marketing and destination management between regions. In relation to the first point all regions have smart specialisation strategies in place, however these strategies are too broad, and tend to have too much of a focus on attracting new industries. Regions should continue with an approach that seeks to facilitate co-operation across different sectors' competencies, which results in a greater level of engagement with local SMEs. This will require close engagement with these businesses to connect them with new market opportunities at a regional, national and international scale, and research, innovation and skills resources provided at regional and national level. In terms of tourism there is a lot of good activity going on but it is not well connected with regional or cross-border strategies. More effort is required by regional bodies responsible for regional development to link up destination management companies, and ensure their work is connected to broader opportunities at a regional and cross regional scale. In northern Sweden this might

be tourism opportunities along the coast, and also linking with Lapland in Finland. Improving these policy and governance settings will enable the northern regions to maximise the opportunities of national and EU level funding. As discussed, the provision of funding through the ERDF and EAFRD is vital to improving entrepreneurship and innovation outcomes for these regions.

Stronger integration between national innovation and tourism strategies and regional policies would help enable the implementation of these recommendations

The government's national regional policy framework already has a broad focus on these issues. Sweden's national strategy for sustainable regional growth and attractiveness has a priority on innovation and business development. This priority focuses on regional innovation systems, entrepreneurship and business development, business development driven by environmental technology in all industries as well as energy issues, commercialisation and internationalisation, and the provision of capital for SMEs. Within the priority innovation and business development there is a stronger focus on promoting business development compared to entrepreneurship and promoting new businesses. There is also a much stronger focus on business development driven by environmental technology in all industries as well as energy issues. This generates a greater incentive for investment in the bioeconomy, which is a key area of strength for the northern regions.

Sweden has a strong level of entrepreneurship and innovation characterised by high levels of public and private investment in research and development (R&D). The government is currently developing legislation on research and innovation, which will provide a ten year framework for investment with a focus on developing stronger commercial linkages, and maximising the use of existing research and innovation assets. Current investment strategies focus on the manufacturing, health and information technology sectors where Sweden is a global leader. The government plays a strong role in co-ordinating the national innovation system with large firms, and also providing the conditions for start-ups in high technology sectors. The national innovation agency, Vinnova, focuses on these areas which are strategically important to the national economy in a global context, and its policy instruments tend to be suited to these opportunities at the technological frontier. These opportunities are also usually located in an urban context.

There is a lower level of connection with innovation in a regional and rural context. The Ministry of Enterprise and Innovation conducts a network (RND-FoI) for national-regional dialogue, with specific focus on questions of research and innovation. This network gathers four times annually and is an important capacity building measure. Some smaller programmes, particularly in terms of funding research centres and clusters at universities have benefited rural and regional areas. However, innovation in a regional and rural context is different, and national innovation policy is not well adapted to it (OECD, 2016b). The roles and responsibilities of the regional level in regards to national innovation policy are unclear and better measures need to be put in place to support SMEs and link regionally based universities to local economic strengths (OECD, 2016b). Rural innovation tends to be more incremental, and depend upon linking together small businesses and other actors, which may have not traditionally collaborated. Investment in skills development and brokering is important to build capacity and link together actors to build scale, and connect them with R&D and innovation systems (OECD, 2014a). Better connecting the national innovation agenda with regional development should be a key area of future policy focus. This includes how national level programmes can be tailored and adapted to complement existing innovation initiatives delivered through the ERDF, and the EAFRD.

Box 4.1. **Rural innovation and entrepreneurship: The Faroe Islands**

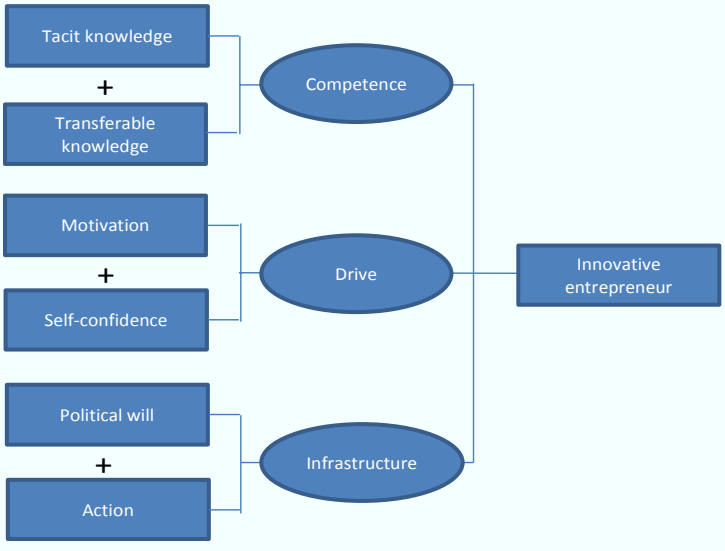
The self-governing Faroe Islands, an archipelago associated with the Kingdom of Denmark, is a predominantly rural region consisting of 18 islands with 48 000 inhabitants. These territories are highly dependent on a reduced number of primary commodities, mainly fisheries, oil and gas. The public sector is relatively large and the chief employer in the region. The area is characterised by sparse settlements and suffers from significant difficulties in communications and accessibility. In recent years, more and more Faroese have made their living from businesses other than those in the fishing sector. A significant part of their human capital is directly or indirectly involved in the oil and gas industry around the world, especially in the North Sea. Others are involved in various services and trade, making their income in domestic and foreign markets. What they have in common is a certain competence and know-how that qualifies them to participate in the global marketplace.

Faroese industries negotiated terms with international oil and gas companies as a condition of Faroese participation. At issue was how the oil and gas companies could ensure and promote Faroese companies in the industry or help them to enter other knowledge-based industries. As a result, the Faroe Islands today have companies such as Tour Offshore, with more than 20 vessels operating in the offshore industry. Two Faroe oil companies operate in the global markets and are listed on the stock market: Faroe Petroleum and Atlantic Petroleum. Atlantic Airways, the national airline company, is expanding its fleets and routes. These examples show that it is possible to put in place a policy that can encourage knowledge-based industries and innovation as existing industries enter a new area.

Some key lessons of the Faroe Islands' experience. It is good practice to:

- Have rural business platforms to collaborate as rural regions, to ensure that local industry can participate in future activities.
- Identify local strategic competitive advantages. Rural areas can use important local assets to penetrate new markets, and to develop into areas that are attractive to young people.
- Identify the innovative enterprises in rural settings.
- Find the funds to experiment with novel business concepts. It is impossible to conduct significant experimentation without significant funding, which should come from private and public sources.
- Evaluate and value the commercial transactions in the market. The innovative entrepreneur is a sum of competence, drive and infrastructure. The competence of the individual entrepreneur derives from knowledge of the task and transferable knowledge (see figure below).

Figure 4.6. Factors shaping rural entrepreneurship



Source: Gregersen, O. (2012), "Innovation in rural communities – The challenge of identifying competitive advantages", presentation at the 8th OECD Rural Development Policy Conference held in Krasnoyarsk, Russian Federation.

A key sector for all regions (particularly Jämtland Härjedalen) is tourism. The national tourism strategy recognises the importance of developing tourism markets outside of Stockholm and the southern areas of the country. However, there is no clear administrative or institutional arrangement to co-ordinate national, regional or local tourism activities. There are two organisations responsible for tourism development and marketing at a national level: the Swedish Agency for Economic and Regional Growth (*Tillväxtverket*) and the partly state owned company VisitSweden AB. *Tillväxtverket* focuses on tourism industry issues, and develops activities to promote tourism initiatives and entrepreneurship. The agency is also responsible for official tourism statistics and the production and dissemination of knowledge about the development of tourism and its effects on the Swedish economy. *Tillväxtverket* has been tasked with the responsibility of co-operation at the national level between different government agencies involved either directly or indirectly in tourism. Local municipalities have supported the development of destination management companies at a local and sub-regional level, and regional bodies play a co-ordinating role. However, there is no coherent strategy for growing tourism in the north, or incentive to increase levels of co-operation between different regions and across national borders. The government is currently preparing to develop a new tourism strategy for the country and the distinct tourism assets and attractions of the north, and how they can be better utilised through enhanced co-operation should be key considerations.

Infrastructure and accessibility: Key policy challenges and opportunities

This section of the chapter discusses the key policy challenges and opportunities related to infrastructure and accessibility, and how the national government can adapt policy settings to address them. Accessibility to markets is critical for the future growth of the northern regions of Sweden. The key exporting industries of mining, forestry and tourism-related services depend upon the capacity to efficiently move goods and people year-round. However, there are challenges presented by the long distances between key population centres, differences between coastal areas and areas in the interior, the impacts on road and rail infrastructure of moving bulky goods, and the Arctic climate. This emphasises the importance of ensuring high quality investment in infrastructure which helps achieve the region's economic development objectives.

Northern Sweden benefits from a relatively concentrated population and improving broadband provision

Across northern Sweden there is an overall trend of the population concentrating in fewer places. The populations of the larger urban settlements in the coastal areas are generally growing at a fast rate (in some cases above the national average). This enables these regions to provide an urban environment which is attractive to families and younger people, and for them to develop a more diverse and sophisticated services sector. This trend is an advantage for these regions as it increases the size of functional labour markets and reduces the costs of delivering services, particularly when it is accompanied by improvements in local transport infrastructure and services. Governments at different levels can realise policy complementarities by concentrating service delivery, including administrative services, health care, shopping and so on, in specific places with transport networks organised so as to make them as accessible as possible to the rural population of the surrounding areas.

These urban centres and rural communities in surrounding areas are also becoming better connected through improved ICT and broadband provision. Regions in the north have generally taken a proactive approach to investing in broadband capacity and promoting innovation in the delivery of public services. A good example is the work undertaken, particularly in Västerbotten on tele-medicine. As physical services have concentrated in fewer places more investment has been undertaken to deliver services in more remote areas using ICT. Since the mid-1990s, close to 40 different health applications and 230 videoconferencing facilities have been rolled out across the county, and this has resulted in increased efficiency, improved competencies amongst staff, and reduced travel times. The capacity to maintain access to services and realise efficiencies is an important justification for public investment in broadband in these areas.

Challenges remain in relation to rural communities, industry supply chains, and east-west connectivity

There are still significant challenges for these regions related to accessibility and connectivity. As outlined above growth is concentrating in a few population centres along with public and private services. Although population and services are concentrating in urban centres a significant proportion of people will continue to live in rural and remote communities. This includes rural areas which are in proximity to these urban centres and can be reached by car or public transport within 90 minutes. Rural communities close to these cities will also feel growth pressures. It will be important for spatial planning to make adequate provision for the supply of land for urban development, and ensure infrastructure and services are delivered in a co-ordinated way.

Along with these considerations about the movement of people connectivity is also important for industry including the movement of bulky goods. In northern Sweden iron and wood is extracted and then processed in larger centres in cities such as Luleå, Umeå and Sundsvall along the coastal corridor. These processed products (e.g. steel products, wood and pulp) are transported further afield to locations in Sweden and Europe. These industries are sensitive to transport costs and mining, forestry and related processing industries face increasing competition and bottlenecks in the transport network. In some cases there is lack of capacity on the rail network which forces producers to switch to road transport which is less efficient and also impacts on the condition of rural roads. These problems relate to a lack of upgrades and gaps in the transport network, and also issues related to inadequate maintenance. Tourism and renewable energy are also becoming more important to the economies of these regions which can place new demands on the transport network.

The northern regions share a strong focus on improving transport connectivity along the north-south corridor which links the major urban centres in the region to Stockholm and the south of the country. Linking these population centres is important as it will increase the scale of functional labour markets, and increase opportunities for people to access services and tourism opportunities. Improving these transport corridors will also support existing value chains linking these industries to other sectors such as automotive manufacturing in the south of the country. However, there are also opportunities to improve east-west connectivity, particularly related to the movement of bulky goods, and improving access to tourism and recreational opportunities in the interior. Future investment in east-west connectivity will help generate new growth opportunities for northern Sweden. There also does not appear

to be a systematic approach to regional transport planning and prioritisation between the northern counties (or with other NSPA regions in Finland and Norway) which shapes how these region's invest and influence national transport planning.

Regional level recommendations for improving accessibility relate to spatial planning and cross-border collaboration

In response to these issues the main recommendations at a regional level relate to two areas: i) improving spatial planning and allocating a competency for it to the regional level; and ii) improving cross-border co-ordination in relation to regional transport planning and investment, and better linking these plans with economic development objectives. In relation to the first point there currently is not a role for the regional level in spatial planning. Effectively managing population growth, and the land-use requirements of different industry sectors, will require a greater level of co-ordination of spatial planning across municipalities at the scale of functional labour markets and regions. Spatial planning will also need to be better co-ordinated with long-term planning for infrastructure at a regional scale. In turn, there needs to be closer alignment with strategic economic goals set out in regional development and smart specialisation strategies with transport prioritisation at a regional level. In particular, regions in the north should focus on how they develop joint positions amongst themselves, and other NSPA regions, to better influence national transport planning and policy settings.

Spatial planning is important for regional development because it provides a long-term framework to plan land uses and infrastructure connections (OECD, 2016c). Economic change generates new land use and infrastructure requirements. Fostering the growth of the tourism industry may require new transport and communications linkages, and the protection of environmental assets and amenities. These can conflict with traditional industries such as forestry and emerging ones like renewable energy (OECD, 2012a). Planning provisions can also impact upon the capacity to develop areas for tourism and recreation. For example, provisions related to building housing close to the water line, and it is important that these provisions are adapted to the environmental conditions and potential impacts of climate change within particular areas. Population growth is increasingly concentrating in larger centres. This will require an integrated approach to spatial planning that helps facilitate housing supply and development in these places and enhances urban-rural linkages. Spatial planning undertaken in a collaborative way at the right scale can provide an effective way of managing these issues (OECD, 2016c). Sweden does not have an effective policy framework to realise these benefits of spatial planning. There are no rules or incentives to facilitate the development of strategic spatial plans at a regional scale. Land-use planning occurs at a municipal level, and interrelationships at a functional or regional scale are not properly accounted for. Mechanisms to link infrastructure and land-use planning are also lacking. As a result, planning for land use and infrastructure are not integrated with regional growth or rural policies. The government has investigated a proposal to allocate a spatial planning competency to the administrative body responsible for regional development at a regional scale, which would help address this issue.

Box 4.2. **Integrating regional development and land-use planning in the state of Victoria, Australia**

In 2010, the Victorian government released its regional development policy Ready for Tomorrow: A blueprint for Regional and Rural Victoria which included strategies to invest in skills, export development, economic and social infrastructure, and regional planning. The Blueprint was developed under the auspice of a Ministerial Taskforce and supporting inter-departmental committee.

The blueprint established a long term state-wide framework for regional development to support regions in identifying their priorities and was organised around a triple bottom line framework (economic, social and environmental goals). This approach was based on the principle that regional communities are best placed to identify and plan for their priorities, future challenges and opportunities. This was realised through each region developing a Regional Strategic Plan (RSP). RSPs are framed around a triple bottom line approach and priorities for action over a medium term horizon. The broad scope of the plans vary, however, all include at a minimum:

- an analysis of current regional economic, social and environmental performance and future challenges and opportunities
- a strategic vision highlighting long-term objectives for the region around the broad goals of prosperity, liveability and sustainability
- strategies and actions for the short and medium term.

Each region was then supported to develop a Regional Land Use Plan – called a Regional Growth Plan (RGP). RGPs provide broad direction for land use and development for each region. Each RGP was developed in a partnership between local government and state agencies and authorities through consultation with the community and key stakeholders. As an ongoing part of the State of Victoria's planning system, the regional growth plans will be reviewed every four to six years.

The Regional Growth Plan for the Geelong region provides a framework for managing growth and land use pressures to 2050. It incorporates the strategic land use and growth planning already done at a local municipal level across the region and builds on this to identify where future residential and employment growth will occur. It also identifies the key infrastructure required to manage and support this growth.

The RGP for the Geelong region identifies four key actions to be investigated, developed and packaged into an Implementation Plan:

- an Infrastructure Plan that will identify the key regional level infrastructure projects critical to supporting the housing and employment growth directions of the Growth Plan
- a Residential and Industrial Land Supply Report and a Land Supply Monitoring and Reporting Tool that will enable more accurate reporting and monitoring of land supply across the region
- a Housing Strategy Incentives Report that will outline actions to support strategic housing objectives, including the take up of land for higher density living at identified key nodes and for the development of housing markets in centres such as Winchelsea and Colac
- an analysis of the identified Further Investigation Areas to identify constraints and opportunities, key infrastructure requirements and planning outcomes and set out a timing and land planning/development process.

Source: Victorian Department of Environment, Land, Water and Planning (2015), *Regional Growth Plans*, www.dtpli.vic.gov.au/planning/plans-and-policies/rural-and-regional-planning/regional-growth-plans (accessed 10 January 2017); G21 Regional Alliance (2013), *G21 Regional Growth Plan – implementation plan background report*, www.g21.com.au/sites/default/files/resources/g21-rgp-ip_implementation_plan_background_report_-_decnov_2013.pdf.

A number of different studies have pointed to problems related to housing supply in Sweden and its negative effects on the economy (OECD, 2012a and 2015; European

Commission, 2016). High house prices, tight rental conditions and inefficient planning and building regulations affect the supply of housing and therefore labour mobility. Strengthening the role of the regional level in spatial planning and streamlining land-use regulation would contribute to improving the supply of housing; however, this is only part of the picture. Other measures which would improve the functioning of the housing markets at a national level are: incentives for municipalities to allow building to improve supply responsiveness, limiting the tax bias in favour of home-ownership (preferably by phasing out mortgage interest deductibility) and easing rental market regulations to foster a more balanced tenure mix (OECD, 2015). Building regulations are also burdensome and for larger construction projects it usually takes about three years to gain a permit (World Bank, 2014). Having greater flexibility in the national housing market would deliver a number of potential benefits for northern Sweden including further facilitating the concentration of population, responding effectively to increases in migration, and changes in labour demand as a result of large-scale mining and construction projects.

There is scope to improve the integration between the EU, national regional level transport planning and investment. The main actor in national transport planning is the Swedish Transport Administration who prepares the national transport plan. The national transport plan provides the framework for detailed action plans for different transport modes and projects at a regional level. The latest plan is for the period 2014-23. To prepare the plan the Swedish Transport Administration undertakes engagement with stakeholders including municipalities through the County Administrative Boards. The challenge with these planning and governance arrangements is the potential for them to be disconnected from development strategies at a regional level, particularly in the case where the County Administrative Board does not have regional development competency. In this case the capacity to integrate regional development and transport prioritisation would depend upon the quality of relationships and institutional arrangements set up within each region. Regional development plans and strategies also do not have a great weighting within the appraisal process for projects. Transport projects are prioritised using three criteria: outcomes of a cost benefit assessment; contribution to policy objectives; and distributional analysis. The greatest weight in decision making is given to the outcome of the cost benefit assessment with the final recommendation resting with the national level. Increasing the role of county councils and Regional Development Councils in national and EU level transport planning and prioritisation would enable a greater level of integration with regional economic development objectives.

There is also a lack of systemic co-operation at a national and regional level in relation to cross-border issues related to transport infrastructure. There are some good examples of cross-border collaboration in regards to transport which is led by regions and supported by the European Commission. For example, the Bothnian Corridor is a partnership which includes the County Administrative Boards of Norrbotten, Västerbotten, Västernorrland, and also Region Jämtland Härjedalen. It provides a platform to co-ordinate efforts to upgrade the major road and rail infrastructure linking northern Sweden with the southern areas of the country and Finland. Another example is the Barents Euro-Arctic Transport Steering Committee which prepared the Joint Barents Transport Plan. The Steering Committee is part of the Barents Euro-Arctic Council (BEAC) and was established in 1992 as a forum for intergovernmental and interregional co-operation for the Barents region. The Council includes representatives from Finland, Norway, Sweden and Russia. The Joint Barents Transport Plan builds upon national transport plans and strategies to identify projects that will improve connectivity and accessibility across the Barents region. However, there is no regular or co-ordinated

mechanism to ensure these priorities are considered in the development of the national transport plan, or how projects are sequenced and co-ordinated between different jurisdictions. Enhancing this cross-border co-operation between the northern regions within the framework of the national transport plan would help enable a greater consideration of the transport priorities and challenges of these regions at a national level, and also the scope for co-ordination between levels of government in the provision of transport infrastructure.

Demographics, labour markets and service delivery: Key policy challenges and opportunities

This section of the chapter discusses the key policy challenges and opportunities related to demographics, labour markets and service delivery. There is a strong commitment from the national government to maintain equity in the provision of public services and opportunities across the country. Small and fragmented labour markets make the matching of worker skills to employer needs more difficult. In the context of an ageing population more needs to be done in terms of service delivery innovation and workforce activation.

A declining and ageing population raises challenges related to rural service delivery and workforce participation

The northern regions of Sweden all face the challenge of an ageing and in most cases declining population. Fertility rates are below natural replacement rates, and there are high rates of youth outmigration, especially younger females with higher levels of education. As outlined earlier in the chapter the population of Västerbotten is growing and has a younger population which is due to the large university and hospital and associated services in the city of Umeå. The other northern regions have older populations and have experienced a sustained trend of population decline over the past 30 years. These trends are more pronounced in rural areas of these regions. There are a number of different challenges this presents for the northern regions of Sweden.

The first challenge relates to the sustainability of delivering services in rural locations. Outside of major population centres both public and private services are more limited and harder to access. Small communities with low rates of employment are less attractive for private enterprise, and more costly for the government to serve. While Sweden has a strong tradition of providing high quality services across its entire territory there will be increasing pressure on these arrangements in the future. An ageing population that requires more high cost services and the reduction in populations in smaller and more remote communities (in part due to weaker service availability) will create increasing gaps between larger and smaller communities.

Another challenge relates to the reduction in the size of the potential workforce in these regions. For these regions to maintain their living standards productivity will need to increase to compensate for fewer workers. However, issues of labour supply will need to be addressed including in relation to public services. Labour shortages are already emerging, mainly in the provision of health and social care services. As the population ages demand for these services will increase. The ageing population points to future problems in labour-force dynamics and a continuing refocus of public services towards providing care for a relatively large cohort of soon to be retired individuals. Labour shortages also exist in the hospitality sector, and in specialised occupations. These issues can be exacerbated by higher wages in resource industries which attract local people

while other businesses have difficulty replacing those who have left. A strong interest in attracting migrants to these regions was seen as a way to address future labour shortages. In particular, the large number of new refugees was seen as a potential source of workers and households. However, there is currently little reason to expect that a large proportion of these immigrants will permanently settle in the north, even with the best efforts of the local population. Moreover, if the region has difficulty retaining its youth, who are strongly linked to the local culture, it will likely be a challenge to attract large numbers of new migrants.

There is also a challenge that there is a relatively high proportion of the working age population which is disengaged from the workforce. The northern regions – to varying degrees – face a legacy of economic restructuring which has left some communities with higher levels of unemployment and disengagement from the workforce, and low skills. These problems are concentrated spatially in rural areas where forestry used to dominate and in small towns and cities where there was restructuring of the processing industry. These problems tend to be more prevalent amongst young and older men. The issues with the disengagement of youth from work and training also relates to the crisis which led to a lower rate of job creation as youth left the school system after 2008: in particular, young men who did not finish upper secondary school. These regions have also received high levels of asylum seekers and refugees over the past few years. These people tend to have poor language skills, and qualifications which are not recognised in Sweden. Coupled with the lack of low skilled entry level jobs these newly arrived migrants have trouble integrating into the labour market.

Urban growth and improving broadband connectivity will help address these challenges

One trend which will help address demographic and labour market challenges is the concentration of population into fewer places. This settlement structure will increase the size of functional labour markets which will help diversify these economies and the number of jobs which local people can access. Greater concentration of population will also reduce the costs of delivering public services. Larger urban areas also tend to be more attractive to younger people. These benefits do not accrue automatically and will require sustained and co-ordinated investment in new infrastructure and amenities that improve how these cities function, and provide social and economic opportunities for the people living there. An important growth strategy will be improving linkages between these cities and the rural areas surrounding them (OECD, 2016g). This strategy is already embedded in the policy frameworks for Troms and Nordland that seeks to support growth across a network of centres within each county. This will improve connectivity for business, and the scope for people to access a greater diversity of jobs and services. There is scope to realise opportunities along the coastal corridor by improving rail and road linkages.

Another trend is increasing broadband access and its use in service delivery, which is helping households and businesses become more connected in spite of the longer distances in these regions. The northern regions have taken a proactive approach with the municipalities to co-invest in improving broadband access in rural areas where it is not viable for private operators. Funding through the ERDF and the RDP has been crucial in enabling this investment. Alongside this investment the northern regions have collaborated with national agencies and municipalities to encourage the development of e-services. For example, there has been a strong focus in Västerbotten on tele-medicine to improve accessibility for rural communities to health care. Physical services are

concentrated in a small number of places (e.g. two medical centres for sparsely populated areas in Storuman and Vilhelmina), and tele-medicine is utilised to deliver services to more remote communities which also enables connection with experts in Umeå. Within the health services system this has resulted in increased efficiency, improved competencies amongst staff, and reduced travel times. More work is required to mainstream these innovations to other service delivery and administrative functions consistently across the four regions (e.g. school education, training, spatial planning).

Regional recommendations focus on service delivery innovation and inclusive growth

In response to these issues recommendations relate to two main themes: i) expanding the use of e-services and promoting service delivery innovation; and ii) improving entrepreneurship, employment and skills outcomes, particularly for vulnerable and excluded communities. In relation to the first point there is a lot of good work already going on, particularly in the health and school education systems. However, not all regions are at the same level and there is scope to further extend accessibility for rural communities. This will require further investment in broadband capacity, and measures to build capacity and embed e-services in the work of service providers at a regional and local level. The region of Västerbotten provides some useful lessons in terms of a co-ordinated approach to this endeavour. It runs the e-Västerbotten project which provides an inventory to identify areas for potential collaboration, promote new technologies and good practices, and create common technological platforms for e-services for municipalities and service providers. The second theme emphasises a collaborative approach to maximising the value of the potential workforce of these regions in the context of an ageing population. Some groups particularly in terms of younger people, older men, and newly arrived migrants face additional barriers to workforce participation. These issues also tend to be concentrated within particular places. Some measures have been put in place to address these issues such as Competency Platforms which bring together business and education and skills providers to improve labour market matching. However, there is greater scope to address these issues in a more co-ordinated way at a community level.

Continued investment in broadband capacity and greater flexibility in national policy settings will help enable service delivery innovation in northern Sweden

Further extending the use of e-services will be dependent upon continued investment in infrastructure and capacity. Over the past decade there has been a high level of investment in communications infrastructure. This investment is driven by the private sector and has predominantly benefited urban areas. The state has also provided funding to leverage private sector investment and extend broadband provision in rural areas. This provision is based on analysis of demand, and the capacity for local communities and businesses to form consortiums to bid for funding. This has enabled an increase in broadband provision in rural areas in recent years. Approximately two-thirds of the population living in rural areas now have access to broadband at over 100 mega-bits per second. This level of access would provide a household or small business with the capacity they need for high usage such as videoconferencing. There is a goal to increase this level of provision to 90% by 2020. In the context of the ageing population this will be crucial to maintaining service provision at a lower potential cost. Resources provided through the EAFRD have also been critical to extending this infrastructure and capacity to rural areas.

Another important element will be ensuring that service delivery systems have sufficient flexibility to encourage innovation at a local level, particularly in rural areas. In Sweden, as in other Nordic countries, there is a strong tradition of delivering equity between people and across the national territory. The national government takes a strong role in planning, allocating resources, and setting the framework and rules for the provision of social services across the country to ensure equitable levels of service provision. Services are then delivered through the public sector primarily at the local municipal level. Although this system is good at guaranteeing equity it can have the effect of reducing flexibility and innovation due to the nationally applied rules and the predominant role of the public sector. Because municipalities have a primary role it also creates a disincentive in terms of co-operation at the scale of functional labour markets and regions. These challenges are apparent for example in the school system in rural areas where there can be lack of flexibility in terms of sharing teaching and administrative resources. To meet the challenge of ageing and declining populations there will need to be more scope for innovation in service delivery at a local and regional level.

Box 4.3. **Social enterprise in the United Kingdom**

Services are declining on a daily basis in the United Kingdom. Shops and service stations are closing, which can mean that rural residents need to make a round trip of 70 kilometres simply to refuel their vehicles. This problem has been the subject of social enterprises in rural Britain. The social enterprise model starts by raising awareness in a rural community about the need for certain services, such as shops, petrol stations and post offices. Local people then come together to form a business that can maintain and deliver these services. This includes services that were provided by the private sector in the past but are no longer sufficiently profitable to interest providers. It could also include public services, such as transport, which has been heavily subsidised, or some of the softer end of health care, care facilities for children and care for the elderly. In rural areas in the United Kingdom, social enterprises can provide community transport, village shops, post offices and child care, where neither the private nor public sectors find it economically viable to provide such services. In cases of environmental recycling, the local community may conduct collections and environmental recycling in five or six neighbouring rural districts. All these examples show that the social enterprise model can be successful in rural regions.

Source: OECD (2014a), *Innovation and Modernising the Rural Economy*, http://dx.doi.org/10.1787/9789264205390-en.

These challenges are also evident in relation to skills and employment. The national government sets the framework, rules and resources for the national education and training system. Delivery of education and training services is decentralised and primarily occurs at the local municipal level. National employment policy and services are run by the national government, however, regional boundaries of the responsible ministry do not align with county boundaries. Developing appropriate skills in regions has been identified as a priority area within the regional growth policy. The government in 2010 gave actors with responsibility for regional development a mission to establish regional competence platforms for collaboration on employment and education policies. Relevant actors in most of the platforms are businesses, education stakeholders (private and public), municipalities and relevant national authorities within the skills supply area. However, there is no binding commitment on education and training providers to respond to the recommendations of the regional competence platforms, and there is limited scope for flexibility in the delivery of national employment services. This reduces the capacity

of these competency platforms to better match skills with jobs, or develop local strategies to improve employment and skills outcomes for disadvantaged communities.

Governance arrangements for regional development

The national government plays a strong role in shaping strategic policy settings

At a national level the Ministry for Enterprise and Innovation has responsibility for regional and rural development, which includes responsibility for matters relating to housing and spatial planning, information technology, enterprise and industrial policy, rural affairs, regional growth, and infrastructure. *Tillväxtverket* (the Swedish Agency for Economic and Regional Growth), which is part of the ministry is also the managing authority for the European Regional Development Fund (ERDF).

Overall, Swedish subnational governments – municipalities and counties – are increasingly playing a more active role in regional and rural development, rather than just as providers of social services. Municipalities have responsibility for areas such as basic and secondary education, kindergarten, elderly care, water and sewerage, and physical infrastructure. The county (regional) level is responsible mainly for health care (about 80% of their budgets), public transport, and may engage in other areas such as tourism and culture.

Sweden combines a highly decentralised system for the provision of welfare services with a relatively centralised system for strategic planning and infrastructure investment. Indeed, 57% of public investment is conducted at the subnational level in Sweden – compared to 59% on average for OECD countries (OECD, 2014b). However, this is shifting as subnational investment has been constantly rising over the past 15 years – 11 percentage points since 2000. Over time, subnational governments increased their investment in health equipment, transport, general public services, housing and community amenities. The driver behind increased demand is primarily demographic: population growth in large cities, an ageing population throughout the country, and migration.

There are a number of different governance models for regional development at a subnational level

At a regional level the Swedish system is characterised by heterogeneity in the attribution of regional development competences. In terms of responsibility for regional development policy there are three different types of arrangement in existence across Sweden's regions. They are:

- County Administrative Boards taking the lead in regional development (this is the traditional model and now exists in 4 out of 21 regions – from 1 January 2017 it will exist in only 1)
- County councils taking the lead in regional development (this is becoming the more prevalent model with 10 out of 21 counties now adopting it – from 1 January 2017 it will be 14)
- Regional Development Councils taking the lead in regional development (which are indirectly elected and made up of municipalities and county council members – 7 of the 21 counties have adopted this model – from 1 January 2017 it will be 6).

All three models are being applied in northern Sweden.

Table 4.12. **Governance arrangements for regional development in Sweden's northern regions**

Region	Governance arrangements
Norrbotten (County Administrative Board lead)	The County Administrative Board has lead responsibility for regional development. The region has established the Norrbotten Regional Partnership (NRP) to guide the design and implementation of the regional strategy. It includes government agencies, the County Council, municipalities, civil society and business and industry.
Västerbotten (Regional Development Council lead)	The Regional Development Council (Region Västerbotten) has lead responsibility for regional development. Västerbotten County Council and the county's 15 municipalities established Region Västerbotten on 1 January 2008.
Region Jämtland Härjedalen (County Council lead)	The Regional Development Council (Region Jämtland Härjedalen) has lead responsibility for regional development. Formed in 2014 as a merger between the County Council (almost exclusively health care and approximately 4 000 employees) and the Regional Council (regional development, culture, some education with approximately 200 employees).
Västernorrland (County Administrative Board lead)	The Västernorrland County Administrative Board has lead responsibility for regional development. The County Administrative Board has established a County Partnership which includes municipal, community and private sector actors as a consultative and co-ordinating body to support the implementation of the regional development strategy.

There is limited scope for regions to shape national policies in a co-ordinated way, and improving interregional co-operation will help address this challenge

Each of three models for regional governance is operationalised in a multi-level governance structure which is characterised by a strong role for the national government in setting strategic and funding priorities. Policies are generally largely funded and designed at a national level and the capacity for regions to adapt them is limited. County Administrative Boards play an important role in ensuring alignment with national policy directions at a regional level. County Administrative Boards are national government agencies located in each region and tasked with ensuring the co-ordination of national policies. Across the three models for regional development competencies the County Administrative Boards play a key role in facilitating co-ordination between municipalities and counties and the national level across different policy domains. Co-ordination also tends to be organised in a sectoral way which limits the capacity for co-ordination across different policy areas.

This asymmetric and sectoral approach has contributed to a number of key policy challenges for the counties in the north. There is a general view that transport prioritisation has an urban bias and when investment occurs in northern Sweden it is focused on the north-south corridor. Rural transport issues and east-west connectivity with Finland, Norway and Russia have less of a focus. There is also a view that there is insufficient focus on tourism attractions in the north within national policies. Similarly, opportunities related to innovation in northern areas are not adequately reflected in the prioritisation of innovation investment at a national level. This is not surprising given that national policies are designed for application across the national territory and the northern regions have different characteristics than the more densely populated areas in the southern part of the country.

There is also scope for the northern counties to collaborate more closely on shared policy interests and priorities than the national government. The Bothnian Corridor initiative is a step in the right direction in this regard. This initiative is jointly funded by the northern counties and provides a platform to jointly advocate for improvements to the transport network in the north of the country. However, it is

primarily directed to influencing transport planning and prioritisation at a European level. Influencing national transport planning and investment tends to be done through individual regions advocating for their own priorities. A similar dynamic occurs in tourism and innovation policies. Strengthening co-ordination to identify areas of common interest and shared priorities would increase the scope for influencing national policy settings.

The northern counties should move toward a consistent model for regional governance

Municipalities have established an arrangement to facilitate co-operation in service delivery and economic development. In the two regions where the County Administrative Board has lead responsibility for regional and rural development local governments play a more proactive role in working together to influence policy and decision making. For example, the Association of the Municipalities of Norrbotten is an independent organisation owned by the county's 14 municipalities. The association promotes co-operation and capacity building, and represents municipal interests in regional, national and international forums. Similarly, the Association of Local Authorities in the county of Västernorrland is owned by, and works for, the seven local authorities in the county. One of the main tasks is to make co-operation over municipal borders easier and therefore provide different forums where it's possible for politicians and officials to share best practice and discuss new ideas.

These co-operative arrangements between municipalities present both benefits and risks in relation to regional development policy. The benefit of these co-operative arrangements is that they increase the scope for co-operation in relation to economic development and service delivery, and also reduce the risk of conflicts between levels of government. Co-operation in regards to service delivery helps generate economies of scale and deliver better services. For example in Västernorrland the municipalities co-ordinate upper secondary school education. This enables different providers to develop a common admissions system for students which reduces overall administrative burden and increases the choices available to young people. Municipalities can also work together to negotiate regional development priorities with the regional and national level. In regions where County Administrative Boards take the lead these co-operative arrangements help co-ordinate municipal interests and local democratic representatives in shaping regional development policy. However, these arrangements also create incentives for local political interests and shifting alliances between different municipalities to shape regional development strategies rather than a more transparent political dialogue at a regional scale.

Norrbotten has addressed this risk through the County Council and the Association of the Municipalities of Norrbotten forming a joint organisation called the Growth Committee in 2004. This is a political body for preparation, discussion and co-ordination intended to create a consensus among politicians on growth and development issues of strategic importance to the county. Its focus is on applying a regional and local perspective to various strategies, such as the Regional Development Strategy, and representing the region's interests. Infrastructure issues are given high priority because of the need for joint action and common views regarding investments in northern Sweden. The politicians on the Growth Committee are given instruction by the governing bodies to represent regional interests within this forum.

Västerbotten and Region Jämtland Härjedalen have moved beyond this model to develop a greater level of regional coherence and accountability for regional development. Västerbotten's Regional Development Council was established by the County Council and the county's 15 municipalities in 2008. Members of the Council are indirectly elected by the political representatives of the county and the municipalities. The role of the Council includes formulating the region's development strategy and co-ordinating its implementation; ensuring the alignment of efforts with national policies, and monitoring and reporting on results. Region Jämtland Härjedalen has taken this a step further by merging its Regional Development Council with its County Council with new elections held for the merged body in 2014.

The future evolution of the regional governance in the north should aim for consistency, and enhancing democratic accountability. Consistency is important in terms of the national government establishing clear governance, monitoring and accountability arrangements to deliver national priorities across northern Sweden. Post-January 2017 there will still be two different governance models for regional development across northern Sweden, which will diminish the capacity for a consistent and co-ordinated approach to national-regional co-operation in the north. Co-operative bodies (joint municipal entities) are indirectly elected and represent the interests of local municipalities. These bodies may have a weaker legitimacy and power to make trade-offs and decisions at a regional level, which are in the regional interest but may lead to a short-term disadvantage for some municipalities. Regional development policies may be designed and delivered by a directly elected entity that can reflect the preferences and aspirations of the region as a whole. County councils as directly elected bodies with the responsibility for regional development – as established in Region Jämtland Härjedalen – provide the best opportunity to achieve this outcome.

Boundary changes for regions will need to be carefully considered.

In March 2015, the government announced the establishment of a committee to investigate the possible mergers of regions and the alignment of the regional subdivisions of national ministries to better reflect changes in functional geographies. A committee will submit its proposals by 31 August 2017 with some mergers occurring by 2019. A clear majority of the counties advocate for territorial reform, and the northern counties have indicated support for the creation of a single northern county. A similar national reform process is proposed for the municipal level due to increasing fiscal pressures and demographic changes. The Minister for Public Administration has also announced the ambition to appoint a committee by the end of 2016 to further investigate challenges and opportunities related to service delivery at a municipal level. Given the initial scope it is likely this will lead to proposals for the merger of municipalities. Other options to investigate will be more co-operation and asymmetric responsibility solutions.

Regional reform among OECD countries can arise for a variety of reasons. In many cases, reforms address regional boundaries with historical foundations that no longer reflect territorial realities (e.g. in Austria, Japan, Norway and Sweden). When this is the case, reforms are often undertaken to better account for modern public governance requirements, and long-term socio-economic and demographic trends (e.g. migration, ageing and urban concentration) (OECD, 2016d). Regional reform is also used as a means to simplify intergovernmental relations by reducing the number

of actors involved and/or by making public administration easier to understand. Additionally, it can support "regional-upscaling" in order to generate costs savings through economies of scale and scope, the pooling of resources, and a reduction in regional bureaucracy. Other objectives behind regional reform include boosting resource capacity (financial and human), strengthening capacity for action through greater bargaining power, and reducing inequalities in service provision.

In Sweden, the regional reform under discussion focuses strictly on redrawing administrative boundaries in order to increase the size of individual territories. This approach is uncommon among OECD countries, where examples of pure boundary reforms at regional and intermediate levels are very rare. More often, administrative boundary reforms are linked with institutional reforms aiming to reassign tasks among levels of government (OECD, 2016d). The question of an optimal size for subnational jurisdictions is an important one, and hard to resolve. Sweden's counties are heterogeneous in size, and their population levels seem relatively small by OECD standards (OECD, 2016d). At the same time, they are responsible for important tasks, such as health care as well as regional development. Increasing their size could help utilise scale economies in these service areas, as well as supporting further devolution of competences, including regional development. Competence allocation, however, is not under discussion at this stage of the reform process, but might be discussed in a second step.

An important factor in the support from the northern counties for the merger proposition is the argument that it will increase their level of influence in working with the national government. It should also be emphasised that mergers alone may not successfully yield desired efficiency or equity results. Other measures should complement structural reform, for example changes in grant systems, a revision of fiscal rules, and/or the reassignment of subnational government tasks and adjustments to local democratic systems may also be needed as well. A careful cost-benefit analysis should be performed to evaluate the pros and cons of regional reform before the final decision is made. In a country like Sweden, where the differences between counties are significant in different parts of the country, a policy of "one size fits all" does not seem reasonable, and an asymmetrical approach may continue to be beneficial.

In terms of northern Sweden where regions have low densities, are geographically vast, and have significant internal differences, these changes to subnational governance arrangements present both risks and opportunities. In terms of delivering regional and rural development it is important that functional boundaries, and in particular labour market catchments, are a consideration in the design of policies and administrative arrangements. These functional geographies are important because they reflect how people access employment and services. Larger administrative regions in low-density regions can impose additional costs on citizens through travel, and also affect social cohesion. For example, by increasing the time taken to access services and decision-making bodies (although broadband can help overcome some of these constraints). There are many functional labour markets which constitute these northern regions in Sweden, which are comparatively large. For example, Norrbotten in the north has a total land area of 97 257 square kilometres, which is larger than Hungary or Portugal. It has 11 municipalities with self-contained labour markets, and this indicates the relative distance and time taken to travel between places within the region.

Table 4.13. **Number of LLMs in Sweden's NSPA regions**

Regions	Number of LLMs	Multiple municipalities (within LLMs)	Single municipalities (outside LLMs)	Total municipalities
Jämtland Härjedalen	1	4	4	8
Norrbotten	1	3	11	14
Västerbotten	2	8	7	15
Västernorrland	1	2	5	7
Swedish NSPA	5	17	27	44

Note: LLMs refer to the Labour Markets constructed by Nordregio (2012) using commuting data from 2010. Local labour markets are built up from municipalities within each region and contain at least two contiguous municipalities where there is a significant degree of commuting across municipal borders. More specifically when there are out-commuting flows of workers to another municipality in excess of 7.5% of all employed people in the sending municipality then the two labour markets are linked. These have been updated by the authors according to most recent administrative reforms, taking into account municipality mergers. Single municipality labour markets are not considered.

Source: Roto, J. (2012), "Demographic Trends in the Nordic Local Labour Markets", *Nordregio Working Paper*, No. 2012:13, Nordregio, Stockholm.

The benefits of addressing administrative fragmentation differ between urban and rural areas and in metropolitan areas the benefits can be significant. For example, Ahrend, Gamper and Schumann (2014) find a strong negative impact of administrative fragmentation on urban productivity. However, the potential benefits realised from merging these geographically larger counties and municipalities with low population densities are likely to be low. Reducing administrative fragmentation in rural areas tends to produce no or detrimental results in terms of economic growth (Bartolini, 2016). This is due to the increased distances required to administer and deliver public infrastructure and services in low-density areas. Future boundary changes in northern Sweden will have to be carefully considered, including how they are complemented by changes to roles and responsibilities and revenue arrangements at a subnational level, to enable the delivery of better policies in this part of the country.

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